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State Water Resources Control Board

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VIA CSM DROPBOX

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION, ORDER NO. R4-2012-0175, 13-TC-01 AND 13-TC-02: COMMENTS OF STATE WATER RESOURCES CONTROL BOARD AND LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD ON TEST CLAIMS

Dear Ms. Halsey:

The State Water Resources Control Board (State Water Board) and the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) (collectively, Water Boards) jointly file this opposition to Test Claims 13-TC-01 and 13-TC-02 filed by the County of Los Angeles, Los Angeles County Flood Control District, and the cities of Agoura Hills, Bellflower, Beverly Hills, Carson, Cerritos, Commerce, Downey, Huntington Park, Lakewood, Manhattan Beach, Norwalk, Pico Rivera, Rancho Palos Verdes, Redondo Beach, San Marino, Santa Clarita, Santa Fe Springs, Signal Hill, South El Monte, Vernon, Westlake Village, and Whittier (collectively, Claimants). This Test Claim arises from a federal permit issued by the Los Angeles Water Board in 2012 as Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges Within the Coastal Watersheds of Los Angeles County, Except Those Discharges Originating from the City of Long Beach MS4* (National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001) (hereinafter the 2012 Permit). Through the Test Claims filed with the Commission on State Mandates (Commission), Claimants allege that multiple requirements of the 2012 Permit are unfunded state mandates and seek reimbursement of actual and/or estimated costs of implementing or complying with those requirements. For the reasons set forth below, the Commission should deny the Test Claims in their entirety.

I. INTRODUCTION

The Los Angeles Water Board issued the 2012 Permit pursuant to requirements in the federal Clean Water Act (CWA),¹ its implementing regulations, and guidance from the United States

¹ Federal Water Pollution Control Act (FWPCA; 33 U.S.C. §§ 1251 et seq.) The federal Act is referred to herein by its popular name, the Clean Water Act (CWA) and the code sections used are those for the CWA.

(footnote continued on next page)

FELICIA MARCUS, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

Environmental Protection Agency (U.S. EPA). The CWA prohibits discharges of pollutants from a point source to waters of the United States except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit pursuant to CWA section 402.² In the CWA, Congress mandated that all municipal and industrial stormwater dischargers apply for and comply with NPDES permits regulating their discharges.³ Specific to municipal stormwater dischargers, CWA section 402(p) prohibits the discharge of pollutants from specified municipal separate storm sewer systems (MS4s)⁴ to waters of the United States except as authorized by an NPDES permit and identifies the substantive standards for MS4 permits.⁵ Congress also mandated that these NPDES permits prohibit most non-stormwater discharges through the MS4s to receiving waters.⁶ The non-stormwater discharge prohibition in the CWA is not subject to the maximum extent practicable (MEP) technical standard for MS4 discharges of stormwater. MS4 operators generally obtain a single system-wide NPDES permit for each inter-connected MS4.⁷ The U.S. EPA has authorized the State Water Board, including its nine regional water quality control boards, to issue NPDES permits in lieu of issuance of these permits by U.S. EPA itself.

The Los Angeles Water Board issued Order No. R4-2012-0175 on November 8, 2012, which became effective on December 28, 2012.⁸ The 2012 Permit regulates stormwater (wet weather) and non-stormwater (dry weather) discharges from the MS4s of 86 permittees⁹ within the coastal watersheds of Los Angeles County, excluding those discharges originating from the City of Long Beach MS4,¹⁰ to waters of the United States. The 2012 Permit includes a prohibition on discharges of non-stormwater through the Permittees' MS4s to receiving waters pursuant to the independent federal laws in the Clean Water Act.¹¹ It also requires controls to reduce the

² See generally CWA § 402.

³ *Id.*, § 402(p)

⁴ Pursuant to 40 C.F.R. § 122.26(b)(8), “[a] municipal separate storm sewer system (MS4) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.”

⁵ CWA § 402(p); *Natural Resources Defense Council v. U.S. EPA* (9th Cir. 1992) 966 F.2d 1292, 1295-96.

⁶ CWA § 402(p)(3)(B)(ii).

⁷ *Id.*, subd. (p)(3)(B)(i).

⁸ In response to several administrative petitions for review filed by several permittees and non-profit environmental groups, the State Water Board modified Order No. R4-2012-0175 on June 16, 2015 via State Water Board Order WQ 2015-0075. All bates-page references to the 2012 Permit are to the version of the permit as modified by the State Water Board. Note that this is a slightly modified version from the version Claimants attached to their Test Claims. This version of the permit is found in the “2015 AR,” which refers to the administrative record for the State Water Board’s issuance of Order WQ 2015-0075, *In the Matter of Review of Order No. R4-2012-0175*. The 2012 Permit, as modified by the State Water Board begins at p. SB-AR-013294 and ends at p. SB-AR-013862.

⁹ The 86 permittees include the Los Angeles County Flood Control District, County of Los Angeles, and 84 incorporated cities within the County of Los Angeles. A full list of these cities can be found in the 2012 Permit at SB-AR-013294 to 013301.

¹⁰ The City of Long Beach’s MS4 discharges is currently regulated under a separate MS4 permit, Order No. R4-2014-0024.

¹¹ CWA § 402(p)(3)(B)(ii).

discharge of pollutants to the “maximum extent practicable” (MEP). As required by federal statute and regulations, the 2012 Permit contains numerous requirements for the Permittees to take actions, known as Best Management Practices (BMPs), to reduce the discharge of pollutants into surface waters within the Los Angeles Region in order to improve water quality. As required by federal law, the 2012 Permit also includes water quality based effluent limits to implement 33 federally-approved or federally-promulgated total maximum daily loads (TMDLs) required by section 303(d) of the Clean Water Act to ensure that applicable wasteload allocations (WLAs) that are assigned to MS4 discharges in the TMDLs are achieved over time.¹² In addition, as required by federal law, the 2012 Permit includes monitoring and reporting requirements to, among other things, assess permittees’ compliance with permit provisions and to measure and improve the effectiveness of pollutant controls implemented. When it considered the 2012 Permit, the Los Angeles Water Board found that these requirements were necessary and appropriate to meet the requirements of federal law and are based exclusively on federal law.¹³

Claimants bring these Test Claims to determine who must pay for many of the 2012 Permit’s provisions. Article XIII B, section 6, of the California Constitution provides, “[w]henever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service.” In order to obtain reimbursement, the Claimants must show as a threshold matter that the Los Angeles Water Board has imposed a “program” on them and, if so, that it established a “new program” or created a “higher level of service” over the previously required level of service.¹⁴ The California Supreme Court has defined a “program” for purposes of article XIII B, section 6, of the California Constitution, as: (1) programs that carry out the governmental function of providing services to the public, or (2) laws which, to implement a state policy, impose unique requirements on local governments and do not apply generally to all residents and entities in the state.¹⁵ A “higher level of service” occurs when the new “requirements were intended to provide an enhanced service to the public.”¹⁶ Conversely, the Claimants are not entitled to subvention if the costs are imposed as a result of federal mandates rather than state mandates, if they proposed the permit provisions, or if any additional costs beyond a federal mandate are *de minimis*. Finally, Claimants must establish that they are required to use tax monies to pay for implementation of Permit provisions before receiving reimbursement.¹⁷ If Claimants have the “authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service,” no subvention is required.¹⁸

As explained in detail below, the Claimants are not entitled to subvention of funds for the provisions challenged through their Test Claims. There are several reasons for this. First, the 2012 Permit is not a “program” subject to article XIII B, section 6, of the California Constitution.

¹² 40 C.F.R. § 122.44(d)(1)(vii)(B).

¹³ See, *infra*, Part IV.B.1.i for examples of these findings.

¹⁴ Cal. Const., art. XIII B, § 6, subd. (a); *San Diego Unified School Dist. v. Commission on State Mandates* (2004) 33 Cal.4th 859, 878; *Lucia Mar Unified School District v. Honig* (1988) 44 Cal.3d 830, 835-836.

¹⁵ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 874 (reaffirming the test set forth in *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 56); *Lucia Mar Unified School District*, *supra*, 44 Cal.3d at p. 835.

¹⁶ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 878.

¹⁷ See Gov. Code, § 17556.

¹⁸ *Id.*, subd. (d).

Claimants are unable to show that the requirements of the 2012 Permit carry out a governmental function of providing public services or is unique to local government. Compliance with NPDES laws and regulations, and specifically with stormwater and non-stormwater permitting requirements, is required by private industry as well as non-local governments. NPDES permits governing private entities contain similar provisions requiring that those entities manage stormwater and non-stormwater to prevent or reduce discharges of pollutants. Second, assuming the Permit is a “program,” there is no evidence that many of the requirements at issue impose a new program. To the contrary, the Los Angeles Water Board issued the first MS4 permit to the Claimants and others in 1990, pursuant to the Clean Water Act amendments of 1990.¹⁹ In 1996, and again in 2001, the Los Angeles Water Board renewed the Claimants’ MS4 permit.²⁰ The permit that is the subject of the Test Claims is the fourth such permit, and many (if not all) of the requirements at issue here are not new. Third, again assuming the Permit is a “program,” there is also no evidence suggesting that any of the challenged requirements imposed upon Claimants constitute a higher level of service by enhancing services to the public. As a general matter, the 2012 Permit carries over and builds on the prior permits, and activities conducted thereunder, and implements independent federal requirements, all with a focus on water quality outcomes. Innovations included in the Permit are a part of the iterative process and applied technological advances, both of which are contemplated by federal law.²¹ Fourth, Claimants have not shown (and cannot show) that the challenged provisions constitute State (versus federal) mandates. Indeed, when it considered the 2012 Permit, the Los Angeles Water Board specifically found that its provisions and requirements were necessary to meet the Clean Water Act, and that they were based exclusively on federal law.²² The factual findings supporting this legal conclusion are entitled to deference by the Commission, and should not be disturbed.²³ Fifth, even if there were substantial evidence supporting Claimants’ challenges to the 2012 Permit (and there is not), one or more exceptions under mandates law applies to each challenged provision, precluding a finding that subvention of funds is required.

Further, Claimants rely on the California Supreme Court decision in *Department of Finance v. Commission on State Mandates* (2016) 1 Cal.5th 749, *as modified on denial of rehearing* (Nov. 16, 2016) (*Department of Finance*) as support for its position. However, Claimants’ challenges here are distinguishable. The Supreme Court’s opinion was limited to a narrow issue: whether the Clean Water Act’s MEP standard required the four provisions concerning trash receptacles and

¹⁹ Los Angeles Water Board Order No. 90-079 (2012 AR, pp. RB-AR22746 - 762). “2012 AR” refers to the administrative record for the Los Angeles Water Board’s issuance of Order No. R4-2012-0175.

²⁰ Los Angeles Water Board Order No. 96-054 (2001 AR, pp. R0008479 - 8580); Los Angeles Water Board Order No. 01-182. As explained in more detail in Section II.C, below, Order No. 01-182 was subsequently amended by the Los Angeles Water Board in 2006, 2007, 2009, 2010, and 2011. Order No. 01-182, as amended, is hereafter referred to as the “2001 Permit” and is the prior permit for analysis of these Test Claims. “2001 AR” refers to the administrative order for the Los Angeles Water Board’s issuance of Order No. 01-182. For ease of reference, a complete copy of the 2001 Permit, as amended and with all attachments, is provided as an attachment to this response.

²¹ See, e.g., 55 Fed. Reg. 47990, 48052 (Nov. 16, 1990) (2012 AR, p. RB-AR23779) (“EPA anticipates that storm water management programs will evolve and mature over time.”); 64 Fed. Reg. 68722, 68754 (Dec. 8, 1999) (2012 AR, p. RB-AR23852) (“EPA envisions application of the MEP standard as an iterative process.”); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) (2012 AR, p. RB-AR24857) (“The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.”)

²² See, *infra*, Part IV.B.1.i for examples of these findings.

²³ *Department of Finance v. Commission on State Mandates* (2016) 1 Cal.5th 749, *as modified on denial of rehearing* (Nov. 16, 2016) (*Department of Finance*).

inspections in the 2001 Los Angeles County MS4 Permit (2001 Permit) to reduce the discharge of pollutants to the MS4.²⁴

By contrast, the 2012 Permit reflects the Los Angeles Water Board's findings and determinations that requirements in the permit, including each of the challenged terms, were necessary to comply with the CWA and its implementing regulations and, thus, the permit was based entirely on federal authority.²⁵ The Supreme Court noted the absence of these findings in the 2001 Permit and further opined that such findings would be entitled to deference.²⁶ In addition, the Supreme Court's primary focus was the construction of the Clean Water Act's MEP standard. But as set forth below, these Test Claims raise the following legal questions or factually distinct circumstances that the Supreme Court did not address:

1. Unlike in the 2001 Permit, the Los Angeles Water Board in the 2012 Permit found the permit requirements at issue in these Test Claims were federal mandates. "Had the Regional Board found when imposing the disputed permit conditions, that those conditions were the only means by which the maximum extent practicable standard could be implemented, deference to the board's expertise in reaching that finding would be appropriate."²⁷ Such findings are "case specific, based among other things on factual circumstances."²⁸
2. Since the narrow issues presented by the appellants in *Department of Finance* was limited to the federal mandates exception, the Los Angeles County MS4 permittees and Los Angeles Water Board did not argue at the California Supreme Court whether each of the four challenged requirements in the 2001 Permit were a new program or higher level of service.²⁹ That issue, as well as others, were remanded back to the trial court for further proceedings. Thus, the Supreme Court did not consider whether the 2001 Permit was a "program" for purposes of article XIII B, section 6, of the California Constitution, including whether the 2001 Permit's discharge requirements were generally applicable and do not impose "unique" obligations on municipal entities.³⁰ In these Test Claims, the Water

²⁴ *Id.*, at p. 757 (citing CWA § 402(p)(3)(B)).

²⁵ See, *infra*, Part IV.B.1.i for examples of these findings.

²⁶ *Department of Finance*, *supra*, 1 Cal.5th at p. 768.

²⁷ *Ibid.*

²⁸ *Id.*, fn. 15.

²⁹ *Id.*, at p. 762 ("The parties do not dispute here that each challenged requirement is a new program or higher level of service. The question here is whether the requirements were mandated by a federal law or regulation."). The Court noted that appellants submitted evidence as part of their test claims showing that none of the challenged requirements were contained in their previous MS4 permits. *Id.*, at pp. 760-761. The Water Boards, however, did not brief that issue to the Supreme Court as that matter was narrowly focused on whether the requirements were federal mandates.

³⁰ The Water Boards note that in several instances Claimants rely upon the Commission's prior findings in Statement of Decisions in *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009) and *In re Test Claim on San Diego Regional Water Quality Control Board Order No. R9-2007-0001, Case No. 07-TC-09* (March 26, 2010) as support for the arguments in the Test Claims. In considering the challenged 2012 Permit provisions, the Water Boards urge the Commission to recognize factual distinctions between the permits and the fact that challenges to the Commission's findings on mandates law matters in the Statement of Decisions have not yet been resolved by the courts. Specifically, the courts have not yet determined how, if at all, the *Department of Finance* decision affects that matter and numerous other issues were raised but not addressed by *Department of Finance*.

Boards contend that the challenged requirements are not new programs or higher levels of service.

3. There was no evaluation of whether the contested provisions were required by another independent federal mandate such as the mandate to effectively prohibit non-stormwater discharges through permittees' MS4s to receiving waters, to implement waste load allocations from total maximum daily loads, or for permittees to self-monitor their discharges and the impacts, if any, such discharges have on surface waters. These are critical issues in these Test Claims.
4. Unlike here, none of the four requirements evaluated by the Supreme Court were identifiable terms in any EPA-issued MS4 NPDES permits in the record.³¹ Here, the Boards point to similar or identical provisions in EPA-issued MS4 NPDES permits or guidance.
5. The Supreme Court did not evaluate whether the local government had the authority to levy fees or assessments pursuant to Government Code section 17556, subdivision (d).³²

Accordingly, and because the Supreme Court's November 16, 2016 modifications to its opinion underscore that the determination of whether a particular requirement exceeds the federal standards is a case-specific, factual determination, the *Department of Finance* decision is largely, if not wholly, inapplicable to these Test Claims.

Finally, and to the extent that Claimants also invoke the recent California Court of Appeal, Third Appellate District, decision concerning the 2007 San Diego County MS4 Permit in *Department of Finance v. Commission on State Mandates*, 18 Cal.App.5th 661 (the "*San Diego DOF Decision*"), that decision likewise is also inapplicable to these Test Claims. Notably, like *Department of Finance*, the *San Diego DOF Decision* also did not address critical questions here, including but not limited to: (a) whether requirements in a NPDES permit are a "program," including whether the requirements have general applicability; (b) whether the requirements at issue are new or represent a higher level of service than required in previous permits; (c) whether requirements implementing the Clean Water Act's effective prohibition of non-stormwater discharges through the MS4 to receiving waters is federally mandated; (d) whether permit provisions implementing TMDLs required by section 303(d) of the Clean Water Act are federally mandated; (e) whether permit provisions establishing monitoring and reporting requirements are federally mandated; and (f) whether permittees have the ability to impose fees or charges to fund the programs at issue.

In summary, Claimants' Test Claims must be denied in their entirety. The Water Boards' reasoning is set forth below.

II. BACKGROUND

In this section, the Water Boards provide an overview of the legal and regulatory context for the Water Boards' decisions, and the issuance of MS4 permits, under federal law generally, and for the 2012 Permit in particular.

³¹ *Department of Finance*, *supra*, 1 Cal.5th at pp. 761 and 771-72.

³² *Id.*, at p. 761 (acknowledging that the Commission found that the local governments were not entitled to reimbursement because they had authority to levy fees to pay for the required inspections, an issue the Supreme Court did not review).

A. Regulatory Overview of the Clean Water Act MS4 Program

In 1972, Congress extensively amended the federal Clean Water Act to implement a permitting system for all discharges of pollutants from “point sources” to waters of the United States.³³ The permits are issued pursuant to the National Pollutant Discharge Elimination System, and are known as “NPDES permits.” The 1972 amendments allowed U.S. EPA to authorize states to issue these permits.³⁴ California was the first state in the nation to obtain such authorization.³⁵ In order to obtain this authorization, the California Legislature amended the Water Code, finding that the state should implement the federal law in order to avoid direct regulation by the federal government.³⁶ The California legislature mandated that California’s permit program must ensure consistency with federal law.³⁷

The State Water Board and the nine regional water boards are the state agencies charged with implementing the federal NPDES program.³⁸ The State Water Board’s regulations incorporate the U.S. EPA regulations implementing the federal permit program.³⁹ Therefore, both the CWA and U.S. EPA regulations are applicable to the NPDES permit program in California.⁴⁰ In California, permits to allow discharges into state waters are termed “waste discharge requirements.”⁴¹ When issuing permits for discharges to waters of the United States, the term “waste discharge requirements” is equivalent to the term “permit” in the CWA.⁴² Thus, waste discharge requirements that the Water Boards issue for discharges to waters of the United States are NPDES permits under federal law. When the Los Angeles Water Board, a state agency, issues an NPDES permit in lieu of U.S. EPA, it must adopt as stringent a permit as the federal agency would have.⁴³

To ensure that state-authorized programs comply with the U.S. EPA’s mandates and federal law, the U.S. EPA maintains oversight and supervision of these programs. The state must provide the U.S. EPA with proposed permits and notice of any action related to a discharger’s permit

³³ CWA §§ 301 and 402. “The term ‘point source’ means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return from irrigated agriculture.” (CWA § 502(14).) The Claimants’ MS4 is a point source. (40 C.F.R. § 122.26(b)(4).)

³⁴ CWA § 402(b).

³⁵ Since that time, forty-six other states have received U.S. EPA’s approval to issue NPDES permits. The list of states with the U.S. EPA’s approval to issue NPDES permits can be found at <https://www.epa.gov/npdes/npdes-state-program-information>. Idaho, Massachusetts, New Hampshire, New Mexico, the District of Columbia, and many U.S. territories do not have approved NPDES programs.

³⁶ Wat. Code, § 13370 *et seq.*, adding Chapter 5.5 to the Porter-Cologne Water Quality Control Act.

³⁷ *Id.*, § 13372.

³⁸ *Id.*, § 13370.

³⁹ Cal. Code Regs., tit. 23, § 2235.2.

⁴⁰ The permits *may* also include additional state requirements. (Cal. Code Regs., tit. 23, § 2235.3; *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613.)

⁴¹ Wat. Code, § 13263.

⁴² *Id.*, § 13374.

⁴³ CWA § 402(b).

application.⁴⁴ The U.S. EPA may object to a permit, finding that it violates the Clean Water Act's requirements.⁴⁵ Should the U.S. EPA determine that a state program does not comply with federal NPDES program guidelines, it may withdraw approval for the state program.⁴⁶

The Clean Water Act prohibits the discharge of pollutants from point sources to waters of the United States, except in compliance with an NPDES permit.⁴⁷ In 1973, U.S. EPA issued regulations that exempted certain types of discharges from NPDES permit requirements that it determined at that time were administratively difficult to regulate, including stormwater runoff. The reason that such regulation was deemed difficult is that stormwater runoff is much more diffuse, discharging at numerous points across the landscape. It runs off urban streets, into gutters and drainage ways, and flows directly into streams, lakes, and the ocean.⁴⁸ This exemption was overruled in *Natural Resources Defense Council v. Costle* (1977),⁴⁹ which held that the exemption was illegal, and ordered U.S. EPA to require NPDES permits for stormwater discharges. In *Costle*, the court suggested innovative methods for permitting, including using general permits for numerous sources and issuing permits that "proscribe industry practices that aggravate the problem of point source pollution."⁵⁰ Where permits prescribe actions that dischargers must implement to prevent or reduce pollutant discharges, these requirements are commonly called "best management practices" (BMPs).⁵¹

Controlling MS4 discharges is important, because stormwater and non-stormwater discharges are one of the most significant sources of water pollution in the nation. At times "comparable to, if not greater than, contamination from industrial and sewage sources."⁵² When stormwater flows over urban environs, it collects heavy metals, sediments, bacteria, nutrients (nitrogen and phosphorus), trash and debris, petroleum products, pesticides, and other toxic pollutants, which are then discharged to creeks, rivers, estuaries, and oceans.⁵³ In addition to stormwater, the MS4 collects non-stormwater runoff from urban activities such as street and vehicle washing, landscape irrigation and lawn watering, potable water system testing, and discharges from groundwater treatment programs. In addition to urban activities, illicit discharges and connections to MS4s are another source of non-stormwater discharges.⁵⁴ These non-stormwater discharges can also contain pollutants that impair the beneficial uses (e.g., recreation, aquatic habitat, etc.)

⁴⁴ *Id.*, subd. (d)(1).

⁴⁵ *Id.*, subd. (d)(2).

⁴⁶ *Id.*, subd. (c)(3).

⁴⁷ CWA § 301(a). In general, "navigable waters" or "waters of the United States," includes all surface waters, such as rivers, lakes, bays and the ocean. (CWA § 502.)

⁴⁸ The chief traditional categories of discharges subject to NPDES permits are industrial process wastewater and sanitary sewer effluent. Both of these discharges are typically processed in a treatment plant before they are discharged to surface waters.

⁴⁹ *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369.

⁵⁰ *Id.*, at p. 1380.

⁵¹ 40 C.F.R. § 122.2 ("Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.").

⁵² *Environmental Defense Center, Inc. v. EPA* (9th Cir. 2003) 344 F.3d 832, 840.

⁵³ *Id.*, at pp. 840-841.

⁵⁴ *Ibid.*

of the nation's waters. While non-stormwater discharges are most obvious during dry periods and are seen as the water flowing in the gutters, they can and do occur year-round.

Following the *Costle* decision, in 1987, Congress amended the CWA, specifically requiring stormwater permits for industrial and municipal stormwater runoff.⁵⁵ The amendments require NPDES permits for a discharge from a MS4 serving a population of 100,000 or more.⁵⁶

The Clean Water Act contains three provisions specific to permits for MS4s: (1) permits may be issued on a system- or jurisdiction-wide basis; (2) permits must include a requirement to effectively prohibit non-stormwater discharges into storm sewers; and (3) permits must require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques and system, design and engineering methods, and such other provisions as the [permitting agency] determines appropriate for the control of such pollutants.⁵⁷ The state is required, by federal law, to select the necessary controls.⁵⁸

On November 16, 1990, U.S. EPA published regulations addressing discharges of stormwater and non-stormwater from MS4s.⁵⁹ The regulations establish minimum requirements for MS4 permits and generally focus on the requirement that MS4s implement programs to reduce the amount of pollutants found in stormwater discharges to the MEP. However, the regulations also require the MS4's program to include an element to detect and remove illicit discharges and improper disposal into the storm sewer.⁶⁰ "Illicit discharges" defined in the regulations is the most closely applicable definition of "non-stormwater" contained in federal law, and the terms are often used interchangeably. The State Water Board has concluded that "U.S. EPA added the illicit discharge program requirement with the stated intent of implementing the Clean Water Act's provision requiring permits to 'effectively prohibit non-stormwater discharges.'"⁶¹

B. Overview of Legal Standards for MS4 Permits

The Clean Water Act does not provide a comprehensive set of permit terms that the permitting agency must include in each MS4 permit. Rather, the CWA and U.S. EPA's regulations require a permitting agency to determine what controls are necessary to meet federal requirements in a particular MS4 permit. The applicable legal standards that permitting authorities must meet when issuing MS4 permits are set forth in Clean Water Act section 402(p)(3)(B)(ii) and (iii) and require that MS4 permits:

⁵⁵ CWA § 402(p).

⁵⁶ *Id.*, subd. (p)(2)(C). U.S. EPA defines MS4s that serve a population over 250,000 as "large" MS4s. U.S. EPA issued regulations in 1999 extending permit requirements to small MS4s (those serving a population of less than 100,000).

⁵⁷ *Id.*, subd. (p)(3)(B).

⁵⁸ *Natural Resources Defense Council v. USEPA, supra*, 966 F.2d at p. 1308 ("the language in [CWA § 402(p)(3)(B)(iii)] requires the Administrator or a state to design controls").

⁵⁹ 55 Fed. Reg. 47990 *et seq.* (Nov. 16, 1990) (2012 AR, p. RB-AR23716).

⁶⁰ 40 C.F.R. § 122.26(d)(2)(iv)(B).

⁶¹ State Water Board Order WQ 2009-0008, p. 4 (withdrawn on other grounds); see also State Water Board Order WQ 2015-0075, p. 63 (2012 AR, p. SB-AR-013258) ("the illicit connection and illicit discharge elimination program is a means to implement the non-storm water prohibition and [is] independently implementable and enforceable").

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers, and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

Federal and state permitting agencies must comply with these legal standards when issuing MS4 permits.⁶²

To obtain coverage under an NPDES permit, federal regulations specify the information that applicants for MS4 permits must include in their applications that the permitting agency will be considering in issuing the permit.⁶³ For the large and medium MS4s, the application requirements are extensive. Applications:

shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable.⁶⁴

U.S. EPA's 1990 regulations established minimum control requirements for all MS4 permits, including programs for public and business education and outreach, illicit discharge detection and elimination, construction and post-construction stormwater controls, and public agency activities. Thus, among other elements, the federal regulations require that a proposed management program must address oversight of discharges into the MS4 from the general population, and from industrial and construction activities within its jurisdiction and shall include "[a] description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."⁶⁵ A proposed management program must also address oversight of discharges into the MS4 from areas of new development and significant redevelopment, public streets, roads and highways, and construction sites as well as from activities including application of pesticides and illicit discharges, among

⁶² CWA § 402(b).

⁶³ 40 C.F.R. § 122.26(a)(4). U.S. EPA regulations have varied requirements depending on the size of the population served by the MS4. A "large" MS4 serves a population of 250,000 or more. (40 C.F.R. § 122.26(b)(4).) Collectively, Claimants and the 10 cities regulated by the Permit exceed the minimum population for a large MS4.

⁶⁴ *Id.*, subd. (d)(2)(iv).

⁶⁵ *Id.*, subd. (d)(2)(iv)(A).

other program elements.⁶⁶ Permit applications must also describe programs for education and outreach to the general public, and to certain categories of municipal workers.⁶⁷ Federal regulations also require MS4 applicants to characterize their discharges and to submit a proposed monitoring program for “representative data collection,” which includes outfall and receiving water monitoring.⁶⁸

U.S. EPA has made clear that permit terms must be “clear, specific, and measurable.”⁶⁹

The Federal MEP Standard

The maximum extent practicable or “MEP” standard is akin to a technology-based standard and was first established in the Clean Water Act in 1987. The fundamental requirement that municipalities reduce pollutants in MS4s to the MEP remains a cornerstone of the mandate imposed on municipalities by the federal Clean Water Act and implementing NPDES regulations. Meeting the MEP standard is generally a result of emphasizing robust pollution prevention through various programs and structural measures, with treatment methods serving as additional lines of defense. These pollution prevention methods require municipalities take actions that will lessen the incidence of pollutants entering the storm drains by regulating the behavior and practices of the municipalities, their residents, and their businesses.⁷⁰

The MEP approach is an ever evolving, flexible and advancing concept, which considers technical and economic feasibility. As knowledge and technology regarding controlling stormwater runoff continues to evolve, so too must the actions that are taken to comply with the standard. In addition to regulations, U.S. EPA has issued guidance documents that discuss the type of BMPs that should be included in MS4 permits in order to reduce the discharge of pollutants in stormwater to the MEP.⁷¹ Successive permits issued to MS4 dischargers thus require greater levels of specificity over time in defining what constitutes MEP. This is consistent with Congress’ intent that state management programs evolve based on changing conditions from program development and implementation and corresponding improvements in water quality.⁷² This is also consistent with

⁶⁶ *Id.*, subd. (d)(2)(iv)(A)(2)-(3), (D)(1)-(4), (A)(6), (B)(1)-(6).

⁶⁷ *Id.*, subds. (iv)(A)(6), (B)(6), (D)(4); see also, 40 C.F.R. § 122.34(b)(1), establishing public education and outreach as a minimum control measure for small MS4s. The initial requirements for small MS4s were considered to be less stringent than those for Phase I MS4s, such as Permittees. (64 Fed. Reg. 68722 (Dec. 8, 1999) (2012 AR, p. BR-AR23819)).

⁶⁸ 40 C.F.R. §§ 122.26(d)(2)(i)(F) & (d)(2)(iii), 122.42(c).

⁶⁹ See generally 81 Fed. Reg. 89320 (Dec. 9, 2016).

⁷⁰ There may also be engineered solutions, and there are some in Los Angeles County, but it is important to keep in mind that there is no single engineered storm sewer treatment plant as there is for other types of discharges such as sanitary sewage.

⁷¹ See, e.g., U.S. EPA, *MS4 Permit Improvement Guide* (2010) (2012 AR, p. RB-AR53451). Prior to issuance of the MS4 Permit Improvement Guide, U.S. EPA provided BMP “menus” for the required elements of a MS4 permittee’s stormwater management program as required by 40 C.F.R. § 122.26(d)(2)(iv).

⁷² Federal regulations and companion U.S. EPA guidance convey the expectation that the level of specificity in a permit reconsidered and reissued every five years will increase over time whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit. (See, Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21 (2012 AR, p. RB-AR34517), citing 55 Fed. Reg. 47990, 48052 (“EPA anticipates that storm water management programs will evolve and mature over time.”); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999) (“EPA envisions application of the MEP standard as an iterative process.”); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) (“The interim permitting

(footnote continued on next page)

the U.S. EPA's guidance that successive permits for the same MS4 must become more refined and detailed. The MEP standard, which the Los Angeles Water Board found permit provisions necessary to meet in this case, is discussed in more detail below as relevant to challenged permit provisions.

The Federal Prohibition on Non-Stormwater Discharges

Wholly independent from the MEP standard is the Clean Water Act requirement that MS4 permittees effectively prohibit non-stormwater discharges to their MS4s.⁷³ Under Clean Water Act section 402(p)(3)(B)(ii), permitting agencies must ensure that permits for MS4 discharges include requirements necessary to “effectively prohibit non-stormwater discharges into the storm sewers.” U.S. EPA has defined “storm water” to mean “stormwater runoff, snow melt runoff and surface runoff and drainage.”⁷⁴ While “non-stormwater” is not defined in the CWA or federal regulations, the federal regulations define “illicit discharge” as “any discharge to a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer and discharges resulting from firefighting activities).”⁷⁵ This definition is the most closely applicable definition of “non-stormwater” contained in federal law. Non-stormwater discharges are generally considered dry weather discharges. In general, the requirement to “effectively prohibit” non-stormwater discharges requires MS4 owners and operators to prohibit flows to the MS4s by implementing a program to detect and remove illicit discharges, or by requiring a discharger to obtain a separate NPDES permit for the non-stormwater discharge into the storm sewer.⁷⁶

The Federal Requirement That Permits Include Other Provisions the Permitting Agency Determines Appropriate for the Control of Pollutants

In addition to requiring controls to reduce the discharge of pollutants to the MEP, CWA section 402(p)(3)(B)(iii) requires that MS4 permits “shall . . . include[e] . . . such other provisions as the Administrator or the State determines appropriate for the control of pollutants.” U.S. EPA interprets this provision to mandate “...controls to reduce the discharge of pollutants to the maximum extent practicable, *and where necessary water quality-based controls*”⁷⁷ The permitting agency, be it the Los Angeles Water Board or U.S. EPA, must therefore include provisions that go beyond MEP when it is appropriate to do so and to exercise its discretion in determining permit requirements. Thus, the state does not exceed federal law in using its discretion to impose permit provisions that are necessary to control pollutants. If the Board failed

approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.”.)

⁷³ State Water Board Order WQ 2015-0075, pp. 62-63 (2015 AR, pp. SB-AR-013257 - 258), confirming that non-stormwater discharges through the MS4s under the Clean Water Act are not subject to the MEP standard applicable to stormwater discharges.

⁷⁴ 40 C.F.R. § 122.26(b)(13).

⁷⁵ *Id.*, subd. (b)(2).

⁷⁶ *Id.*, subd. (d)(2)(iv)(B). See also 55 Fed. Reg. 47990, 47995 (Nov. 16, 1990) (2012 AR, p. RB-AR23722) (“Ultimately, such non-storm water discharges through a municipal separate storm sewer must either be removed from the system or become subject to an NPDES permit.”).

⁷⁷ 55 Fed. Reg. 47990, 47994 (Nov. 16, 1990) (2012 AR, p. RB-AR23721); see also *Building Industry Ass’n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-887.)

to determine appropriate provisions to control pollutants, it would violate the Clean Water Act's specific mandate to do so.

The Federal TMDL Requirements

The CWA requires states to establish a total maximum daily load (TMDL) for each pollutant in surface waters in which federal water quality standards are not being attained.⁷⁸ A TMDL, which must be approved by U.S. EPA, establishes the maximum amount of a specific pollutant that can be discharged or "loaded" into a waterbody on a daily basis and still achieve federal water quality standards.⁷⁹ The TMDL assigns a wasteload allocation (WLA), which is a portion of the TMDL's total pollutant load, to point source dischargers (including MS4 dischargers) to limit pollutant discharges to the impaired receiving water.⁸⁰ Once a TMDL has been established, federal law specifically requires the permitting authority such as the Los Angeles Water Board to incorporate in NPDES permits of all types, including MS4 permits or other non-municipal NPDES permits, water quality-based effluent limitations that are "consistent with the assumptions and requirements of any available wasteload allocations for the discharge."⁸¹ This is another independent ground upon which certain provisions of the 2012 Permit are based.

Federal Monitoring and Reporting Requirements

The Clean Water Act and its implementing regulations require monitoring and reporting as a major component of *all* NPDES permits, not just MS4 permits. As a condition of receiving a NPDES permit, a permittee agrees to monitor its discharges to ensure compliance with the permit's terms.⁸² Section 308(a) of the Clean Water Act⁸³ and sections 122.41 (h), (j)-(l), 122.44(i), and 122.48 of Title 40 of the Code of Federal Regulations establish substantive monitoring and reporting requirements for all NPDES permits. Federal regulations applicable to large and medium MS4s also specify additional monitoring and reporting requirements.⁸⁴ The regulations specific to monitoring requirements for MS4 discharges are prescriptive and require the permitting agency to include requirements for both stormwater and non-stormwater effluent sampling at representative outfalls, representative receiving water monitoring, sampling of specific pollutants,

⁷⁸ CWA, § 303(d)(1). See also *Friends of the Earth, Inc. v. U.S. EPA* (D.C. Cir. 2006) 446 F.3d 140 (holding that the Clean Water Act unambiguously requires states to establish TMDLs for waters failing to achieve water quality standards).

⁷⁹ CWA § 303(d); 40 C.F.R. §§ 130.2(f), (i) and 130.7(c)(1).

⁸⁰ 40 C.F.R. § 130.2(h) (defining wasteload allocation as: "The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.")

⁸¹ *Id.*, § 122.44(d)(1)(vii)(B).

⁸² CWA § 402(a)(1) ("the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 1311(a) of this title, upon condition that such discharge will meet either (A) all applicable requirements under sections 1311, 1312, 1316, 1317, 1318, and 1343 of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.")

⁸³ CWA § 308(a) mandates, in part, that "the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require..."

⁸⁴ See, e.g., 40 C.F.R. §§ 122.26, subds. (d)(2)(i)(F) & (d)(2)(iii)(D), 122.42(c).

monitoring at specified intervals (e.g., at least three storm events per year), use of analytical methods specified in 40 C.F.R. Part 136, use of field collection methods (e.g., grab vs. composite samples), among other requirements.⁸⁵

As the Ninth Circuit Court of Appeal recently stated in a case concerning the 2001 Los Angeles County MS4 Permit: “First and foremost, the Clean Water Act *requires* every NPDES permittee to monitor its discharges into the navigable waters of the United States in a manner sufficient to determine whether it is in compliance with the relevant NPDES permit....That is, an NPDES permit is unlawful if a permittee is not required to effectively monitor its permit compliance.”⁸⁶ The Court also stated:

But while otherwise more flexible than the traditional NPDES permitting system, nothing in the ms4 permitting scheme relieves permittees of the obligation to monitor their compliance with their NPDES permit in some fashion...Rather, EPA regulations make clear that while ms4 NPDES permits need not require monitoring of each stormwater source at the precise point of discharge, they may instead establish a monitoring scheme “sufficient to yield data which are *representative of the monitored activity*...”⁸⁷

The federal authority described herein mandates that the Los Angeles Water Board impose a monitoring and reporting program on MS4 permittees, as with all NPDES permittees. As such, these are further independent grounds upon which certain provisions of the 2012 Permit are based.⁸⁸

C. Overview of Los Angeles County MS4 Permit Development

The 2012 Permit is a single permit that covers the collective discharges from the MS4s throughout the Los Angeles County metropolitan area, with the exception of discharges originating from the City of Long Beach.⁸⁹ This area includes 84 cities, Los Angeles County unincorporated areas, and the Los Angeles County Flood Control District. Los Angeles County is one of the most populous counties in the country. This dense population and associated infrastructure, including impervious surfaces, applies tremendous pressure on water, both in terms of quality and quantity, within the Los Angeles Region. The area covered by the Los Angeles County MS4 Permit encompasses more than 3,600 square miles with a vast interconnected drainage network totaling

⁸⁵ *Id.*, § 122.26(d)(2).

⁸⁶ *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2013) 725 F.3d 1194, 1207, cert. den. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council* (2014) 134 S.Ct. 2135 (citations omitted; emphasis in original) (citing CWA § 402(a)(2) and 40 C.F.R. §§ 122.44(i)(1) and 122.26(d)(2)(i)(F) (emphasis in original).)

⁸⁷ *Id.*, at p. 1209 (citations omitted; emphasis in original) (citing CWA § 402(a)(2) and 40 C.F.R. §§ 122.41(i)(1) and 122.48(b).)

⁸⁸ See also *In re Los Angeles County Municipal Storm Water Permit Litigation* (Sup. Ct. Los Angeles County, March 24, 2005, Case No. BS 080548), Statement of Decision from Phase II Trial on Petitions for Writ of Mandate, pp. 19-20 (2012 AR, pp. RB-AR23197 - 23198).

⁸⁹ The City of Long Beach’s MS4 discharges is currently regulated under a separate MS4 permit, Order No. R4-2014-0024.

over 4,300 miles in length of storm drains and open channels, commingling discharges from multiple jurisdictions along the way, and includes approximately ten million inhabitants.⁹⁰

The Claimants' challenges largely center around the argument that the 2012 Permit imposes on them either "new programs" or "higher levels of service" compared to those required in the past. But prior to 2012, the Permittees were bound by provisions that were very similar or equivalent to those in the 2012 Permit. As a general matter, the 2012 Permit carries over and builds on the prior permits and implements independent federal requirements, all with a focus on water quality outcomes. Accordingly, it is necessary to include an overview of the general history and development of the 2012 Permit and prior relevant permit provisions.

1. First Term MS4 Permit – The 1990 Permit

On June 18, 1990, pursuant to the CWA amendments of 1987, the Los Angeles Water Board issued the first Los Angeles County MS4 permit to the County of Los Angeles and the incorporated cities therein (the "1990 Permit").⁹¹ The 1990 Permit was issued on a system-wide basis due to the highly interconnected storm drain system serving a population well in excess of 100,000 inhabitants. While Los Angeles County was designated as Principal Permittee, each city was designated as Permittee, Co-Permittee, or Co-Participant.⁹²

The 1990 Permit was issued before the promulgation of U.S. EPA's final federal NPDES stormwater regulations in November 1990. By issuing this first term permit before the federal regulations took effect, the Los Angeles Water Board was able to provide the permittees with flexibility in addressing and managing stormwater discharges. The 1990 Permit generally required the permittees to develop and implement stormwater pollution controls including amending ordinances, optimizing existing pollutant controls such as street sweeping, construction site controls, and others to minimize pollutants in stormwater. The Los Angeles Water Board approved 13 baseline BMPs to facilitate the implementation of countywide minimum requirements, encourage countywide consistency, and provide a minimum measure of progress. While the 1990 Permit contained the essentials of U.S. EPA's 1990 regulations and required the permittees to develop and implement runoff management programs, they provided little specificity about what was required to be included in or actually achieved by those programs.

2. Second Term MS4 Permit – The 1996 Permit

On July 15, 1996, the Los Angeles Water Board renewed the MS4 permit for a second term (the "1996 Permit").⁹³ The County of Los Angeles remained designated as the Principal Permittee.⁹⁴ The flexibility and lack of specificity from the 1990 Permit was generally continued through the 1996 Permit. In furtherance of U.S. EPA's 1990 regulations, the 1996 Permit required model programs be developed and implemented by the permittees for the six minimum control measures - Public Information and Participation, Industrial/Commercial Activities, Development Construction, Illicit Connections and Illicit Discharges, Public Agency Activities, and Development Planning. The 1996 Permit required the permittees to submit a Standard Urban Stormwater

⁹⁰ 2012 Permit, p. 20 and Attachment F (Fact Sheet), p. F-6 (2015 AR, pp. SB-AR-013313 and 013578).

⁹¹ Los Angeles Water Board Order No. 90-079 (2012 AR, pp. RB-AR-22746 - 762).

⁹² *Id.*, at p. 2 (2012 AR, p. RB-AR22747).

⁹³ Los Angeles Water Board Order No. 96-054 (2001 AR, pp. R0008479 - 8580).

⁹⁴ *Id.*, at p. 7 (2001 AR, p. R0008485).

Mitigation Plans (SUSMPs), which are plans to designate BMPs that must be used in specific categories of development projects. The model programs were intended to be dynamic and expected to change with time as more information on stormwater impacts became available.

For the first time, the 1996 Permit established receiving water limitations for MS4 discharges and stated that “[i]t is the purpose of this Order that the discharge of storm water, or non-storm water, from a [MS4] for which a Permittee is responsible not cause nuisance, continuing or recurring impairment of beneficial uses, or exceedances of water quality objectives in the receiving waters.”⁹⁵ It further provided that “[t]imely and complete implementation by a Permittee of the storm water management programs prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations.”⁹⁶ Where exceedances of a water quality objective had occurred, permittees were required to submit revised watershed-specific stormwater management programs as part of their next permit application that “will increase the likelihood of preventing future exceedances of water quality objectives.”⁹⁷

The combination of the lack of specificity generally in the 1990 and 1996 Permits, a general lack of meaningful action by the permittees, and a general lack of corresponding reaction (i.e., enforcement) by the Los Angeles Water Board during the first ten years of the MS4 permitting program, resulted in few substantive steps towards achieving improvements in the quality of receiving waters or stormwater discharges from the MS4s.

3. Third Term MS4 Permit – The 2001 Permit and Amendments Thereto

i. Order No. 01-182

On December 13, 2001, the Los Angeles Water Board issued Order No. 01-182, renewing the Los Angeles County MS4 permit for a third term. Order No. 01-182 continued the model programs begun under the 1996 Permit, but included more detailed requirements that outlined the minimum level of implementation required for the permittees’ to meet the MEP standard for stormwater. Order No. 01-182 also included provisions, known as “Receiving Water Limitations,” to ensure that MS4 discharges did not cause or contribute to violations of water quality standards in surface waters. The permit also refined the requirements to control discharges of pollutants from new development and redevelopment. These two latter requirements were based on two precedential decisions by the State Water Board.

In State Water Board Order WQ 99-05, the State Water Board established precedential receiving water limitations language to be included in all MS4 permits statewide, making it clear that MS4 permits in California must include provisions requiring MS4 discharges to be controlled to attain water quality standards in receiving waters.⁹⁸ Order WQ 99-05 specifically requires language in MS4 permits to comply with water quality standards based discharge prohibitions and receiving water limitations through timely implementation of BMPs, control measures, and other actions to reduce pollutants in discharges.⁹⁹ Order WQ 99-05 reflects U.S. EPA’s requirement that California

⁹⁵ *Id.*, at p 12 (2001 AR, p. R0008490).

⁹⁶ *Ibid.*

⁹⁷ *Ibid.*

⁹⁸ State Water Board Order WQ 99-05 (2015 AR, pp. SB-AR-014867 - 70).

⁹⁹ *Id.*, at pp. 2-3 (2015 AR, pp. SB-AR-014868 to 69).

include receiving water limitations in MS4 Permits.¹⁰⁰ Notably, unlike the receiving water limitations language in the 1996 Permit, a permittee's timely implementation of BMPs, control measures, and other actions do not deem a permittee in compliance with the receiving water limitations or "shield" them from enforcement for causing or contributing to exceedance of water quality standards.

In State Water Board Order WQ 2000-11, the State Water Board resolved a challenge from a number of permittees and industry groups on the Los Angeles Water Board's approval of SUSMPs, which included requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of pollutants in post-construction stormwater.¹⁰¹ The State Water Board found that numeric design standards used to develop BMPs to meet receiving water quality standards, and which require that runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the federal MEP standard. The State Water Board also found that the SUSMP provisions constitute MEP for addressing stormwater pollutant discharges resulting from new development and significant redevelopment.

Order No. 01-182 also required the permittees to conduct receiving water monitoring, which measures the quality of the receiving water itself, at seven mass emission stations. There was a monitoring station for each of the seven main watersheds. That monitoring was undertaken by the Los Angeles County Flood Control District on behalf of all MS4 permittees. These receiving water monitoring requirements were used to determine if MS4 discharges are causing or contributing to exceedances of applicable water quality standards during both dry and wet weather.

Numerous permittees and industry groups challenged several aspects of Order No. 01-182 and the process by which it was issued. The Superior Court upheld the permit, and the Court of Appeal affirmed the judgment in its entirety.¹⁰² Notably, the courts upheld the receiving water limitations (including compliance with numeric water quality standards), non-stormwater, monitoring, and inspection requirements, among others.

ii. Amendments to Order No. 01-182

In March 1999, the U.S. EPA entered into a consent decree with Heal the Bay, Santa Monica Baykeeper, and Terry Tamminen requiring the establishment of certain TMDLs for the Los Angeles Region pursuant to Clean Water Act section 303(d) within 13 years.¹⁰³ The U.S. EPA was required to establish the TMDLs if the Los Angeles Water Board did not. Prompted by this consent decree, starting in 1999, the Los Angeles Water Board and U.S. EPA embarked on a 14-year effort to develop over 50 TMDLs to restore water quality in the Los Angeles Region. When the Los Angeles Water Board adopted Order No. 01-182, there were no TMDLs in effect with wasteload allocations assigned to MS4 dischargers.

¹⁰⁰ *Id.*, at pp. 1-2 (2015 AR, pp. SB-AR-014867 - 68).

¹⁰¹ State Water Board Order WQ 2000-11.

¹⁰² See generally *In re Los Angeles County Municipal Storm Water Permit Litigation* (L.A. Super. Ct., No. BS080548, Mar. 23, 2005) (2012 AR, pp. RB-AR23154 to 23222); *County of Los Angeles et al. v. California State Water Resources Control Board et al.* (Cal. Ct. of Appeal, 2nd App. Dist., Case No. B184034) (2012 AR, pp. RB-AR23223 to 23276).

¹⁰³ Consent Decree: *Heal the Bay, Inc.; Santa Monica Baykeeper, Inc.; and Terry Tamminen v. Browner*, Case No. C 98-4825 SBA, Mar. 22, 1999.

While Order No. 01-182 expired in 2006, the permit was administratively extended pursuant to federal regulations.¹⁰⁴ The Los Angeles Water Board reopened and amended Order No. 01-182 twice to incorporate provisions to implement two TMDLs.¹⁰⁵ On August 8, 2007 and December 10, 2009, the Los Angeles Water Board reopened and amended Order No. 01-182 to incorporate provisions implementing the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL and the Los Angeles River Watershed Trash TMDL, respectively.¹⁰⁶ When the Los Angeles Water Board incorporated provisions implementing the Los Angeles River Watershed Trash TMDL in 2009, the Board included the TMDL wasteload allocations as numeric effluent limitations, but provided a "deemed in compliance" pathway through implementation of certain trash control measures.

Unless otherwise noted, Order No. 01-182, as amended, is referred to throughout this response as the "2001 Permit."¹⁰⁷

4. Fourth Term MS4 Permit – The 2012 Permit

In 2006, the Permittees submitted reports of waste discharge (ROWDs), which served as reapplications for a fourth-term permit.¹⁰⁸ In 2010, the Los Angeles County Flood Control District withdrew from its 2006 reapplication and submitted a new application, requesting its own permit and that it no longer serve as Principal Permittee.¹⁰⁹ The Permittees' reapplication packages contained proposed Storm Water Management Programs and Monitoring Programs for the Board to consider for incorporation into the 2012 Permit as permit conditions and to demonstrate compliance with federal law. The Los Angeles Water Board evaluated each of the ROWDs and found that they did not satisfy federal MS4 reapplication regulations,¹¹⁰ nor did they reflect the current status of program elements for MS4 permits developed over the past decade or the new information specific to this MS4.

More than two decades after the first MS4 permit was issued, water quality impacts from MS4 discharges remained. Although Los Angeles County municipalities made significant strides in implementing programs to reduce stormwater pollution, exceedances of water quality standards

¹⁰⁴ 40 C.F.R. § 122.6. For a variety of reasons, the Los Angeles Water Board did not renew the 2001 Permit until 2012.

¹⁰⁵ In 2006, the Los Angeles Water Board reopened and amended the permit to incorporate provisions implementing the Santa Monica Bay summer dry weather bacteria TMDL. However, as a result of a legal challenge by the County of Los Angeles and the Los Angeles County Flood Control District, and due to procedural deficiencies only, the Los Angeles Water Board was required to void and set aside those provisions, which the Board did in 2010 and 2011. (See generally, *County of Los Angeles et al. v. State Water Resources Control Board et al.* (L.A. Super. Ct., No. BS122724) (2012 AR, pp. RB-AR23664 to 236980)).

¹⁰⁶ Order No. R4-2007-0042 (2007 AR, pp. 8-1 to 8-80); Order No. R4-2009-0130 (2009 AR, pp. 13-1 to 13-92). "2007 AR" refers to the administrative record for the Los Angeles Water Board's issuance of Order No. R4-2007-0042, which amended Order No. 01-182 to incorporate the Marina del Rey Bacteria TMDL. "2009 AR" refers to the administrative record for the Los Angeles Water Board's issuance of Order No. R4-2009-0130, which amended Order No. 01-182 to incorporate the Los Angeles River Trash TMDL.

¹⁰⁷ As noted earlier, for ease of reference, a complete copy of the 2001 Permit, as amended and with all attachments, is provided as an attachment to this response.

¹⁰⁸ See generally 2012 AR, pp. RB-AR1 to 238.

¹⁰⁹ LACFCD Revised ROWD (2012 AR, p. RB-AR239, at 247).

¹¹⁰ U.S. EPA Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule, 61 Fed Reg. 41698 (Aug. 9, 1996) (2012 AR, p. RB-AR24852).

for stormwater pollutants such as bacteria and heavy metals continued. Years of experience showed that water quality impairments require more focused measures to restore water quality and beneficial uses. Since issuance of Los Angeles Water Board Order No. 01-182 in 2001, BMPs for stormwater greatly improved and many TMDLs had been established by either the Los Angeles Water Board or U.S. EPA to guide their implementation.

It is against this backdrop that, on November 8, 2012, the Los Angeles Water Board issued Order No. R4-2012-0175 (the “2012 Permit”).¹¹¹ The 2012 Permit became effective on December 28, 2012.¹¹² The 2012 Permit was based on the 2001 Permit, the Permittees’ ROWDs, and the 2010 Ventura County MS4 Permit, with revisions and additions necessary to meet minimum federal requirements. The 2012 Permit continued to include requirements in six program areas to prevent or reduce the discharge of pollutants from the Permittees’ MS4s to surface waters. One of the most significant additions to the fourth iteration of the Los Angeles County MS4 Permit was the incorporation of water-quality based effluent limits to implement wasteload allocations established in 33 watershed-based TMDLs, for such pollutants as metals, bacteria, and trash, as required by the federal regulations. The number of TMDLs in the Los Angeles Region, and the number of impaired water bodies addressed by these TMDLs, far exceeds that of other regions in California. These TMDLs address the highest priority water quality issues in the region.

The Los Angeles Water Board recognized that the key to successful implementation of these TMDL requirements was to link the traditional programmatic requirements of the permit to the new TMDL water quality based requirements such that permittees’ stormwater management programs would be driven by specific required water quality outcomes. The Board created this linkage by crafting the integrative framework of the watershed management programs (WMPs)/enhanced watershed management programs (EWMPs). The 2012 Permit provides Permittees the option to develop either a WMP or an EWMP to implement permit requirements on a watershed scale through customized strategies, control measures, and BMPs. Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. These watershed-based program alternatives are designed to facilitate collaboration, support prioritization of actions, incentivize cost-effective regional solutions, and ensure improved water quality over time. Permittees who opted to develop a WMP or EWMP were provided with a two-to three-year planning period for program development and approval, and have timeframes of up to 25 years to fully implement their programs. It is important to note that every claimant to these Test Claims is voluntarily participating in an approved WMP or EWMP.¹¹³

The 2012 Permit also builds on the monitoring provisions of the 2001 Permit to more effectively monitor compliance with permit provisions. Notably, as required by federal regulations and at the

¹¹¹ See generally 2012 Permit (2015 AR, pp. SB-AR-013294 - 862).

¹¹² *Id.*, at p. 9 (2015 AR, p. SB-AR-013302).

¹¹³ In total, seventy-seven cities along with Los Angeles County and the Los Angeles County Flood Control District have organized into watershed management groups and developed WMPs or EWMPs, and three cities have developed individual WMPs, customized to the unique characteristics and water quality priorities in different areas of Los Angeles County.

request of several permittees, the 2012 Permit now also requires representative outfall monitoring.

Several permittees and three non-profit environmental organizations filed 37 petitions seeking review of the 2012 Permit by State Water Board. On June 16, 2015, the State Water Board issued Order WQ 2015-0075, generally upholding the 2012 Permit, but with some revisions to the findings and provisions in response to issues raised in the petitions.¹¹⁴ The State Water Board directed the Los Angeles Water Board to prepare a complete version of the permit with the State Water Board's amendments.¹¹⁵ The Los Angeles Water Board distributed the 2012 Permit, as modified by the State Water Board, on June 26, 2015.¹¹⁶

Soon thereafter, the Natural Resources Defense Council and Los Angeles Waterkeeper, the City of Duarte, and the City of Gardena each filed a petition for writ of mandate in superior court challenging the 2012 Permit. The case filed by NRDC and Los Angeles Waterkeeper is currently at the Court of Appeal. Both of the cases filed by the cities of Duarte and Gardena are still at the superior court.

While the 2012 Permit does contain more detailed requirements, most of the actual substantive permit requirements themselves, however, are continued from previous permits. These facts are important, not least of all because to determine whether the challenged permit provision is a new program or higher level of service, it is compared to the legal requirements in effect immediately before its adoption, in this case, the 2001 Permit. A more detailed description of the challenged provisions of the 2012 Permit, together with any historical permitting requirements that required the same or similar performance from Claimants prior to the issuance of the Fourth Term MS4 Permit in 2012, is set forth in the Argument sections (Sections IV and V), together with the specific arguments that are relevant to each part of the challenged 2012 Permit.

III. OVERVIEW OF MANDATES LAW

California mandates law has its origins in the late 1970's, when Proposition 13 and Proposition 4 added articles XIII A and XIII B to the California Constitution, limiting state and local governments' taxing and spending powers.¹¹⁷ Article XIII B, Section 6, of the California Constitution provides, "Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service." Courts have found that the purpose of this section "is to preclude the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are 'ill equipped' to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose."¹¹⁸

Numerous judicial decisions have defined limitations on the requirements for subvention of funds.

¹¹⁴ See generally State Water Board Order WQ 2015-0075 (2015 AR, pp. SB-AR-013196 - 275).

¹¹⁵ *Id.*, at p. 80 (2015 AR, p. SB-AR-013275).

¹¹⁶ 2015 AR, pp. SB-AR-013276 to 280.

¹¹⁷ *Department of Finance v. Commission on State Mandates (Kern High School District)* (2003) 30 Cal.4th 727, 735.

¹¹⁸ *County of San Diego v. State of California* (1997) 15 Cal.4th 68, 81.

In construing what constitutes a “new program or higher level of service,” courts have found that reimbursement to local agencies is required only for the costs involved in carrying out functions peculiar to government, not for expenses incurred by local agencies as an incidental impact of laws that apply generally to all state residents and entities. Laws of general application are not entitled to subvention.¹¹⁹ The fact that a requirement may single out local governments is not dispositive; where local agencies are required to perform the same functions as private industry, no subvention is required.¹²⁰

There are also several limitations and exceptions to the subvention requirements that provide grounds for the Commission to determine that the Test Claims are not subject to subvention. Implementing statutes clarify that no subvention of funds is required if: (1) the mandate imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation;¹²¹ (2) the local agency proposed the mandate;¹²² or (3) the local agency has the authority to levy service charges, fees, or assessments sufficient to pay.¹²³ Subvention is only required if expenditure of tax monies is required, and not if the costs can be reallocated or paid for with fees.¹²⁴

IV. ARGUMENT: THE CHALLENGED PERMIT PROVISIONS DO NOT IMPOSE NEW PROGRAMS OR REQUIRE HIGHER LEVELS OF SERVICE AND APPLICABLE MANDATES EXCEPTIONS PRECLUDE SUBVENTION—GENERAL RESPONSES

Claimants contend that the 2012 Permit imposes numerous new programs or requires higher levels of service than previously required and that the provisions are uniquely imposed on local government. They also assert that all of the activities for which they seek reimbursement exceed federal law and they are unable to assess a fee to recover the costs of the mandated activities. Claimants are wrong.

As a threshold matter, all of the challenged permit provisions fail to constitute either a new program or a higher level of service within the context of mandates law.¹²⁵ Compliance with NPDES permits, and specifically permits regulating stormwater discharges, is required of private industry as well as state and federal government agencies. Local government is not singled out.

¹¹⁹ *County of Los Angeles, supra*, 43 Cal.3d 46.

¹²⁰ *City of Richmond v. Commission on State Mandates* (1998) 64 Cal.App.4th 1190.

¹²¹ Govt. Code, § 17556, subd. (c).

¹²² *Id.*, subd. (a).

¹²³ *Id.*, subd. (d).

¹²⁴ *County of Los Angeles v. Commission on State Mandates* (2003) 110 Cal.App.4th 1176; *Redevelopment Agency v. Commission on State Mandates* (1997) 55 Cal.App.4th 976.

¹²⁵ No appellate court has addressed what constitutes a new program or a higher level of service in the context of MS4 permits. At the California Supreme Court in *Department of Finance* (re: Los Angeles Water Board Order No. 01-182), the Los Angeles Water Board and the Los Angeles County MS4 Permittees did not brief that each of the four challenged requirements were a new program or high level of service as that matter was on the narrow issue construing whether the challenged requirements were federal mandates. The matter was remanded so the trial court may consider other issues the parties raised in their pleadings. The issue was also raised in the State Water Board, San Diego Regional Water Quality Control Board, and Department of Finance’s Petition for Writ of Mandate regarding the Commission’s Statement of Decision in *In re Test Claim on San Diego Regional Water Quality Control Board Order No. R9-2007-0001, Case No. 07-TC-09* (March 26, 2010). The Court of Appeal, however, did not address that issue. That matter was also remanded to the trial court for further proceedings.

Even if the Commission finds that some of the challenged provisions do impose a new program or higher level of service, the challenged provisions are nonreimbursable because of applicable mandates exceptions. For example:

- All of the programs are federal mandates. The Los Angeles Water Board found that all of the challenged provisions were adopted entirely under federal law and are necessary for the Claimants to meet the standards and requirements of the Clean Water Act and its implementing regulations. Therefore, none of the costs are for activities exceeding federal requirements.
- Claimants, as well as other Permittees, are not *required* to use taxes to pay for the costs for the programs. They can be paid for by levying fees especially enacted for stormwater programs.¹²⁶ The local agencies have not established that tax monies are required.¹²⁷ But even if the Commission determines that a portion of the MS4 operators' activities exceed federal law requirements and would otherwise qualify for subvention, the costs are *de minimis* and therefore not reimbursable.
- Claimants, as well as the other Permittees, proposed concepts on which many of the challenged permit requirements are based in their permit application, or ROWDs or in the permitting process for their requested permit.

Because many of the Water Boards' responses concerning applicable mandates law apply to all of the challenged provisions, the Los Angeles Water Board has endeavored to avoid repetition by responding generally to Claimants' assertions below. These general responses alone support denial of each of Claimants' challenges. Where appropriate, the Water Boards provide additional support for the conclusion that exceptions apply to specific challenged provisions, in Section V, below.

A. The Contested Provisions Do Not Impose New Programs or Higher Levels of Service

In order to obtain reimbursement, the Claimants must show as a threshold matter that the Los Angeles Water Board has imposed a "program" on them and, if so, that it established a "new

¹²⁶ Claimants generally state that they are restricted in their ability to assess fees or assessments sufficient to pay for the Permit's mandates. Claimants refer to limitations on assessing fees and surcharges under California law. The referenced law concerns only the percent of voters who must approve the assessment. The Cities of Palo Alto, San Clemente, San Jose, Alameda and Santa Cruz have stormwater fee funded programs. Claimants' contention also ignores the clear authority granted to them to actually raise such fees in Proposition 218 and their enabling acts. Thus, Claimants have not shown they are *required* to rely on using tax money to fund challenged activities.

¹²⁷ As mentioned in the Introduction, no appellate court has addressed what constitutes fee authority in the context of MS4 permits, particularly with consideration of Proposition 218. The Commission has also not considered the later approved Proposition 26. In their petition for writ of mandate in *State of California, Department of Finance, et al., v. Commission on State Mandates*, Sacramento County Superior Court, Case No. 34-2010-80000604, the San Diego Water Board, San Diego Regional Water Quality Control Board, and Department of Finance challenged the Commission's conclusion in the underlying Statement of Decision in *In re Test Claim on San Diego Regional Water Quality Control Board Order No. R9-2007-0001, Case No. 07-TC-09* (March 26, 2010) that the requirement for voter approval as a prerequisite to raising fees precluded finding that a local agency has fee authority to pay for some permit-related activities. Likewise, claimants there in a cross-petition for writ in the same matter challenged the sufficiency of the evidence supporting the Commission's underlying determination that local agencies have authority to fund hydromodification and low impact development programs through their land development programs. The Court of Appeal, however, did not address these issues. The matter was remanded so the trial court may consider other issues the parties raised in their pleadings.

program” or created a “higher level of service” over the previously required level of service.¹²⁸ Claimants have not satisfied, and cannot satisfy, this threshold. Thus, article XIII B, section 6, of the California Constitution is inapplicable.

1. The 2012 Permit Does Not Impose a “Program”

The 2012 Permit is not a “program” subject to article XIII B, section 6, of the California Constitution. The California Supreme Court has defined a “program” for purposes of article XIII B, section 6, of the California Constitution, as: (1) programs that carry out the governmental function of providing services to the public, or (2) laws which, to implement a state policy, impose unique requirements on local governments and do not apply generally to all residents and entities in the state.¹²⁹ Claimants are unable to show that the 2012 Permit satisfies either test.

First, the 2012 Permit does not impose a program that carries out a governmental function of providing services to the public. The Clean Water Act forbids everyone - individuals, businesses, state governments, tribal governments, local governments, etc. - from discharging pollutants from point sources to waters of the United States without an NPDES permit.¹³⁰ That includes municipal and industrial stormwater dischargers.¹³¹ All government entities that operate MS4s, including state and federal facilities, are required to obtain an NPDES permit; local governments are not singled out. Whether pollutants originate from a local government or a private industrial point source, the Water Boards must assure their NPDES permits protect water quality consistent with state and federal law. Thus, Claimants were not issued a NPDES permit because they are government entities. Claimants were issued a NPDES permit because they are point source dischargers of pollutants under the Clean Water Act.

In its Statement of Decision on the test claims concerning the trash receptacle and inspection requirements of the 2001 Permit, the Commission found the challenged permit activities as constituting a program since the permit activities were limited to local government activities and the 2001 Permit only named local government entities as permittees.¹³² The Commission also determined that the “permit provides a service to the public by preventing or abating pollution in waterways and beaches in Los Angeles County,” specifically noting that an objective of the permit “is to protect the beneficial uses of receiving waters in Los Angeles County.”¹³³

The approach previously taken by the Commission fails to appropriately focus on whether the permit mandates functions peculiar to government and obscures the Clean Water Act’s focus on, and regulation, of pollutant discharges – something that is not unique to local governments. Governments, let alone *local* governments, are not uniquely responsible for reducing or abating pollution to waters of the United States. MS4 permits, as with all NPDES permits, are intended to support the objective of the federal Clean Water Act “to restore and maintain the chemical,

¹²⁸ Cal. Const., art. XIII B, § 6, subd. (a); *San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 878; *Lucia Mar Unified School District*, *supra*, 44 Cal.3d at pp. 835-836.

¹²⁹ *San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 874 (emphasis added) (reaffirming the test set forth in *County of Los Angeles*, *supra*, 43 Cal.3d at p. 56); *Lucia Mar Unified School District*, *supra*, 44 Cal.3d at p. 835.

¹³⁰ CWA §§ 301(a), 402, 502(5); see also 40 C.F.R. §§ 122.21, 122.22, 123.25.

¹³¹ See CWA § 402(p).

¹³² *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009), p. 48.

¹³³ *Ibid.*

physical, and biological integrity of the Nation's waters."¹³⁴ Within the Los Angeles Region, the Water Boards have issued hundreds, if not thousands, of NPDES permits to both public and private entities. All of those NPDES permits share the same objective – to protect the beneficial uses of receiving waters in the Los Angeles Region. While regulating water quality is a general service to the public, actions by persons, including local governments, that discharge pollutants and waste to prevent or abate discharges of pollutants from point sources to waters of the United States is not a governmental function of providing services to the public.

Second, the 2012 Permit does not impose unique requirements on local governments and the CWA's NPDES permitting requirements apply generally to all residents and entities in the state. Courts have found that reimbursement to local agencies is required only for the costs involved in carrying out functions peculiar to government, not for expenses incurred by local agencies as an incidental impact of laws that apply generally to all state residents and entities.¹³⁵ Laws of general applicability are not entitled to subvention because they do not "force" programs on localities.¹³⁶ The fact that a requirement may single out local governments is not dispositive; where local agencies are required to perform the same functions as private industry, no subvention is required.¹³⁷

The relevant "state policy" implemented by the 2012 Permit is the Clean Water Act and Chapter 5.5 of the Porter-Cologne Water Quality Control Act requiring that NPDES permits be consistent with the Clean Water Act. That policy applies generally to all residents and entities in the state and does not apply uniquely to local governments. The Clean Water Act prohibits both public and private entities from discharging pollutants from point sources to waters of the United States without an NPDES permit. Both municipal and non-municipal stormwater discharges must be controlled; MS4s owned or operated by local governments are not singled out.¹³⁸ The NPDES permitting requirements implemented by the 2012 Permit thus effectuates laws of general application that prohibit both public and private entities from discharging to waters of the United States except as specified in a NPDES permit. The 2012 Permit is the means by which the Water Boards ensure that public entities abide by the same requirements against polluted discharges to waters of the United States that the law imposes on private entities. The 2012 Permit, as is required by federal law, merely places the Claimants and the other Permittees on the same, or in some cases a lesser, footing as most other private entities and non-local governments.

Numerous provisions of the 2012 Permit are requirements of general applicability. Like the 2012 Permit, NPDES permits governing private entities contain similar provisions requiring that those entities manage stormwater and non-stormwater to prevent or reduce discharges of pollutants, including the requirement to implement specific control measures or BMPs. Likewise, NPDES

¹³⁴ CWA § 101(a).

¹³⁵ *City of Richmond, supra*, 64 Cal.App.4th at p. 1197.

¹³⁶ *Ibid.*; *County of Los Angeles, supra*, 43 Cal.3d at pp. 56-58 (finding comprehensive workers compensation scheme did not create a cost for local agencies that was subject to state subvention).

¹³⁷ *Ibid.*

¹³⁸ See e.g., 40 C.F.R. § 122.26(a)(vi)(6). See also e.g., State Water Board, Order No. 2014-0057-DWQ, NPDES General Permit for Storm Water Discharges Associated with Industrial Activities; State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation; State Water Board, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit for Storm Water Discharges Associated With Construction And Land Disturbance Activities.

permits issued to private entities implement wasteload allocations established in federally required TMDLs, which are assigned to identified sources of pollutants, whether MS4 operators, private industry, or government agencies. And all NPDES permittees are required to self-monitor their discharges.

While Claimants' obligations under the 2012 Permit are similar to the obligations of non-municipal dischargers who are issued NPDES permits for stormwater and non-stormwater discharges, in many respects Claimants are subject to less stringent requirements. MS4 discharges are not managed as stringently as industrial and construction stormwater discharges.¹³⁹ The requirements for industrial entities are more stringent than for local government dischargers because industrial entities are required to strictly (i.e., immediately) comply with water quality standards. The 2012 Permit does not require strict compliance with water quality standards. The 2012 Permit, therefore, regulates the discharge of pollutants in MS4 discharges more leniently than the discharge of pollutants from private non-governmental sources.

In the proceedings on the test claims concerning the trash receptacle and inspection requirements of the 2001 Permit, the Water Boards made similar arguments to those made here. In its Statement of Decision, the Commission rejected the Water Boards arguments. Having apparently found the first test satisfied, the Commission did not consider whether the second test had also been satisfied. Rather, the Commission relied on an erroneous assumption that it had to consider the 2001 Permit in isolation, concluding that the "permit activities are limited to local governmental entities" and that "the issue is not whether NPDES permits generally constitute a 'program' within the meaning of article XIII B, section 6. The only issue before the Commission is whether the permit in this test claim...constitutes a program because this permit is the only one over which the Commission has jurisdiction."¹⁴⁰ But the Water Boards contend whether NPDES permits generally constitute a "program" within the meaning of article XIII B, section 6 is precisely a threshold issue the Commission needs to determine.

In *City of Sacramento*, the Court held that a law extending mandatory unemployment insurance coverage to local governments did not constitute a new program or higher level of service.¹⁴¹ The Court reasoned that the law "merely makes the local agencies indistinguishable ... from private employers."¹⁴² It rejected the local government's argument that because the program was new to local governments, it triggered reimbursement under article XIII B, section 6.¹⁴³ Accepting that argument, the Court explained, would create an anomalous situation in which the State could be required to pay local governments if it deferred their compliance with the law, but could avoid the

¹³⁹ Compare CWA § 402(p)(3)(B) to § 402(p)(3)(A), which requires that industrial stormwater dischargers strictly comply with water quality standards pursuant to CWA § 301(b)(1)(C). The provisions of the 2012 Permit regulate the discharge of pollutants in municipal stormwater under the CWA's MEP standard, not the BAT/BCT standard that applies to other types of discharges. See also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1164-1165 (distinguishing "strict compliance" required of industrial storm water dischargers to MEP standard applicable to municipal stormwater dischargers).

¹⁴⁰ *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009), p. 49.

¹⁴¹ *City of Sacramento v. State of California* (1990) 50 Cal.3d 51, 57.

¹⁴² *Id.*, at p. 67.

¹⁴³ *Id.*, at p. 68 (explaining that the law "may have imposed a requirement 'new' to local agencies, but that requirement was not 'unique'").

reimbursement requirements if it imposed the same obligations on the public and private sectors at the same time.¹⁴⁴

Similarly, in *City of Richmond*, a state law exempted public safety employers from Labor Code provisions governing death benefits payable to a deceased employee's survivors.¹⁴⁵ After the State repealed the exemption, a city sought reimbursement for payment of death benefits.¹⁴⁶ The Court of Appeal recognized that just because a law "affects only local governments does not compel the conclusion that that [the law] imposes a unique requirement on local government."¹⁴⁷ The new law made "the workers' compensation death benefit requirements as applicable to local governments as they are to private employers," and therefore did not impose a new program or higher level of service.¹⁴⁸

These cases show the error in the Commission's prior reasoning. Both the Supreme Court in *City of Sacramento* and the Court of Appeal in *City of Richmond* considered that the laws at issue put local government on an equal footing with private entities, rather than place a burden exclusively on local government. In its prior decision on the 2001 Permit, the Commission declined to recognize that permitting rules apply equally to public and private dischargers, and instead focused narrowly on specific provisions in the 2001 Permit. Under *City of Richmond*, the Commission should recognize that because the permitting requirement does not rest exclusively on local governments, whatever its expression in specific permit provisions, and whether or not those specific provisions are imposed on private emitters, it cannot be a reimbursable mandate so long as local governments are held to the same, or lesser, standard than private entities.¹⁴⁹ Under the Commission's prior reasoning, even if the Los Angeles Water Board had issued identical NPDES permits to local governments and industrial dischargers - that is, permits that required the public and private permittees to do exactly the same thing - the permit issued to the local government would trigger a subvention of funds. That would be an impermissible "state subsidy of the public sector" to offset "expenses imposed *in common* on the private and public sectors by ... a general law."¹⁵⁰ Therefore, the mere fact that one particular NPDES permit, out of hundreds of NPDES permits issued by the Water Boards, only names local governments is not the correct standard as to whether the 2012 Permit constitutes a "program" under article XIII B, section 6 of the California Constitution.

Treating individual permit terms that implement BMPs or other control measures as state mandates, when other dischargers, including other stormwater dischargers, are subject to more stringent standards, is the sort of anomalous result the Supreme Court cautioned against in *City of Sacramento*. If updating a law to require local governments to adhere to the same standard as private parties does not create a mandate, as the courts in *City of Sacramento* and *City of Richmond* held, then imposing a lesser standard in lieu of a more stringent standard cannot create a mandate. Among other things, it would encourage the state and regional water boards to issue

¹⁴⁴ *Id.*, at p. 69.

¹⁴⁵ *City of Richmond*, *supra*, 64 Cal.App.4th at p. 1193.

¹⁴⁶ *Ibid.*

¹⁴⁷ *Id.*, at p. 1197.

¹⁴⁸ *Id.*, at p. 1199.

¹⁴⁹ See *City of Richmond*, *supra*, 43 Cal.App.4th at p. 1197.

¹⁵⁰ *City of Sacramento*, *supra*, 50 Cal.3d at p. 69, discussing *County of Los Angeles*, *supra*, 43 Cal.3d at pp. 56-58.

permits imposing the same standards on MS4 operators as on other stormwater dischargers, potentially at greater cost to local governments.¹⁵¹

Further, on remand from the California Supreme Court, the Los Angeles County Superior Court recently agreed with the Water Boards that the receptacle and inspections requirements in the 2001 Permit are not state mandated program subject to subvention as the costs incurred by the local governments are “an incidental impact of laws [and policies] that apply generally to all state residents and entities” rather than the result of a state mandate shifting the costs of a state initiated program to the local governments.¹⁵² Notably, the Court also found the following:

Moreover, just because the requirements are “unique” to the local governments and cause them to incur costs does not mean the local entities are necessarily entitled to reimbursement from the state. Whereas a private industrial discharger has considerable power to control its operations and employees to prevent contaminated discharges, municipalities cannot prevent contaminated discharges without inducing or policing the public to refrain from harmful conduct. It is therefore inevitable that the Operators’ NPDES permit includes measures “unique” to local governments such as the receptacle and inspection requirements at issue here. Indeed, because the anti-pollution laws, the permit and the policies behind them implement a ban on unlawful discharges that applies to both public and private entities, the state must, as a practical matter, impose “unique” requirements on local governments to ensure that their required compliance is “indistinguishable ... from private employers.”¹⁵³

Thus, while the provisions in the 2012 Permit apply only to the local agencies named in the permit, the substantive actions required by the permit’s provisions are by no means unique to this class of permittee. That other NPDES permits impose similar requirements on non-local government agencies demonstrates that the provisions in the Permit are not unique to local government. The Water Boards urge the Commission to reconsider its prior approach in this respect and to view the 2012 Permit within this larger context.

2. The 2012 Permit Does Not Impose a New Program

Assuming the Commission finds that the 2012 Permit is a “program,” there is no evidence that many of the requirements at issue impose a “new” program. A program is “new” if the local government had not previously been required to institute it.¹⁵⁴ Here, even if each of the challenged provisions could be considered a “program,” none meets the definition of “new.”

Claimants have been permitted under the NPDES program for their MS4 discharges since 1990. The 2012 Permit is the fourth NPDES permit issued for the Los Angeles County MS4, and many, (if not all) of the requirements at issue in the Test Claims are not new. The overarching

¹⁵¹ See *Defenders of Wildlife*, *supra*, 191 F.3d at pp. 1163, 1166-1167 (noting state can impose effluent limitations on MS4 permittees); *Building Industry*, *supra*, 124 Cal.App.4th at pp. 886-887 (discussing *Defenders of Wildlife*).

¹⁵² *State of California Department of Finance v. Commission on State Mandates*, Los Angeles County Superior Court Case No. BS130730, Order Granting Petition for Writ of Mandate (Post-Remand) and Denying Cross-Petitions as Moot, Feb. 9, 2018, p. 14 (citing *County of Los Angeles*, *supra*, 43 Cal.3d at p. 57.)

¹⁵³ *Id.*, at p. 13 (citing *County of Los Angeles*, *supra*, 43 Cal.3d at p. 56).

¹⁵⁴ *Ibid.*

requirement to impose controls to reduce or prevent pollutants in MS4 discharges is dictated by the Clean Water Act and is not new to this permit cycle. The inclusion of new and advanced measures as the MS4 programs evolve and mature over time is anticipated under the Clean Water Act and these new and advanced measures do not constitute a new program.¹⁵⁵ Prior permits, like the 2012 Permit, included management program requirements, monitoring programs, annual reporting requirements, land development requirements, enforcement obligations, discharge prohibitions, and the requirement to comply with receiving water limitations.¹⁵⁶

3. The 2012 Permit Does Not Impose Higher Levels of Service

Assuming the Commission finds that the 2012 Permit is a “program,” there is no evidence that many of the requirements at issue constitute a “higher level of service.” The term “higher level of service” “must be read in conjunction with the predecessor phrase ‘new program’ to give it meaning. Thus read, it is apparent that the subvention requirement for increased or higher level[s] of service is directed to state mandated increases in the services provided by local agencies in existing ‘programs.’”¹⁵⁷ A “higher level of service” occurs when the new “requirements were intended to provide an enhanced service to the public.”¹⁵⁸

As an initial matter, any new requirements in the 2012 Permit are not intended “to provide an enhanced service to the public.”¹⁵⁹ The service to the public of affording better water quality, which is required by both public and private entities, has remained the same. This service is not enhanced in the 2012 Permit. Just because Claimants or other Permittees have not met the requirements of prior permits (e.g., achieving compliance with water quality standards), it does not mean that more detailed requirements in *this* permit to ensure the water quality protection required by prior permits and the CWA is achieved as soon as possible somehow provides an “enhanced” service to the public. Claimants, as with all other Permittees, are still required to effectively prohibit their non-stormwater discharges, comply with water quality standards, implement the six minimum control measures, monitor their discharges, etc., in order to achieve the CWA standards that were established decades ago.

The changes to the requirements of prior permits (e.g., increased detail or specificity) do not amount to a higher level of service, both because equivalent changes are applicable to non-local government permittees, discussed in Section V below, and because they are merely refinements of existing requirements, most of which are a result of the iterative process expressly contemplated by federal law.¹⁶⁰ A higher level of service is not simply any increase in costs. “If

¹⁵⁵ 55 Fed. Reg. 47990, 48052 (Nov. 16, 1990) (2012 AR, p. RB-AR23779).

¹⁵⁶ See, Los Angeles Water Board Order Nos. 90-079 (2012 AR, pp. RB-AR22746 - 62), 96-054 (2001 AR, pp. R0008476 to 580), and 01-182, as amended (2012 AR, pp. RB-AR51166 - 251), all issued to Los Angeles County MS4 Permittees in the Los Angeles Region.

¹⁵⁷ *County of Los Angeles, supra*, 43 Cal.3d at p. 56 (emphasis added).

¹⁵⁸ *San Diego Unified School Dist., supra*, 33 Cal.4th at p. 878.

¹⁵⁹ *Ibid.*

¹⁶⁰ See *County of Los Angeles v. Commission on State Mandates, supra*, 110 Cal.App.4th at pp. 1189-1190; see, also, e.g., Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21 (2012 AR, p. RB-AR34517), citing 55 Fed. Reg. 47990, 48052 (“EPA anticipates that storm water management programs will evolve and mature over time.”); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999 (“EPA envisions application of the MEP standard as an iterative process.”); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996)
(footnote continued on next page)

the Legislature had intended to continue to equate 'increased level of service' with 'additional costs,' then the provision would be circular: 'costs mandate by the state' are defined as 'increased costs' due to an increased level of service, which, in turn would be defined as 'additional costs.'"¹⁶¹ Costs for purposes of article XIII B, section 6, of the California Constitution do "not equal every increase in a locality's budget resulting from compliance with a new state directive."¹⁶²

Nor does every increase in specificity about where to direct costs amount to a higher level of service.¹⁶³ That the level of specificity in a permit reconsidered and reissued every five years may have changed over time is consistent with U.S. EPA's guidance that MS4 permitting follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit.¹⁶⁴

Rather, the costs incurred must involve programs previously funded exclusively by the state.¹⁶⁵ The "state must be attempting to divest itself of its responsibility to provide fiscal support for a program, or forcing a new program on a locality for which it is ill equipped to allocate funding."¹⁶⁶ In certain instances set forth in Section V, below, Claimants contend that the state has shifted costs to local government and that they have been saddled with entirely new obligations to control pollution in MS4 discharges. As explained below, these claims are simply not true. In other cases, though, Claimants do not contend that the state has shifted any costs to them, or saddled them with entirely new obligations to control pollution in MS4 discharges. Without any burden shifting from the state to municipalities, mere direction from the Los Angeles Water Board that the municipalities reallocate some of their resources in a particular way does not amount to a higher level of service.¹⁶⁷ "Loss of flexibility does not, in and of itself, require the [local agencies] to expend funds that previously had been expended by the State."¹⁶⁸

("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.")

¹⁶¹ *County of Los Angeles v. Commission on State Mandates*, *supra*, 110 Cal.App.4th at p. 1191.

¹⁶² *Id.*, at p. 1194; accord *San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 876-877.

¹⁶³ See *Id.*, at p. 1194 (requiring local law enforcement agencies devote some of their training budgets to domestic violence training was not a higher level of service).

¹⁶⁴ See, Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21 (2012 AR, p. RB-AR34517), citing 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 68722, 68754; Dec. 8, 1999 ("EPA envisions application of the MEP standard as an iterative process."); and Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.")

¹⁶⁵ See *City of San Jose v. State of California* (1996) 45 Cal.App.4th 1802, 1812 (citing *Lucia Mar Unified School District*, *supra*, 44 Cal.3d at p. 836); see also *County of Sonoma v. Commission on State Mandates* (2000) 84 Cal.App.4th 1264, 1288 (state law requiring reallocation of school funds from one local government entity to another, where local government generally had always had a substantial role in funding schools, did not impose a higher level of service).

¹⁶⁶ See *County of Los Angeles v. Commission on State Mandates*, *supra*, 110 Cal.App.4th at p. 1194; accord *Dept. of Finance v. Commission on State Mandates*, *supra*, 1 Cal.5th at p. 771 (agreeing that state had shifted responsibility for some industrial inspections to local government agency).

¹⁶⁷ See *County of Los Angeles v. Commission on State Mandates*, *supra*, 110 Cal.App.4th at p. 1194.

¹⁶⁸ *Ibid.*; accord *Department of Finance (Kern High School District)*, *supra*, 30 Cal.4th at p. 748 (requirement that school districts allocate some of their grant funds in a particular way did not transform those costs into a reimbursable state mandate).

In this case, any costs arising from the 2012 Permit's requirements do not result in a "program," or a "new" program. Nor do they result from a "higher level of service," because the state has not shifted its own responsibilities to local agencies and the Claimants are not "ill-equipped" to allocate funding to control MS4 discharges. And, as explained below, Claimants have been subject to the same federal standards (the requirement to effectively prohibit non-stormwater discharges to the MS4 and implement controls to reduce the discharge of pollutants in stormwater to the MEP, and other controls determined appropriate by the permitting agency, as well as monitoring and reporting requirements) for decades. Whether Claimants must implement different approaches in an effort to achieve the required federal standards does not mean the state has imposed a new program or required performance of a higher level of service.

B. Mandates Exceptions Preclude Finding Subvention is Required

Assuming *arguendo* that the Commission concludes that the challenged provisions of the 2012 Permit require new programs or impose higher levels of service, the following mandates exceptions apply to the contested provisions such that subvention is not required.

1. The 2012 Permit Provisions are Required by Federal Law

i. The Los Angeles Water Board Determined that the 2012 Permit Provisions are Required to Comply with CWA Requirements - And Such Findings are Entitled to Deference Under *Department of Finance*

One of the exceptions to the subvention requirements is if the mandate imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation.¹⁶⁹ Federal law specifically requires that permits be issued to entities that operate MS4s and that permits effectively prohibit non-stormwater discharges to the MS4, include controls to reduce the discharge of pollutants in stormwater to the maximum extent practicable, include other provisions the permitting agency determines appropriate for the control of such pollutants, include water quality based effluent limits implementing TMDL wasteload allocations, and include monitoring and reporting requirements. If the Water Boards had not been authorized to issue the NPDES permit in lieu of U.S. EPA, the MS4 discharges would be prohibited unless U.S. EPA itself issued a similar permit directly to the entities. Therefore, in issuing the permit provisions necessary to comply with federal law, the Los Angeles Water Board exercised its duty under federal law. As the Ninth Circuit Court of Appeals held in *Natural Resources Defense Council v. U.S. EPA*, "Congress did not mandate a minimum standards approach."¹⁷⁰ Rather, Congress mandated that the permitting entity, here the Los Angeles Water Board, determine appropriate provisions designed to control pollutants.¹⁷¹

The Court of Appeal in *City of Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region*, succinctly addressed the federal mandate on the regional water boards to prescribe requirements that meet the CWA standard:¹⁷²

¹⁶⁹ Gov. Code, § 17556, subd. (c).

¹⁷⁰ *Natural Resources Defense Council v. U.S. EPA*, *supra*, 966 F.2d at p. 1308.

¹⁷¹ *Ibid.*

¹⁷² *City of Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region* (2002) 135 Cal.App.4th 1377.

In creating a permit system for dischargers from municipal storm sewers, Congress intended to implement actual programs. (*Natural Resources Defense Council, Inc. v. Costle* (D.C.Cir.1977) 568 F.2d 1369, 1375.) The Clean Water Act authorizes the imposition of permit conditions, including: “management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (33 U.S.C. § 1342, subd. (p)(3)(B)(iii).) The Act authorizes states to issue permits with conditions necessary to carry out its provisions. (33 U.S.C. § 1342, subd. (a)(1).) The permitting agency has discretion to decide what practices, techniques, methods and other provisions are appropriate and necessary to control the discharge of pollutants. (*NRDC v. EPA* (9th Cir.1992) 966 F.2d 1292, 1308.) That is what the Regional Board has created in the 2002 permit.¹⁷³

As in *Rancho Cucamonga*, the 2012 Permit includes requirements to implement BMPs to meet the MEP standard for stormwater discharges. Similarly, the Los Angeles Water Board exercised its duty under federal law and adopted the Permit provisions requiring compliance with the non-stormwater discharge prohibition, TMDL wasteload allocations, and monitoring and reporting requirements, all of which are independent federal law mandates.

The fact that the Los Angeles Water Board exercised its discretion, as required by federal law, to impose requirements that it determined were necessary to implement federal law and meet the CWA standards in the 2012 Permit supports the conclusion that the permit provisions are federal, not state mandates. Under the factual circumstances here, *Department of Finance* does not require a different result.

An essential underpinning of *Department of Finance* is the Supreme Court's determination that the 2001 Permit had as its roots both federal and State law. In that permit, the Los Angeles Water Board had made no finding that the permit requirements were necessary to implement the MEP standard.¹⁷⁴ Instead, the Los Angeles Water Board found only that the permit was consistent with or within the federal standard. In *Department of Finance*, the Supreme Court held that, “Had the Regional Board found when imposing the disputed permit conditions, that those conditions were the only means by which the maximum extent practicable standard could be implemented, deference to the board's expertise in reaching that finding would be appropriate.”¹⁷⁵

In contrast, in issuing the 2012 Permit, the Los Angeles Water Board made specific findings throughout the Permit that its provisions are based on federal law and are necessary to meet CWA standards under the factual circumstances presented.¹⁷⁶ Examples of this include, but are not limited to:

- “This Order is issued pursuant to CWA section 402 and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with

¹⁷³ *Id.*, at 1389.

¹⁷⁴ *Department of Finance v. Commission on State Mandates*, *supra*, 1 Cal.5th at p. 768.

¹⁷⁵ *Ibid.*

¹⁷⁶ The findings that the permit terms are necessary to satisfy the federal CWA standards under the factual circumstances presented means the Los Angeles Water Board did not impose more stringent terms under the Porter-Cologne Water Quality Control Act, which it is authorized to do. (See *Burbank*, *supra*, 35 Cal.4th at p. 626-629.)

section 13370). This Order serves as an NPDES permit for point source discharges from the Permittees' MS4s to surface waters."¹⁷⁷

- "This Order implements the federal Phase I NPDES Storm Water Program requirements. These requirements include three fundamental elements: (i) a requirement to effectively prohibit non-storm water discharges through the MS4, (ii) requirements to implement controls to reduce the discharge of pollutants to the maximum extent practicable, and (iii) other provisions the Regional Water Board has determined appropriate for the control of such pollutants."¹⁷⁸
- "[T]he Regional Water Board finds that the requirements in this permit are not more stringent than the minimum federal requirements."¹⁷⁹
- "This Order includes programmatic requirements in six areas pursuant to 40 CFR section 122.26(d)(2)(iv) as well as numeric design standards for storm water runoff from new development and redevelopment consistent with the federal MEP standard (see State Water Board Order WQ 2000-11, the "LA SUSMP Order"). This Order also includes protocols for periodically evaluating and modifying or adding control measures, consistent with the concept that MEP is an evolving and flexible standard."¹⁸⁰
- "The Regional Water Board finds that the requirements in this Order are not more stringent than the minimum federal requirements. ... The requirements in this Order may be more specific or detailed than those enumerated in federal regulations under 40 CFR § 122.26 or in USEPA guidance. However, the requirements have been designed to be consistent with and within the federal statutory mandates described in Clean Water Act section 402(p)(3)(B)(ii) and (iii) and the related federal regulations and guidance. Consistent with federal law, all of the conditions in this Order could have been included in a permit adopted by USEPA in the absence of the in lieu authority of California to issue NPDES permits."¹⁸¹
- "The Regional Water Board finds that the requirements in this Order are reasonably necessary to protect beneficial uses identified in the Basin Plan..."¹⁸²
- "The requirements of the Order, taken as a whole rather than individually, are necessary to reduce the discharge of pollutants to the maximum extent practicable and to protect water quality. The Regional Water Board finds that the requirements of the Order are practicable, do not exceed federal law, and thus do not constitute an unfunded mandate."¹⁸³

The Los Angeles Water Board also found:

¹⁷⁷ 2012 Permit, Finding H, p. 20 (2015 AR, p. SB-AR-013313).

¹⁷⁸ *Id.*, Finding I.

¹⁷⁹ *Id.*, Finding S, p. 26 (2015 AR, p. SB-AR-013319).

¹⁸⁰ *Id.*, Attachment F (Fact Sheet), Part IV.B, p. F-34 (2015 AR, p. SB-AR-013606).

¹⁸¹ *Id.*, Part VIII, p. F-141 (2015 AR, p. SB-AR-013713).

¹⁸² *Ibid.*

¹⁸³ *Id.*, Part IX, p. F-159 (2015 AR, p. SB-AR-013731).

This Order implements federally mandated requirements under the Clean Water Act...The authority exercised under this Order is not reserved state authority under the Clean Water Act's savings clause (cf. *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370, which allows a state to develop requirements which are not "less stringent" than federal requirements]), but instead is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)¹⁸⁴

Collectively, these findings set forth the Los Angeles Water Board's regulatory basis for issuing the Permit and make it clear that the Board intended to and did rely solely on federal law in issuing the Permit.¹⁸⁵ As the Supreme Court held, "deference to the board's expertise in reaching that finding would be appropriate."

The Water Boards understand the Supreme Court to mean that, to be entitled to deference, the regional water boards must make an express finding that the particular set of permit conditions finally embodied in a given permit is required to meet that federal standard, and must support that finding with evidence. The opinion is consistent with the Water Boards' reading of the Clean Water Act: where a regional water board has devised a set of conditions necessary to ensure local governments' compliance with federal law (that is, a set of conditions that is federally mandated), the regional water board does not have a choice to impose some other, less rigorous, set of conditions.

For the "maximum extent practicable" standard applicable to MS4 stormwater discharges, determining whether this standard has been exceeded necessarily rests on whether the Permit includes requirements which are impracticable. Practicability is a matter squarely within the Los Angeles Water Board's jurisdiction and technical expertise. The Los Angeles Water Board determined that the requirements in the Permit are practicable.¹⁸⁶ In the Test Claims, Claimants continue to present no evidence that any of the challenged provisions applicable to stormwater are impracticable. Accordingly, absent any evidence that any of the challenged provisions are impracticable, the Commission cannot find these provisions as exceeding MEP and therefore entitled to subvention. The Commission must defer to the board's findings.¹⁸⁷

Department of Finance addressed the narrow question of whether the federal MEP standard and certain implementing regulations¹⁸⁸ mandated both the trash can and inspection requirements

¹⁸⁴ *Id.*, Part IX, p. F-158 (2015 AR, p. SB-AR-013730) (emphasis added).

¹⁸⁵ The finding that the permit terms are necessary to satisfy the federal MEP standard under the factual circumstances presented means the Los Angeles Water Board did not impose more stringent terms under the Porter-Cologne Water Quality Control Act, which it is authorized to do. (See *Burbank, supra*, 35 Cal.4th at pp. 626-629.)

¹⁸⁶ 2012 Permit, Attachment F (Fact Sheet), p. F-159 (2015 AR, pp. SB-AR-013731).

¹⁸⁷ *Department of Finance, supra*, 1 Cal.5th at pp. 768-769.

¹⁸⁸ The Supreme Court considered Title 40 of the Code of Federal Regulations, parts 122.26(d)(2)(iv)(A)(3), (B)(1), (C)(1), and (D)(3) in reaching its decision. (*Department of Finance v. Commission on State Mandates, supra*, 1 Cal.5th at p. 749.)

contained in the 2001 Permit. In reaching its decision, the Supreme Court's analysis necessarily turned on whether, and to what extent, the MEP standard and the specific implementing regulations compelled the Los Angeles Water Board to impose the challenged permit conditions.¹⁸⁹ Non-stormwater discharge provisions, TMDL provisions, and monitoring and reporting requirements required by independent federal mandates were not analyzed by the Supreme Court in the *Department of Finance* decision. Consequently, the Supreme Court decision has limited application when the federal standard compelling a challenged permit provision is wholly separate from the MEP standard and those specific implementing regulations.

Likewise, the recent California Court of Appeal, Third Appellate District, decision concerning the 2007 San Diego County MS4 Permit¹⁹⁰ was also narrowly focused on the federal mandate exception related to the MEP standard only. Notably, like *Department of Finance*, the *San Diego DOF Decision* also did not address critical questions here, including but not limited to: (a) whether requirements implementing the Clean Water Act's effective prohibition of non-stormwater discharges through the MS4 to receiving waters is federally mandated; (b) whether permit provisions implementing TMDLs required by section 303(d) of the Clean Water Act are federally mandated; and (c) whether permit provisions establishing monitoring and reporting requirements is federally mandated. Importantly, however, the California Court of Appeal did not, and could not, disturb the California Supreme Court's determinations concerning the deference owed to the permitting agency.

The 2012 Permit, like its predecessors, implements wholly separate CWA requirement that MS4 operators effectively prohibit non-stormwater discharges through their storm sewers to waters of the United States, monitor their discharges, and implement TMDLs. These are separate, independent federal requirements that neither the Supreme Court in the *Department of Finance* decision nor the California Court of Appeal, Third Appellate District, in the *San Diego DOF Decision* analyzed.

ii. U.S. EPA Has Required Similar Provisions in Permits it Has Issued

The Supreme Court in *Department of Finance* observed that U.S. EPA-issued permits did not contain requirements to place trash receptacles at transit stops (a requirement of the 2001 Permit), and found that the absence of such conditions in EPA-issued permits "undermines the argument that the requirement was federally mandated."¹⁹¹ The Court's modifications to its original opinion underscore that determining what constitutes MEP is a case-specific, factual determination and the absence of similar conditions in U.S. EPA-issued permits is not fatal to the argument that a particular requirement is necessary to meet the federal standard.¹⁹² U.S. EPA

¹⁸⁹ *Id.*, at p. 767 ("The federal CWA broadly directed the board to issue permits...designed to reduce the pollutant discharges to the maximum extent practicable").

¹⁹⁰ *Department of Finance v. Commission on State Mandates* (2017) 18 Cal.App.5th 661.

¹⁹¹ *Department of Finance, supra*, 1 Cal.5th at p. 772.

¹⁹² The Court stated:

The opinion in this matter filed on August 29, 2016, and appearing in the California Official Reports at 1 Cal.5th 749, is modified as follows: On page 768 of the published opinion, a footnote is inserted at the end of the sentence that reads: "The board's legal authority to administer the CWA and its technical experience in water quality control would call on sister agencies as well as courts to defer to that finding." The new footnote, which is numbered as footnote 15, reads: "Of course, this finding would be case specific, based among other things on local factual circumstances." On page 771 of the published opinion, current footnote 15 is renumbered as footnote 16. On page 772 of the

(footnote continued on next page)

has, however, issued permits requiring either equivalent or substantially similar provisions to the contested provisions of this Permit.¹⁹³ If the State had not issued the Permit, the U.S. EPA would have done so. If the State had issued a permit that failed to meet federal standards, U.S. EPA could have objected to the permit, which effectively vetoes the permit and triggers U.S. EPA's obligation to issue the permit itself.¹⁹⁴ The inclusion of equivalent or substantially similar provisions by U.S. EPA in other permits demonstrates that the Los Angeles Water Board effectively administered federal requirements concerning permit requirements.

To the extent the provisions are more detailed or provide more specificity than past iterations of the Los Angeles County MS4 Permit, this is consistent with U.S. EPA's guidance that successive permits for the same MS4 must become more refined and detailed:

The EPA also expects stormwater permits to follow an iterative process whereby each successive permit becomes more refined, detailed, and expanded as needed, based on experience under the previous permit. See, 55 Fed. Reg. 47990, 48052 ("EPA anticipates that storm water management programs will evolve and mature over time."); 64 Fed. Reg. 67722, 68754 (Dec. 8, 1999 ("EPA envisions application of the MEP as an iterative process.") Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits (Sept. 1, 1996) ("The interim permitting approach uses BMPs in first-round stormwater permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.")¹⁹⁵

The permit provisions are, as the Los Angeles Water Board concluded, federal mandates.

Even if the Commission concludes that some aspect of a challenged provision imposes requirements that exceed a federal mandate, any increased costs to implement those activities are *de minimis* and therefore not entitled to subvention.¹⁹⁶

2. Claimants Have Authority to Raise Fees for the Contested Provisions

Claimants must establish that they are required to use tax monies to pay for implementation of the contested provisions.¹⁹⁷ Subvention is not required if the costs can be reallocated or funded

published opinion, the word "fatally" is deleted from the sentence that reads: "The fact the EPA itself had issued permits in other cities, but did not include the trash receptacle condition, fatally undermines the argument that the requirement was federally mandate."

¹⁹³ See, State Water Board Order WQ 2015-0075, p. 14, citing to Modified NPDES Permit No. DC0000221 for the MS4 for the District of Columbia issued by U.S. EPA (2015 AR, SB-AR-013209). See also, U.S. EPA, Permit for District of Columbia Municipal Separate Storm Sewer System, Modified Permit No. DC0000221 (Oct. 7, 2011, mod. Nov. 9, 2012), p. 5 (2015 AR, SB-AR-014156) ("[The permittee must] [e]ffectively prohibit pollutants in stormwater discharges or other unauthorized discharges into the MS4 as necessary to comply with existing District of Columbia Water Quality Standards (DCWQS).")

¹⁹⁴ CWA § 402(d)(2), (4); 40 C.F.R. § 123.44.

¹⁹⁵ Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21 (2012 AR, p. RB-AR34517).

¹⁹⁶ See generally, *San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 889.

¹⁹⁷ Gov. Code, § 17553, subd. (b)(1)(F) (test claim must identify funding sources, including general purpose funds available for this purpose, special funds and fee authority); *Id.*, subd. (d).

through service charges, fees, assessments, or other means.¹⁹⁸ Claimants have not demonstrated that they are precluded from establishing or raising fees or lack another revenue source to pay for implementation of the contested provisions.¹⁹⁹

In the Commission's Statement of Decision concerning certain provisions of the 2001 Permit that were considered in *Department of Finance*, the Commission found that all but one of the challenged provisions issued by the Los Angeles Water Board did not qualify as unfunded state mandates as they did "not impose costs mandated by the state within the meaning of article XIII B, section 6, of the California Constitution because the claimants have fee authority (under Cal. Const. article XI, § 7) within the meaning of Government Code section 17556, subdivision (d), sufficient to pay for the activities in those parts of the permit."²⁰⁰ Although the Supreme Court acknowledged the Commission's finding, it did not address the fee issue but remanded for further proceedings. *Department of Finance* is thus inapplicable on this issue.

Claimants are not *required* to use taxes to pay for the costs of the programs, and can levy fees. Like the Department of Finance, the Water Boards believe that Claimants possess fee authority within the meaning of Government Code section 17566, subdivision (d), such that no reimbursement by the state is required. Such authority is undiminished by Propositions 218 or 26. Notably, Proposition 26 specifically excludes assessments and property-related fees imposed in accordance with Proposition 218 from the definition of taxes.²⁰¹

As an initial matter, Claimants have the ability to increase sewer fees or charges without voter approval to cover increased costs of implementing the 2012 Permit. Article XIII D, section 6, subdivision (c) of the California Constitution provides an exception to the voter approval requirements of Proposition 218 "for fees or charges for sewer, water, and refuse collection services." The Legislature has recently enacted two important pieces of legislation confirming that Claimants have fee authority without the need for voter approval.

First, through Assembly Bill 2043 (2014), effective January 1, 2015, the Legislature amended the definition of "water" for purposes of articles XIII C and XIII D to mean "water from any source."²⁰² In doing so, the Legislature stated that its act "is declaratory of existing law."²⁰³

¹⁹⁸ See Gov. Code, § 17556, subd. (d) (costs not mandated by the state when the local agency has "authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service"); *County of Los Angeles v. Commission on State Mandates*, *supra*, 110 Cal.App.4th at p. 1189 ("in order for a state mandate to be found, the local governmental entity must be required to expend the proceeds of its tax revenues"); *Redevelopment Agency v. Commission on State Mandates*, *supra*, 55 Cal.App.4th at p. 987 ("No state duty of subvention is triggered where the local agency is not required to expend its proceeds of taxes").

¹⁹⁹ Claimants must also demonstrate that the fees are more than *de minimis*. (*San Diego Unified School Dist.*, *supra*, 33 Cal.4th at p. 889 ["incidental procedural requirements, producing at most *de minimis* added cost, should be viewed as part and parcel of the underlying federal mandate, and hence nonreimbursable under Government Code, section 17556, subdivision (c)].) *Department of Finance* did not consider when a particular cost is *de minimis*. Except to the extent the Supreme Court affirmed prior holdings that *de minimis* costs do not create reimbursable mandates, *Department of Finance* does not apply to the Commission's determination on that issue.

²⁰⁰ *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009), p. 2.

²⁰¹ Cal. Const., art. XIII C, § 1, subd. (e)(7).

²⁰² Gov. Code, § 53750, subd. (n), amended by Assembly Bill 2043 (Stats. 2014, ch. 78, § 2).

²⁰³ Stats. 2014, ch. 78, § 1(c).

Second, through Senate Bill 231 (2017), effective January 1, 2018, the Legislature “reaffirm[ed] and reiterate[d]” that the definition of “sewer” for purposes of article XIII D includes:

systems, all real estate, fixtures, and personal property owned, controlled, operated, or managed in connection with or to facilitate sewage collection, treatment, or disposition for sanitary *or drainage* purposes, including lateral and connecting sewers, interceptors, trunk and outfall lines, sanitary sewage treatment or disposal plants or works, drains, conduits, outlets for *surface or storm waters*, and any and all other works, property, or structures necessary or convenient for the collection or disposal of sewage, industrial waste, *or surface or storm waters*.²⁰⁴

These legislative actions confirm that the Claimants have authority to raise fees, without voter approval, for costs related to their storm sewer systems. To the extent Claimants rely on *Howard Jarvis Taxpayers Ass’n v. City of Salinas* (2002) 98 Cal.App.4th 1351 as precluding the ability of a municipality to raise fees related to stormwater, that decision is no longer controlling. The Legislature has subsequently clarified the extent of sewers covered by the exception to voter approval requirements contained in Proposition 218.²⁰⁵ The Legislature thus clarified that Claimants have, and have always had, the ability to raise fees related to stormwater. The California Constitution requires the Commission to abide by these later-enacted statutory requirements unless and until a Court of Appeal finds them unconstitutional.²⁰⁶

Applying the vote-exception for fees confirmed by Assembly Bill 2043 and Senate Bill 231, a majority of property owners can protest and defeat a stormwater fee, but not with the result of creating a state mandate.

The Los Angeles County Flood Control District (LACFCD) also has specific fee authority. In 2010, through Assembly Bill 2554, the Legislature amended the Los Angeles County Flood Control Act to specifically authorize the LACFCD to impose a fee or charge, in compliance with article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and providing services to improve water quality and reduce stormwater and urban runoff pollution in the district.²⁰⁷ Formed in 1915, the LACFCD is a special act district that provides flood control and water quality services to 85 cities and most of the unincorporated area in Los Angeles County. The LACFCD is governed by the Los Angeles County Board of Supervisors. Any revenues from any fee or charge would be allocated as follows – 10% to the District for implementation and administration of water quality programs, 40% to Los Angeles County and to the cities within the

²⁰⁴ Gov. Code, § 53750, subd. (f), and § 53751, subd. (i), added by Senate Bill 231, Stats. 2017, ch. 536, § 2 (emphasis added). The Legislature noted the numerous authorities predating Proposition 218 that use this same definition, including: (1) Section 230.5 of the Public Utilities Code, added by Chapter 1109 of the Statutes of 1970; (2) Section 23010.3, added by Chapter 1193 of the Statutes of 1963; (3) The Street Improvement Act of 1913; (4) *L.A. County Flood Control Dist. v. Southern Cal. Edison Co.* (1958) 51 Cal.2d 331 (“no distinction has been made between sanitary sewers and storm drains or sewers”); (5) Many other cases where the term “sewer” has been used interchangeably to refer to both sanitary and storm sewers including, but not limited to, *County of Riverside v. Whitlock* (1972) 22 Cal.App.3d 863, *Ramseier v. Oakley Sanitary Dist.* (1961) 197 Cal.App.2d 722, and *Torson v. Fleming* (1928) 91 Cal.App. 168; and (6) Dictionary definitions of sewer, which courts have found to be an objective source for determining common or ordinary meaning, including Webster’s (1976), American Heritage (1969), and Oxford English Dictionary (1971).

²⁰⁵ Gov. Code, § 53751, subd. (f).

²⁰⁶ Cal. Const., art. III, § 3.5; *Lockyer v. City and County of San Francisco* (2004) 33 Cal.4th 1055, 1094.

²⁰⁷ Assembly Bill 2554, Stats. 2010, ch. 602.

district for water quality improvement programs, and 50% to nine watershed authority groups to implement collaborative water quality improvement projects. In issuing the 2012 Permit, the Los Angeles Water Board noted that this additional fee authority had been established and that such funding could be used “to initiate, plan, design, construct, implement, operate, maintain, and sustain projects and services to improve surface water quality and reduce storm water and non-storm water pollution in the LACFCD, which may directly support Permittees’ implementation of the requirements in this Order.”²⁰⁸

In addition, in 2017, through Assembly Bill 1180, the Legislature further authorized the LACFCD to levy a tax or impose a fee or charge, in compliance with applicable provisions of article XIII C or XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and programs to increase stormwater capture and reduce stormwater and urban runoff pollution in the district.²⁰⁹ This additional authorization specified that projects funded by the revenues from the tax, fee, or charge may include projects providing multiple benefits that increase water supply, improve water quality, and, where appropriate, provide community enhancements. Like Assembly Bill 2554, revenues derived from any tax, fee, or charge imposed would be subject to specific allocations.

Health and Safety Code section 5471 and Public Resources Code section 40059, subdivision (a)(1), provide additional authority to charge fees for the costs associated with the contested provisions. Health and Safety Code section 5471, subdivision (a), gives Claimants fee authority for “services and facilities furnished...in connection with its water, sanitation, *storm drainage*, or sewerage system.”²¹⁰ Similarly, Public Resources Code section 40059, subdivision (a)(1), also confers fee authority on counties, cities, districts, or other local governmental agencies for “[a]spects of solid waste handling which are of local concern, including, but not limited to, frequency of collection, means of collection and transportation, level of services, charges and fees, and nature, location, and extent of providing solid waste handling services.”²¹¹

Claimants argue that certain Permit provisions are intended to improve overall water quality and benefit all persons within the jurisdiction and, therefore, it is impossible to develop a fee structure based on the benefits received or burdens imposed by prospective payors. But the Fact Sheet to the 2012 Permit amply demonstrates that numerous activities contribute to the pollutant loading from MS4s. Claimants have the ability to levy charges, fees, or assessments on these activities, independent of real property ownership.²¹² For example, inspection fees have been held not to be subject to Proposition 218.²¹³ The California Supreme Court has also validated the adoption of regulatory fees, providing they are not levied for unrelated revenue purposes.²¹⁴ It is

²⁰⁸ 2012 Permit, Attachment F (Fact Sheet), pp. F-17, F-160 (2015 AR, pp. SB-AR-013589, 013732).

²⁰⁹ Assembly Bill 1180, Stats, 2017, ch. 617.

²¹⁰ Health & Safety Code, § 5471, subd. (a) (emphasis added).

²¹¹ Pub. Resources Code, § 40059, subd. (a)(1).

²¹² For a general overview of funding mechanisms that have been employed by municipalities, see Black and Veatch, 2005 Stormwater Utility Survey, p. 2 (72% cited stormwater user fees as major [at least 90% of total income] revenue sources and the majority of utilities reported funding was adequate to meet all or most needs).

²¹³ See, e.g., *Apartment Ass’n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842, 844-45 (upholding inspection fees associated with renting property). A fee for residential inspections to ensure compliance with MS4 Permit directives (e.g., compliance with laws related to conducting business) would be similar.

²¹⁴ See *Sinclair Paint Co. v. State Bd. Of Equalization* (1997) 15 Cal.4th 866, 876-77. See also *Cal. Farm Bur. Federation v. State Water Resources Control Bd.* (2011) 51 Cal.4th 421, 437-438; *California Association of Professional* (footnote continued on next page)

reasonable to collect fees from developers for the costs associated with implementing certain permit provisions. Similarly, the costs of trash controls can be allocated to businesses responsible for generating high trash areas. Asking these entities to bear the costs directly related to their activities “is comparable in character to similar police power measures imposing fees to defray the actual or anticipated adverse effects of various business operations.”²¹⁵

The question before the Commission is whether Claimants have the authority to impose fees or assessments, not whether the actions to impose a fee or assessment will be successful. Claimants also have authority to impose property-related fees or assessments under their police power to pay for the costs of complying with the 2012 Permit, whether or not it is politically feasible to impose such fees via voter approval as may be required by Proposition 218. Permittees’ police power is “broad enough to include mandatory remedial measures to mitigate the *past, present or future* adverse impact of the fee payer’s operations” in situations, like those present here, where there is a causal connection or nexus between the adverse effects and the fee payer’s activities.²¹⁶ Local governments can choose not to submit a fee to the voters or voters can reject a proposed fee. Claimants provide no evidence whatsoever that it attempted to raise fees, but was prevented from doing so. The authority of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. A municipality’s failure even to attempt the Proposition 218 process does not turn permit costs into state reimbursable mandates.²¹⁷ “Claimant can choose not to require” or even not to pursue “these fees, but not at the State’s expense.”²¹⁸

Moreover, Claimants’ arguments fundamentally ignore the fact that municipalities can and do impose fees on their residents and businesses to fund aspects of their MS4 programs. For example, the cities of Culver City, Alameda, Palo Alto, San Clemente, San Jose, and Santa Cruz have all either adopted new fees for implementation of their programs, raised existing stormwater fees, or adopted fee assessments.²¹⁹ Whether circumstances make it impractical to assess fees is not relevant to the inquiry (nor is the contention even factually correct).²²⁰

Scientists v. Department of Fish and Game (2000) 79 Cal.App.4th 935, 945 (distinguishing regulatory fees from taxes); *Schmeer v. County of Los Angeles* (2013) 213 Cal.App.4th 1310, 1326 (finding plastic bag charge retained by businesses not to be a tax).

²¹⁵ *Sinclair Paint Co., supra*, 15 Cal.4th at p. 877.

²¹⁶ *Id.*, at p. 877-878. Examples of non-tax fees within the police power of municipalities to impose include: single-use carryout bag ordinances charging fee for use of plastic or paper bags; fines for violations of prohibitions on use of foam/polystyrene food containers; hazardous waste disposal fees for businesses; and vehicle registration fees used to fund combined road safety/green infrastructure projects.

²¹⁷ *Connell v. Sup. Ct.* (1997) 59 Cal.App.4th 382, 398 (where statute on its face authorized water districts to levy fees sufficient to pay the costs associated with a regulatory change, there was no right to reimbursement); *Clovis Unified School Dist. v. Chiang* (2010) 188 Cal.App.4th 794, 812 (“to the extent a local agency... ‘has the authority’ to charge for the mandated program or increased level of service, that charge cannot be recovered as a state mandated cost”).

²¹⁸ *Clovis Unified Sch. Dist., supra*, 188 Cal.App.4th at p. 812.

²¹⁹ See documentation of City of Alameda Storm Water Fee Ordinance, City of Palo Alto Storm Drainage Fee Ordinance, and storm water fees authorized in Cities of Culver City, San Clemente, San Jose and Santa Cruz, included as attachments to this response.

²²⁰ *Connell, supra*, 59 Cal.App.4th at p. 398 (where statute on its face authorized water districts to levy fees sufficient to pay the costs associated with a regulatory change, there was no right to reimbursement); *Clovis Unified School Dist., supra*, 188 Cal.App.4th at p. 812 (“to the extent a local agency... ‘has the authority’ to charge for the mandated program or increased level of service, that charge cannot be recovered as a state mandated cost”). Moreover, Claimants have not demonstrated that properly designed engineering report or study could not comply with Proposition 218’s requirements to impose upon a person or property the particular fee at issue, which does not exceed the proportional

(footnote continued on next page)

Finally, if the Commission were to conclude the 2012 Permit imposes reimbursable mandated costs, Claimants acknowledged receiving potentially offsetting revenue, including “portions of a small grant for implementation of tree box low impact development Best Management Practices.”²²¹ This grant, and others received by Claimants since filing the Test Claims, should reduce mandated costs and be identified by Claimants and the Commission.

3. Participation in a Watershed Management Program (WMP) or Enhanced Watershed Management Program (EWMP)

i. Costs Incurred Pursuant to Part VI.C (Watershed Management Programs) are not Subject to the Subvention of Funds

Permittees can elect to implement the requirements of the 2012 Permit by participating in an optional alternative compliance pathway whereby it develops a WMP or EWMP.²²² Participation in a WMP or EWMP allows Permittees, individually or collectively, the flexibility to implement requirements of the permit on a watershed scale by proposing customized strategies, control measures, and BMPs for Part III.A.4 (Prohibitions – Non-Storm Water Discharges: Permittee Requirements) and VI.D (Minimum Control Measures) except the Planning and Land Development Program.²²³ The Fact Sheet to the 2012 Permit states that “[t]his watershed management paradigm is consistent with federal regulations that support the development of permit conditions, as well as the implementation of storm water management programs, at a watershed scale (40 CFR §§ 122.26(a)(3)(ii), 122.26(a)(3)(v), and 122.26(d)(2)(iv)).”²²⁴ One of the reasons for including the WMP or EWMP approach in the permit is that “[a] watershed based structure for permit implementation is consistent with TMDLs developed by the Los Angeles Water Board and USEPA, which are established at a watershed or subwatershed scale... Many of the Permittees regulated by this Order have already begun collaborating on a watershed scale to develop monitoring and implementation plans required by TMDLs.”²²⁵ Furthermore, the Fact Sheet states that “a watershed based structure comports with the recent amendment to the Los Angeles County Flood Control Act (Assembly Bill 2554 in 2010), which allows the LACFCD to assess a parcel tax for storm water and clean water programs. Funding is subject to voter approval in accordance with Proposition 218.”²²⁶

However, participation in a WMP or EWMP is not a mandate for any Permittee. It is voluntary. The 2012 Permit could not be more clear on this fact – “Participation in a Watershed Management Program is voluntary....”²²⁷ Therefore, costs incurred by Claimants or other Permittees that elect to develop and implement a WMP or EWMP, including costs for meetings, staff time, work by

cost of the service attributable to the parcel in question. (Cal. Const. art. XIII D, § 6, subd. (b)(3).) The nature of the fee at issue is what must be examined.

²²¹ Test Claim No. 13-TC-01, p. 33.

²²² 2012 Permit, Part VI.C.1.b, p. 47 (2015 AR, p. SB-AR-011340).

²²³ *Id.*, Part VI.C.1, pp. 47-49 (2015 AR, pp. SB-AR013340 - 342) and Part VI.C.5.b.iv.(1), pp. 61-62 (2015 AR, pp. SB-AR-013354 - 355).

²²⁴ *Id.*, Attachment F (Fact Sheet), Part VI.B, p. F-42 (2015 AR, p. SB-AR-013614).

²²⁵ *Ibid.*

²²⁶ *Ibid.*

²²⁷ 2012 Permit, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-011341).

consultants, and submittals to the Los Angeles Water Board are not subject to a subvention of funds.

Claimants provide examples of costs incurred including “staff time analyzing and deciding whether to implement Watershed Management Programs or Enhanced Watershed Management Programs...staff time expended resulted in Letters of Intent to the LARWQCB in June 2013.”²²⁸ A Letter of Intent (LOI) is alternatively termed Notice of Intent (NOI) in the permit. Part VI.C.4.b of the 2012 Permit specifies the information required in a notification to the Los Angeles Water Board for Permittees electing to develop a WMP or EWMP.²²⁹ However, this notification provision does not require Permittees to identify Minimum Control Measures (MCMs) to propose for customization nor provide any new information on how they will comply with TMDLs and discharge prohibitions. Therefore, any additional information provided in the LOIs/NOIs that were beyond the requirements of Part VI.C.4.b of the 2012 Permit were at the Permittees’ discretion. Costs requested for subvention of funds should be evaluated accordingly.

Claimants also request a subvention of funds for costs incurred in 2012-2013 and 2013-2014 fiscal year.²³⁰ Note that Part VI.C.4.d.i-iii of the 2012 Permit requires Permittees electing to develop a WMP or EWMP to continue implementing their existing stormwater management program under the 2001 Permit prior to the approval of their WMP or EWMP including: (i) the six Minimum Control Measures (MCMs) per 40 CFR section 122.26(d)(2)(iv); (ii) watershed control measures to eliminate non-stormwater discharges through the MS4 that are a source of pollutants to receiving waters per CWA § 402(p)(3)(B)(ii); and (iii) watershed control measures from existing TMDL implementation plans to ensure compliance with receiving water limitations and water quality-based effluent limitations.²³¹ Note that all of the Claimants to these Test Claims opted for participation in a WMP or EWMP and therefore, were required to implement their existing stormwater management program as aforementioned.²³² Claimants’ existing stormwater management program are not “new programs” or a “higher level of service.” Therefore, any costs incurred that are within the scope of Part VI.C.4.d of the 2012 Permit pertaining to the Claimants’ existing stormwater management program required in the 2001 are not subject to subvention.

Furthermore, the California Watershed Improvement Act of 2009 authorizes MS4 permittees statewide to develop and implement voluntary watershed improvement plans.²³³ State Water Board Order WQ 2015-0075, which upheld the 2012 Permit with some modifications, clarifies that “[t]he California Watershed Improvement Act of 2009 grants authority to local government permittees regulated by an MS4 permit to develop and implement watershed improvement plans, but does not limit the authority of a regional water board to impose terms related to watershed management in an MS4 permit. Further, the terms of the WMPs/EWMPs are largely consistent

²²⁸ Test Claim 13-TC-01 p. 3 and 13-TC-02, p. 4.

²²⁹ 2012 Permit, Part VI.C.4.b, pp. 56-57 (2015 AR, pp. SB-AR-013349).

²³⁰ Test Claim 13-TC-01, p. 32 and 13-TC-02, p. 35.

²³¹ 2012 Permit, Part VI.C.4.d.i-iii, pp. 58-59 (2015 AR, pp. SB-AR-013351 - 52).

²³² See Watershed Management Program (WMP) and Enhanced Watershed Management Program (EWMP) Approval Letters for WMP Groups Los Angeles River Upper Reach 2, Lower San Gabriel River, Los Cerritos Channel, Lower Los Angeles River, Santa Monica Bay Jurisdiction 7, Alamitos Bay / Los Cerritos Channel and EWMP Groups Upper Santa Clara River, Upper Los Angeles River, Rio Hondo / San Gabriel River, Malibu Creek, Upper San Gabriel River, Marina del Rey, Ballona Creek, Dominguez Channel, Santa Monica Bay Jurisdictions 2 & 3, North Santa Monica Bay, Palos Verdes Peninsula, and Beach Cities.

²³³ Wat. Code, §§ 16100 to 16104.

with the watershed improvement plans authorized by the Act, so a permittee can comply with the Los Angeles MS4 Order while also using the authority provided by the California Watershed Improvement Act of 2009 if it so chooses.”²³⁴ Additionally, Permittees have the authority to impose fees “on activities that generate or contribute to runoff, stormwater, or surface runoff pollution, to pay the costs of the preparation of a watershed improvement plan, and the implementation of a watershed improvement plan” if certain requirements per the California Watershed Improvement Act of 2009 are met.²³⁵ Therefore, costs to develop and/or implement a WMP or EWMP, which falls under the category of a watershed improvement plan are not subject to subvention.

For all these reasons discussed above, the Commission should find that Part VI.C (Watershed Management Programs) of the 2012 Permit is not subject to subvention.

ii. Costs Incurred Pursuant to Parts III.A.4, VI.D.4 through VI.D.6, and VI.D.8 through VI.10 are not Subject to the Subvention of Funds for Claimants Participating in a WMP or EWMP

As noted above, by participating in a WMP or EWMP, Permittees may customize strategies, control measures, and BMPs for Part III.A.4 (Prohibitions – Non-Storm Water Discharges: Permittee Requirements) and VI.D (Minimum Control Measures) except the Planning and Land Development Program.²³⁶ Claimants attempt to minimize the discretion provided by Part VI.C “Watershed Management Programs” (WMP provisions) of the 2012 Permit with the objective of upholding their argument that the specificity of Parts III.A.4, VI.D.4 through VI.D.6, and VI.D.8 through VI.10 constitute a state mandate. They attempt to argue that, by specifying the means of compliance, the requirements of the aforementioned parts are the result of a “true choice” by the Los Angeles Water Board, i.e., that the Board did not have to impose these specific requirements.

Claimants allege that the while the 2012 Permit's WMP/EWMP provisions (Part VI.C.1.a-b²³⁷) allow Permittees to customize the requirements in Part VI.D. (known as “minimum control measures” or “MCMs”) through development of a WMP or EWMP, the WMP/EWMP “must be consistent with those MCM control measures set forth in Permit Part VI.D” and... “[t]he discretion of permittees participating in a WMP or EWMP is thus constrained by the requirements of the MCMs.”²³⁸

However, the very purpose of the WMP provisions is “to allow Permittees the flexibility to develop Watershed Management Programs to implement the requirements of this Order on a watershed scale through customized strategies, control measures, and BMPs.”²³⁹ Part VI.C.1.b states that this allowance for customization includes the contested provisions of Part VI.D.²⁴⁰ The WMP provisions only require Permittees to develop and implement programs required by federal regulations. Part VI.C.5.b.iv.(1)(a) states, “Permittees shall assess the minimum control measures

²³⁴ State Water Board Order WQ 2015-0075, p. 8, footnote 30 (2015 AR, p. SB-AR-013203).

²³⁵ Wat. Code, § 16103.

²³⁶ 2012 Permit, Part VI.C.1, pp. 47-49 (2015 AR, pp. SB-AR013340 - 342) and Part VI.C.5.b.iv.(1), pp. 61-62 (2015 AR, pp. SB-AR-013354 - 355).

²³⁷ *Id.*, Part VI.C.1.a-b, pp. 47-48 (2015 AR, pp. SB-AR-013340-341).

²³⁸ Test Claim 13-TC-01, p. 9 and 13-TC-02, p. 10.

²³⁹ 2012 Permit, Part VI.C.1.a, p. 47 (2015 AR, pp. SB-AR-013340 - 341).

²⁴⁰ *Id.*, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-013341).

(MCMs) as defined in Part VI.D.4 to Part VI.D.10 of this Order to identify opportunities for focusing resources on the high priority issues in each watershed...”²⁴¹ Part VI.C.5.b.iv.(1)(b) immediately follows with, “[a]t a minimum, the Watershed Management Program shall include management programs consistent with 40 CFR section 122.26(d)(2)(iv)(A)-(D).”²⁴² Part VI.C.5.b.iv.(1)(d) further states, “[s]uch customized actions, once approved as part of the Watershed Management Program, *shall replace in part or in whole* the requirements in Parts VI.D.4, VI.D.5, VI.D.6 and VI.D.8 to VI.D.10 for participating Permittees” (emphasis added).²⁴³

This is reiterated in Part VI.D.1.a, which states “[e]ach Permittee ... *may in lieu of the requirements in Parts VI.D.4 through VI.D.10* implement customized actions within each of these general categories of control measures as set forth in an approved Watershed Management Program per Part VI.C. Implementation shall be consistent with the requirements of 40 CFR § 122.26(d)(2)(iv)” (emphasis added).²⁴⁴ The Fact Sheet states that the WMP or EWMP approach “will provide permittees with the flexibility to prioritize and customize control measures to address the water quality issues specific to the watershed management area (WMA), consistent with federal regulations (40 CFR § 122.26(d)(2)(iv)).”²⁴⁵ The Claimants’ allegation that the Permit’s requirement to provide justification for eliminating a control measure in a WMP or EWMP renders the provision a state mandate is without merit. U.S. EPA, in a comment letter on the Los Angeles Water Board’s tentative permit, asked the Board to revise the WMP provisions to include language requiring Permittees to provide justification if proposing to eliminate a control measure in Parts VI.D.4, VI.D.5, VI.D.6, VI.D.8, VI.D.9 or VI.D.10, indicating that U.S. EPA considered these requirements necessary based on federal regulations in the absence of justification for why the requirement was not applicable to the Permittee.²⁴⁶

Thus, where the Claimants participating in a WMP or EWMP have not proposed alternative program elements and activities to achieve the intent of Part VI.D (excluding VI.D.7), then they have elected to implement these requirements to meet the federal requirements of 40 CFR § 122.26(d)(2)(iv). As previously noted, all Claimants are participating in an approved WMP or EWMP. Therefore, their contentions that Parts VI.D.4, VI.D.5, VI.D.6, VI.D.8 and VI.D.9 of the 2012 Permit are state mandates are incorrect.

Similarly, Claimants’ contentions that requirements in Part III.A.4 are state mandates are also incorrect for the same reasons. As noted above, Part VI.C.1.a-b allows Permittees to customize strategies, control measures, and BMPs to implement the requirements of the 2012 Permit, including Part III.A.4.²⁴⁷ Part VI.C.5.b.iv.(2) provides Permittees with broad discretion through WMPs or EWMPs to select the strategies, control measures, and/or BMPs they will implement to consistent with Part III.A, which is the section of the 2012 Permit that addresses the federal requirement to effectively eliminate non-stormwater discharges of pollutants.²⁴⁸

²⁴¹ *Id.*, Part VI.C.5.b.iv.(1)(a), p. 63 (2015 AR, p. SB-AR-013356).

²⁴² *Id.*, Part VI.C.5.b.iv.(1)(b), p. 63 (2015 AR, p. SB-AR-013356).

²⁴³ *Id.*, Part VI.C.5.b.iv.(1)(d), p. 63 (2015 AR, p. SB-AR-013356).

²⁴⁴ *Id.*, Part VI.D.1.a, p. 70 (2015 AR, p. SB-AR-013363).

²⁴⁵ *Id.*, Attachment F (Fact Sheet), Part VI.B, p. F-43 (2015 AR, p. SB-AR-013615).

²⁴⁶ U.S. EPA. *Re: Draft MS4 Permit for LA County (NPDES Permit No. CAS004001)*. July 23, 2012. p. 6 (2012 AR, p. RB-AR17764).

²⁴⁷ 2012 Permit, Part VI.C.1.a-b, pp. 47-48 (2015 AR, pp. SB-013340-341).

²⁴⁸ CWA § 402(p)(3)(B)(ii); 40 C.F.R. § 122.26(d)(2)(iv)(B).

For all these reasons discussed above, the Commission should find that costs incurred pursuant to Parts III.A.4, VI.D.4 through VI.D.6, and VI.D.8 through VI.10 are not subject to subvention for Claimants participating in a WMP or EWMP.

V. ARGUMENT: SPECIFIC RESPONSES TO CHALLENGED PROVISIONS

While the general discussion above in Section IV explains why it is appropriate for the Commission to reject the Test Claims in their entirety, the following elaboration on specific challenges provides additional justification in support of rejection of the Test Claims.

In their Test Claims, Claimants make many general references to parts of the 2012 Permit, but then only discuss certain sub-parts and provisions contained therein. Please note that the Water Board are only responding to the specific provisions of the sub-parts referenced in the Test Claims.

Due to the similarity of contentions raised in Test Claims 13-TC-01 and 13-TC-02, both Test Claims are addressed in the specific responses below. For ease of reference, the specific responses below generally follow the organizational format of Test Claim 13-TC-01.

A. TMDL Requirements

Part VI.E.1.c requires that Claimants comply with applicable water quality-based effluent limitations (WQBELs) and/or receiving water limitations (RWLs) necessary to implement 33 federally-approved or federally-established TMDLs, which are set forth in Attachments K through R.²⁴⁹ Attachment K identifies the Permittees subject to each TMDL.²⁵⁰ Attachments L through Q set forth the specific WQBELs and/or RWLs and the compliance deadlines for each TMDL applicable to Claimants.²⁵¹ Part VI.B and Attachment E, Parts II.E.1-3, V, VI.A.1.b(iii-iv), VI.B.2, VI.C.1.a, VI.D.1.a, VIII.B.1.b(ii), IX.A.5, IX.C.1.a, IX.E.1.a-b, IX.G.1.b, and IX.G.2 set forth monitoring provisions. These provisions are addressed in two subgroups, below.

Claimants assert that, with the exception of the dry weather requirements of the Marina del Rey bacteria TMDL, all TMDL requirements in the 2012 Permit, including monitoring requirements with respect thereto, are state mandated new programs or higher levels of service. They also argue that federal law did not compel the Los Angeles Water Board to include these provisions in the 2012 Permit, but instead included them as a matter of discretion.²⁵² As set forth below, Claimants are wrong and their arguments ignore federal law.

1. Compliance with TMDL-based Water Quality-Based Effluent Limitations and Receiving Water Limitations (Part VI.E.1.c and Attachments K-Q)

The TMDL-based limitations are necessary to implement federal law, do not constitute a new program or higher level of service, and are not unique to local government.

²⁴⁹ 2012 Permit, Part VI.E.1.c (2015 AR, p. SB-AR-013331).

²⁵⁰ *Id.*, Part VI.E.1.b (2015 AR, p. SB-AR-013333); *Id.*, Attachment K (2015 AR, pp. SB-AR-013763 - 780)

²⁵¹ *Id.*, Attachments L through Q (2015 AR, pp. SB-AR-013781 – 860).

²⁵² Test Claim 13-TC-01, p. 12 and 13-TC-02, p. 13.

The Provisions Are Necessary to Implement Federal Law

As discussed above, section 303(d) of the CWA requires that the Water Boards identify impaired water bodies that do not meet water quality standards after applying required technology-based effluent limitations. Specifically, the states must identify those waters for which technology-based effluent limitations are not stringent enough to implement any water quality standard applicable to such waters and establish a priority ranking for such waters.²⁵³ For those waters identified as not meeting water quality standards, each state must establish the TMDL at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety.²⁵⁴ Each state is required to develop a list that identifies and establishes a priority ranking for those waters requiring TMDLs.²⁵⁵ The list is known as the CWA Section 303(d) List of Water Quality Limited Segments or more commonly, the 303(d) List. For the specific purpose of developing information, states are also required to estimate TMDLs for all other waters that are not identified on the 303(d) List.²⁵⁶

TMDLs are developed by either the regional water boards or by U.S. EPA in response to section 303(d) listings of impaired water bodies. A TMDL established by a regional water board must be approved by U.S. EPA before it becomes effective.²⁵⁷ A TMDL is defined as the sum of the individual wasteload allocations²⁵⁸ for point sources of pollution, the load allocations for nonpoint sources of pollution, and the contribution of background to the pollution, and represents the maximum amount of a pollutant that a water body may receive and still achieve water quality standards.²⁵⁹ TMDLs developed by regional water boards include implementation plans, which is essentially a road map for how the regional water board anticipates that the allocations will be met and by when. Many TMDLs issued by the Los Angeles Water Board applicable to MS4 discharges include implementation schedules spanning decades. TMDLs established by regional water boards are typically incorporated into the regional water boards' water quality control plan.²⁶⁰ Notably, TMDLs established by U.S. EPA do not include implementation plans or schedules. Most TMDLs are not self-executing, but instead rely upon subsequently issued permits to impose requirements on dischargers that implement the TMDL's wasteload allocations.²⁶¹

Once a TMDL is approved or established by U.S. EPA, any NPDES permit, not just MS4 permits, must include water quality-based effluent limitations "consistent with the assumptions and

²⁵³ CWA § 303(d)(1)(A).

²⁵⁴ *Id.*, § 303(d)(1)(C).

²⁵⁵ 40 C.F.R. § 130.7(b)(1).

²⁵⁶ CWA § 303(d)(3).

²⁵⁷ *Id.*, § 303(d)(2).

²⁵⁸ "Wasteload allocation" is defined as "[t]he portion of a receiving water's loading capacity that is allocated to one if its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation." (40 C.F.R. § 130.2(h)).

²⁵⁹ *Id.*, § 130.2(i).

²⁶⁰ *Id.*, §§ 130.6(c)(1) and 130.7. The State is required to incorporate, or reference, the TMDLs in the State Water Quality Management Plan. The Los Angeles Water Board's Water Quality Control Plan for the Los Angeles Region ("Basin Plan") serves as the State Water Quality Management Plan for the Los Angeles Region.

²⁶¹ See, e.g., Wat. Code, §§ 13350 and 13385 (boards have no authority to take enforcement for violations of water quality control plans, other than prohibitions).

requirements of any available wasteload allocations.”²⁶² Therefore, the federal NPDES regulations provide an alternative and independent federal authority for the TMDL-derived effluent limitations.

Based on this independent federal requirement, the Los Angeles Water Board determined it was necessary to include provisions consistent with the assumptions and requirements of applicable WLAs from 33 federally-approved or federally-established TMDLs.²⁶³ The Board made specific findings in relation to incorporation of these TMDL requirements in the 2012 Permit, including but not limited to:

- “The Regional Water Board and USEPA have each established TMDLs to address many of these water quality impairments. Pursuant to CWA section 402(p)(B)(3)(iii) and 40 CFR section 122.44(d)(1)(vii)(B), this Order includes requirements that are consistent with and implement WLAs that are assigned to discharges from the Los Angeles County MS4 from 33 State adopted and USEPA established TMDLs. This Order requires Permittees to comply with the TMDL Provisions in Part VI.E and Attachments L through R, which are consistent with the assumptions and requirements of the TMDL WLAs assigned to discharges from the Los Angeles County MS4.”²⁶⁴
- “Part VI.E of this Order includes provisions that are designed to assure that Permittees achieve WLAs and meet other requirements of TMDLs covering receiving waters impacted by the Permittees’ MS4 discharges.”²⁶⁵
- “In this Order, WQBELs are included where the Regional Water Board has determined that discharges from the MS4 have the reasonable potential to cause or contribute to an excursion above water quality standards. Reasonable potential can be demonstrated in several ways, one of which is through the TMDL development process. Where a point source is assigned a WLA in a TMDL, the analysis conducted in the development of the TMDL provides the basis for the Regional Water Board’s determination that the discharge has the reasonable potential to cause or contribute to an exceedance of water quality standards in the receiving water. This approach is affirmed in USEPA’s Permit Writer’s Manual, which states, “[w]here there is a pollutant with a WLA from a TMDL, a permit writer

²⁶² 40 C.F.R. § 122.44(d)(1)(vii)(B). This provision states that, “When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that... (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, *or both*, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.” (emphasis added). 40 C.F.R. Part 30, which includes section 130.7, establishes policies and program requirements for water quality planning, management and implementation under several sections of the CWA, including Section 303, and 40 C.F.R. § 130.7 addresses the process for identifying and establishing WLAs and TMDLs for impaired waterbodies.

²⁶³ The Los Angeles Water Board also provided detailed descriptions of the specific water body impairments and the TMDLs associated with those impairments. See generally 2012 Permit, Attachment F (Fact Sheet), Part VI.D, pp. F-89 to F-102 (2015 AR, pp. SB-AR-013661 – 674).

²⁶⁴ 2012 Permit, Part II.K.1, p. 22 (2015 AR, p. SB-AR-013315).

²⁶⁵ *Id.*, Part IV.E.1.a, p. 144 (2015 AR, p. SB-AR-013437).

must develop WQBELs.” Therefore, WQBELs are included in this Order for all pollutants for which a WLA is assigned to MS4 discharges.”²⁶⁶

- “[T]he provisions of this Order to implement total maximum daily loads (TMDLs) are federal mandates. The Clean Water Act requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. § 1313(d).) Once the USEPA or a state establishes or adopts a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions and requirements of any applicable waste load allocation in a TMDL. (40 CFR § 122.44(d)(1)(vii)(B).)”²⁶⁷

These findings are entitled to deference under *Department of Finance*.²⁶⁸

Claimants nevertheless assert that “federal stormwater regulations do not require municipal stormwater permits to contain TMDL provisions” in the 2012 Permit and that including them was done at the Los Angeles Water board’s discretion. As support for their assertion, they further argue that because “MS4 permits are not required to contain provisions to comply with water quality standards, TMDL wasteload allocations intended to achieve such standards are not ‘applicable’ as that term is used in 40 C.F.R. § 122.44(d)(1)(vii)(B).”²⁶⁹ Claimants misinterpret this federal regulation. The regulation cited by Claimants requires that all NPDES permits (which include MS4 Permits) include conditions consistent with the assumptions and requirements of TMDL wasteload applications “*when applicable*.” The proper reading of the phrase “when applicable” in this context is that inclusion of such conditions is limited to those permits with identified sources of discharges that may contribute to an impairment in the affected receiving waters. As noted above, the Los Angeles Water Board has specifically “determined that discharges from the MS4 have the reasonable potential to cause or contribute to an excursion above water quality standards” through the development of the TMDLs.²⁷⁰ In any case, as a practical matter, if impairments exist in receiving waters to which an MS4 discharges, the MS4 is responsible for complying with water quality standards whether or not there is a TMDL. This view is also consistent with U.S. EPA’s interpretation of its regulations in its 2014 TMDL Memorandum in which U.S. EPA clearly contemplates that NPDES permits, inclusive of stormwater permits – municipal, industrial and construction – shall “contain effluent limits and conditions consistent with the assumptions and requirements of the WLAs in the TMDL. See 40 CFR § 122.44(d)(1)(vii)(B).”²⁷¹ Nowhere does U.S. EPA state or even imply that this is contingent on some type of finding of applicability. Thus, even U.S. EPA, who drafted the regulation, does not agree with Claimants and U.S. EPA’s interpretation of its own regulation is entitled to deference.

²⁶⁶ *Id.*, Attachment F (Fact Sheet), Part IV.C, p. F-35 (2015 AR, p. SB-AR-013607) (citing 40 C.F.R. § 122.44, subds. (d)(1)(i)-(iii) and (d)(1)(vii)(B)).

²⁶⁷ *Id.*, Attachment F (Fact Sheet), Part IX, p. F-159 (2015 AR, p. SB-AR-013731).

²⁶⁸ *Department of Finance v. Comm’n on State Mandates*, *supra*, 1 Cal.5th at pp. 768-769.

²⁶⁹ Test Claim 13-TC-01, p. 13 and 13-TC-02, p. 14,

²⁷⁰ *Id.*, Attachment F (Fact Sheet), Part IV.C, p. F-35 (2015 AR, p. SB-AR-013607) (citing 40 C.F.R. § 122.44, subds. (d)(1)(i)-(iii) and (d)(1)(vii)(B)).

²⁷¹ U.S. EPA Memorandum, Revisions to the November 22, 2002 Memorandum “Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (Nov. 26, 2014), p. 6 (2015 AR, p. SB-AR-014645).

Notwithstanding the above, it is important to note that the State Water Board has required that all MS4 permits in California require compliance with water quality standards. As discussed above, in Order WQ 99-05, the State Water Board directed that specific receiving water limitations language be included in all MS4 permits requiring compliance with water quality standards.²⁷² The language was initially developed by U.S. EPA after it objected to receiving water limitations in two regional water board permits that effectively provided a safe harbor from enforcement during iterative process implementation. The State Water Board's precedential order was issued in 1999 and the 2001 Permit reflected that required receiving water limitations language. Thus, since MS4 permits in California *are* required to contain provisions to comply with water quality standards, TMDL wasteload allocations intended to achieve such standards are clearly "applicable" under 40 C.F.R. § 122.44(d)(1)(vii)(B).

Based on the above, it is clear that the Los Angeles Water Board had no "true choice" in implementing the TMDL requirements in the 2012 Permit as it was *required* by 40 C.F.R. section 122.44(d)(1)(vii)(B).²⁷³ The Board was required to include the TMDL-related provisions that would result in attainment of the wasteload allocations within the timeframes established in the TMDLs.

Even if the Los Angeles Water Board was required to include TMDL requirements in the 2012 Permit, Claimants next assert that neither the CWA nor its implementing regulations compelled the Board to reflect TMDL requirements as *numeric* WQBELs.²⁷⁴ Claimants appear to argue that inclusion of numeric WQBELs exceeds federal law. The Water Boards disagree that inclusion of numeric WQBELs exceeds federal law where the Los Angeles Water Board determined that they are necessary to assure compliance with the federal water quality standards in the receiving waters.²⁷⁵

For context, it is important to note that numeric effluent limitations were only included in the 2012 for state-adopted TMDLs and not TMDLs established by U.S. EPA. The 2012 Permit requires Permittees subject to the wasteload allocations in U.S. EPA-established TMDLs to propose and implement BMPs that will be effective in achieving compliance with the wasteload allocations.²⁷⁶ In addition, for state-adopted TMDLs where numeric effluent limitations were included in the 2012 Permit, Permittees may demonstrate compliance with those limitations by implementing an approved WMP or EWMP.²⁷⁷

Having been required by federal regulations to include TMDL-based WQBELs in the 2012 Permit, federal law authorizes the Los Angeles Water Board, as the permitting authority, to exercise its discretion in expressing the WQBELs either in numeric form (i.e., numeric effluent limitations) or

²⁷² State Water Board Order WQ 99-05 (2015 AR, pp. SB-AR-014867 - 70).

²⁷³ See *Department of Finance*, *supra*, 1 Cal.5th at p. 765.

²⁷⁴ Test Claim 13-TC-01, pp. 13-14 and 13-TC-02, pp. 14-15.

²⁷⁵ In addition, the numeric effluent limitations for dry weather discharges also are consistent with the independent federal prohibition on non-storm water discharges discussed above. Also, the TMDL compliance schedules afford more time to comply than Claimants would otherwise have.

²⁷⁶ 2012 Permit, Part VI.E.3, pp. 148-149 (2015 AR, pp. SB-AR-013441 – 442).

²⁷⁷ *Id.*, Parts VI.E.2.d.i.(4) and VI.E.2.e, pp. 146-148 (2015 AR, pp. 013439 - 441).

in narrative form (i.e., BMPs).²⁷⁸ But the permitting authority *must* choose one of these options. Neither the Clean Water Act nor its implementing regulations specify how WQBELs must be expressed in MS4 permits. Both numeric and narrative limitations are allowed and neither one is more stringent than the other.²⁷⁹ BMPs are allowed for the control of stormwater discharges, when numeric effluent limitations are infeasible, or when the practices are reasonable necessary to achieve effluent limitations and standards to carry out the purposes and intent of the CWA.²⁸⁰ They are simply two sides of the same coin.

Claimants refer to a U.S. EPA guidance memorandum issued on November 22, 2002 as purported support for their assertion that it was infeasible or inappropriate to include numeric limitations in the 2012 Permit. But Claimants utterly ignore that U.S. EPA has updated this guidance. On November 12, 2010, U.S. EPA revised its 2002 memorandum concerning inclusion of effluent limitations in MS4 permits to implement TMDL wasteload allocations. Noting that the expectations expressed in its 2002 memorandum “have changed as the stormwater permit program has matured,” U.S. EPA stated “[w]here the NPDES authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality standard excursion, EPA recommends that, where feasible, the NPDES permitting authority exercise its discretion to include numeric effluent limitations as necessary to meet water quality standards.”²⁸¹ This was the version of the guidance memorandum that was in effect when the Los Angeles Water Board issued the 2012 Permit and when Claimants filed these Test Claims.

On November 16, 2014, U.S. EPA again revised aspects of its 2002 guidance memorandum and replaced the 2010 memorandum. U.S. EPA stated that “[w]here the NPDES authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality standard excursion, EPA recommends that the NPDES permitting authority exercise its discretion to include clear specific, and measurable permit requirements, and, where feasible, numeric effluent limitations[] as necessary to meet water quality standards.”²⁸² U.S. EPA recognizes permitting authorities have discretion in how to express the requirements to meet the federal standards, but the determination “should be based on an analysis of the specific facts and

²⁷⁸ CWA § 402(p)(3)(B)(iii) (MS4 permits “shall require controls to reduce the discharge of pollutants to the maximum extent practicable ... and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”); see also *Defenders of Wildlife, supra*, 191 F.3d at 1166.

²⁷⁹ U.S. EPA. Memorandum, *Revisions to the November 22, 2002 Memorandum “Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,”* (Nov. 26, 2014), p. 6. (2015 AR, p. SB-AR-014645) (noting that WQBELs “could take the form of a numeric limit, or of a measurable, objective BMP-based limit that is projected to achieve the WLA”).

²⁸⁰ 40 C.F.R. § 122.44(k)

²⁸¹ U.S. EPA. *Revisions to the November 22, 2002 Memorandum “Establishing Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs”* (Nov. 12, 2010), pp. 2-3 (2012 AR, p. RB-AR23963 – 964).

²⁸² U.S. EPA. Memorandum, *Revisions to the November 22, 2002 Memorandum “Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,”* (Nov. 26, 2014), p. 4. (2015 AR, p. SB-AR-014643). U.S. EPA clarified that numeric effluent limitations in the context of stormwater discharges “refer[s] to limitations with a quantifiable or measurable parameter related to a pollutant (or pollutants). Numeric WQBELs may include other types of numeric limits on pollutant discharges by specifying parameters such as on-site stormwater retention volume or percentage or amount of effective impervious cover, as well as the more traditional pollutant concentration limits and pollutant loads in the discharge.” However, numeric limitations should be crafted to ensure that water quality standards will be achieved.

circumstances surrounding the permit, and/or the underlying WLA, including the nature of the stormwater discharge, available data, modeling results, and other relevant information.”²⁸³

Here, the Los Angeles Water Board determined that inclusion of numeric effluent limitations in the 2012 Permit was feasible, appropriate, and necessary to achieve compliance with the TMDLs as required by federal law. The Board made extensive findings on this matter in the 2012 Permit Fact Sheet, including but not limited to:²⁸⁴

- “[S]ole reliance in MS4 permits on BMP-based requirements is not sufficient to ensure attainment of water quality standards....This conclusion is amply supported by Regional Water Board and USEPA established TMDLs for impaired waters in the Los Angeles Region, indicating that MS4 discharges are a continuing source of pollutants to the impaired receiving waters notwithstanding the implementation of storm water management programs that have been driven by the MEP standard by Permittees for the last two decades.”²⁸⁵
- “The Regional Water Board interprets this to mean that the final WQBEL must be expressed in similar terms as the underlying WLA; for example, where a TMDL includes WLAs for MS4 discharges that provide numeric pollutant load objectives, the WLA should be translated into numeric WQBELs in the permit, and at a level to achieve the same expected water quality outcome....Numeric WQBELs will help clarify MS4 permit requirements and improve accountability in this permit term.”²⁸⁶
- “[T]here is insufficient data and information available at this time on the prospective implementation of BMPs throughout Los Angeles County to provide the Regional Water Board reasonable assurance that the BMPs would be sufficient to achieve the WQBELs.”²⁸⁷
- “Regarding the feasibility of numeric effluent limitations, the Regional Water Board concludes that numeric WQBELs are feasible. While a lack of data may have hampered the development of numeric effluent limitations for MS4 discharges in earlier permit cycles, in the last decade, 33 TMDLs have been developed for water bodies in Los Angeles County in which WLAs are assigned to MS4 discharges. In each case, part of the development process entailed analyzing pollutant sources and allocating loads using empirical relationships or modeling approaches. As a result, it is possible to use these numeric WLAs to derive numeric WQBELs for MS4 discharges. USEPA has also acknowledged that its expectations regarding the application of numeric WQBELs to municipal storm water discharges have changed as the storm water permit program has continued to mature over the last decade.”²⁸⁸

²⁸³ *Id.*, at p. 6.

²⁸⁴ See generally 2012 Permit, Attachment F (Fact Sheet), pp. F-34 to F-37 (2015 AR, pp. SB-AR-013606 - 609).

²⁸⁵ *Id.*, at p. F-35 (2015 AR, p. SB-AR-013607).

²⁸⁶ *Id.*, at pp. F-35 to F-36 (2015 AR, p. SB-AR-013607 – 608).

²⁸⁷ *Id.*, at p. F-36 (2015 AR, p. SB-AR-013608).

²⁸⁸ *Ibid.*

- “Further, given the variability in implementation of storm water management programs across Permittees, numeric WQBELs create an objective, equitable and accountable means of controlling MS4 discharges, while providing the flexibility for Permittees to comply with the WQBELs in any lawful manner.”²⁸⁹

These findings are entitled to deference under *Department of Finance*.²⁹⁰ In addition, U.S. EPA supported the Los Angeles Water Board’s approach.²⁹¹

Lastly, it must be noted that the Los Angeles Water Board’s inclusion of numeric effluent limitations in the 2012 Permit required less discretion than including specific BMPs. Because the TMDL wasteload allocations themselves are numeric, implementing the wasteload allocations through BMPs necessarily requires discretion in terms of translating the numeric wasteload allocations into appropriate BMP-based provisions. The more direct approach, involving far more less discretion, was to include the wasteload allocations as numeric WQBELs. “The Board’s approach allows the Permittees the flexibility to comply with the numeric effluent limitations using any lawful means, and establishes appropriate and enforceable compliance metrics depending on the method of compliance and level of assurance provided by the Permittee that the selected method will achieve the numeric effluent limitations derived from the TMDL WLAs.”²⁹² Thus, when the permitting agency must choose to include the TMDL wasteload allocations either in numeric or narrative form, choosing numeric effluent limits identical to the wasteload allocations themselves arguably requires the least amount of discretion exercised by the permitting agency.

In summary, the Los Angeles Water Board determined that the TMDL limitations in this Permit are necessary to implement federal law.²⁹³ Thus any “mandate” to comply with TMDLs is federal, and not imposed by the State. As discussed above, the Board’s findings are entitled to deference under *Department of Finance*.

The Provisions are Not New Programs or Higher Levels of Service

With the exception of the dry weather requirements of the Marina del Rey Bacteria TMDL, Claimants appear to argue that that the TMDL provisions are new programs or higher levels of service because the specific TMDL provisions were not included in the 2001 Permit. This argument must be rejected. The Water Boards disagree that the 2012 Permit imposes new programs or higher levels of service.

First, Claimants have been subject to TMDL programs in prior permits. As adopted in 2001, Los Angeles Water Board Order No. 01-182 required that Permittees amend their Storm Water Quality Management Program (SQMP), at the direction of the Board’s Executive Officer, to comply with TMDL wasteload allocations developed and approved for impaired water bodies.²⁹⁴ Order No. 01-182 also specified performance measures for storm drain operation and maintenance for

²⁸⁹ *Ibid.*

²⁹⁰ *Department of Finance v. Comm’n on State Mandates*, *supra*, 1 Cal.5th at pp. 768-769.

²⁹¹ U.S. EPA Comments on Draft MS4 Permit for Los Angeles County (July 23, 2012), pp. 1-3 (2012 AR, pp. RB-AR17759 – 60).

²⁹² 2012 Permit, Attachment F (Fact Sheet), p. F-23 (2015 AR, p. SB-AR-013595).

²⁹³ *Id.*, at pp. F-29-33 (2015 AR, p. SB-AR-013601 – 605).

²⁹⁴ 2001 Permit, Part 3.C., p. 26.

watersheds subject to a trash TMDL.²⁹⁵ The Los Angeles Water Board noted that this “represents a significant difference from the existing [1996] permit, which does not contain a provision for implementation of TMDLs” and that “TMDLs are one of the Regional Board’s highest priorities.”²⁹⁶ In addition, as previously discussed at Section II.C.3.ii, above, the Los Angeles Water Board included specific TMDL provisions in the 2001 Permit for Marina del Rey Bacteria TMDL in 2007 and the Los Angeles River Watershed Trash TMDL in 2009. Thus, compliance with TMDL programs are not new.

Second, the purpose of the TMDLs, and the accompanying implementing provisions in the 2012 Permit, is to address identified impairments for waters not meeting water quality standards. The 2012 Permit separately requires that discharges to receiving waters not cause or contribute to exceedances of water quality standards.²⁹⁷ These objectives are to be achieved through compliance with the TMDL provisions incorporated into the Permit. While certain specific TMDL-related provisions may be new to the 2012 Permit, the objectives themselves are not new. Indeed, the same objectives – that discharges not cause or contribute to exceedances of water quality standards – was in the 2001 Permit and the Permittees were subject to that requirement for nearly 11 years before the 2012 Permit was issued.²⁹⁸ Once a TMDL is approved by U.S. EPA, water quality-based effluent limitations must be consistent with wasteload allocations for the particular discharge per federal law.²⁹⁹ In fact, the compliance schedules established in the TMDLs and incorporated in the 2012 Permit allow Claimants time to achieve necessary pollutant reductions to the receiving waters.³⁰⁰

Because Claimants are separately required to achieve compliance with water quality standards through Part V.A.1 of the 2012 Permit, but have been provided a timeframe in which to comply through incorporation of limitations and associated compliance schedules, the TMDL-based limitations included to implement the TMDLs do not constitute new programs or require higher levels of service be provided beyond what Claimants are already obligated by law to achieve, and were required to achieve in the prior permit.

Provisions Implementing the Los Angeles River Watershed Trash TMDL (LAR Trash TMDL) Are Not New Programs or Higher Levels of Service

As noted in Section II.C.3.ii, above, the Los Angeles Water Board amended Order No. 01-182 on December 10, 2009 to incorporate provisions implementing the LAR Trash TMDL. At that time, the Board incorporated the wasteload allocations from the LAR Trash TMDL into the 2001 Permit as numeric water quality-based effluent limitations.³⁰¹ The 2001 Permit stated: “Each Permittee identified in Appendix 7-1 shall comply with the interim and final effluent limitations set forth in

²⁹⁵ *Id.*, Part 4.F.5.b), p. 56.

²⁹⁶ *Id.*, Fact Sheet, Part IV.E., p. 14 (2001 AR, p. R0008047).

²⁹⁷ 2012 Permit, Part V.1 (2015 AR, p. SB-AR-013331).

²⁹⁸ 2001 Permit, Part 2.1, p 24.

²⁹⁹ 40 C.F.R. § 122.44(d)(1)(vii)(B).

³⁰⁰ See 2012 Permit, Attachment F (Fact Sheet), Part VI.D.2, pp. F-106 to F-110 (2015 AR, pp. SB-AR-013678 – 682) listing the respective compliance schedules.

³⁰¹ See generally 2001 Permit, Part 7, pp. 79-84, Appendix 7-1, and Appendix 7-2. See also, 2001 Permit, Findings Related to the Incorporation of the Los Angeles River Trash TMDL, pp. 15-20; see also 2012 Permit, Fact Sheet, pp. F-13, F-23 (2015 AR, pp. SB-AR-013585, SB-AR-013595).

Appendix 7-1 hereto.”³⁰² Appendix 7-1 expressed the numeric effluent limitations for trash as progressively decreasing allowable amounts of trash discharged from each applicable permittee’s jurisdictional area within the watershed. Each applicable permittee was required to make annual reductions of its discharges of trash over a 7-year period (2010-2016), until the final effluent limitation of zero trash discharged from the MS4 was achieved. “Permittees shall achieve their final effluent limitation of zero trash discharge for the 2015-2016 storm year and every year thereafter.”³⁰³ The Board allowed Permittees the option to be deemed in compliance with the numeric effluent limitations through the installation of certain BMPs.³⁰⁴

In the 2012 Permit, the Los Angeles Water Board carried over the applicable effluent limitations and compliance deadlines, as well the compliance approaches, established in the 2001 Permit.³⁰⁵ Section A of Attachment O includes the interim and final numeric water quality-based effluent limitations and compliance deadlines implementing the LAR Trash TMDL. Applicable permittees are required to “comply with the final water quality-based effluent limitation of zero trash discharged to the Los Angeles River no later than September 30, 2016 and every year thereafter.”³⁰⁶

While Claimants acknowledge that the Los Angeles Water Board incorporated interim and final effluent limitations implementing the LAR TMDL into the 2001 Permit in December 2009, Claimants assert that the “2012 Permit has different requirements [with respect to the LAR Trash TMDL]; permittees must now reduce trash to zero percent of the baseline allocation.”³⁰⁷ As purported support for this erroneous conclusion, Claimants argue that the 2001 Permit required “a reduction of trash to 30 percent of the baseline load calculated as a rolling 3-year average,” referring to the 2007 LAR Trash TMDL.³⁰⁸ Claimants are wrong. It was the 2001 Permit as amended in 2009, not the 2012 Permit, that first required Claimants to reduce trash to zero percent of the baseline allocation.

Claimants’ reference to a “rolling 3-year average” in the 2007 TMDL is not applicable to the 2001 or 2012 Permits as the average was already taken into account when the Los Angeles Water Board calculated the interim and effluent limitations in 2009. In other words, the interim and final effluent limitations in Appendix 7-1 of the 2001 Permit already reflect a calculation of a “rolling 3-year average.” The 2007 TMDL required that the wasteload allocation of 0% trash be achieved by September 30, 2014, with a compliance point of “3.3% of the baseline load calculated as a rolling 3-year annual average.”³⁰⁹ Using a 3-year rolling average, a final effluent limitation of zero trash discharged by September 30, 2016 was included in the 2001 Permit.

³⁰² 2001 Permit, Part 7, p. 79 and Appendix 7-1.

³⁰³ *Id.*, Part 7, Appendix 7-1, footnote 3.

³⁰⁴ *Id.*, Part 7, pp. 79-84 and Appendix 7-2.

³⁰⁵ 2012 Permit, Part VI.E.5, pp. 151-157 and Attachment O, Section A, pp. O-1 to O-3 (2015 AR, pp. SB-AR-013444 – 450, SB-AR-013827 - 829). See also *id.*, Fact Sheet, p. F-37 (2015 AR, p. SB-AR-013609) (“This Order carries over the final receiving water limitations and WQBELs that were included to implement the Marina del Rey Harbor Back Basins and Mothers’ Beach Bacteria TMDL and the Los Angeles River Trash TMDL, respectively, in the 2007 and 2009 amendments to Order No. 01-182.”).

³⁰⁶ *Id.*, Section A.2, p. O-1 (2015 AR, p. SB-AR-013827).

³⁰⁷ Test Claim 13-TC-01, p. 12 and 13-TC-02, p. 13.

³⁰⁸ *Ibid.*

³⁰⁹ Los Angeles Water Board Resolution No. 2007-012, Attachment A, Table 7.2.3 (2009 AR, p. 1-17).

It is also imperative to note that the 2001 Permit did not only require a reduction of trash to 30%. It clearly required a reduction to 0%. Claimants appear to make this illogical leap as the compliance schedule for the LAR Trash TMDL in the 2001 Permit required a 30% reduction be achieved by 2012 and the Los Angeles Water Board reissued the permit in 2012, before the final compliance deadline in 2016. As noted above, the 2001 Permit clearly established both interim and final effluent limitations from 2010 to 2016, with a final compliance deadline of September 30, 2016 and every year thereafter. The fact that the Los Angeles Water Board reissued the permit in 2012 and continued to include the previously established schedule does not in any way make inclusion of the previously established schedule a new program or higher level of service. The requirement for Claimants to comply with the interim and final effluent limitations related to the LAR Trash TMDL was first required in 2009, period. Claimants' untimely challenge to requirements that were first established in 2009 fails as a matter of law.³¹⁰

As these provisions were first required in 2009 as part of the 2001 Permit, the Los Angeles Water Board's inclusion of these provisions in the 2012 Permit did not constitute a new program or higher level of service.

The Provisions are Not Unique to Local Government

The requirement to implement TMDL wasteload allocations in NPDES permits does not apply uniquely to local government. The TMDLs themselves assign wasteload allocations for specific pollutants to all point sources identified as causing or contributing to the impairment of the waterbody, such as stormwater, publicly owned treatment works, and other wastewater dischargers.³¹¹ As noted above, federal law requires that *all* NPDES permits, whether they are issued to private or public entities, include water quality-based effluent limitations that are consistent with the assumptions and requirements of all available TMDL wasteload allocations.³¹² For example, construction stormwater dischargers, as well as the State of California Department of Transportation (Caltrans), must also comply with TMDL-based WQBELs.³¹³

The above clearly demonstrates that Claimants are not being treated any differently than non-local government entities.

³¹⁰ Notably, no Permittee timely filed any test claim with the Commission on these specific requirements. The first time Claimants challenged these requirements is when they originally filed these Test Claims in June 2014, nearly five years after the requirements were incorporated into the 2001 Permit.

³¹¹ See, for example, Los Angeles Water Board, Order No. R4-2018-0020, NPDES Permit for Sentinel Peak Resources California, LLC Inglewood Oil Field, pp. 13-14, F-38.

³¹² 40 C.F.R. § 122.44(d)(1)(vii)(B). Water Code section 13263 also requires that waste discharge requirements "implement any relevant water quality control plans," which include established TMDLs. While the Los Angeles Water Board relied primarily on federal authority to include the TMDL-based requirements in the permit, it is important to note that state law also requires that *all* waste discharge requirements implement TMDLs, regardless of the particular source.

³¹³ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, pp. 10-12 ("This Order implements U.S. EPA-approved or U.S. EPA-established TMDLs applicable to the Department") and Attachment IV (listing the applicable TMDLs Caltrans is subject to); State Water Board, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit for Storm Water Discharges Associated With Construction And Land Disturbance Activities, p. 31 ("Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL has been approved by the U.S. EPA, shall comply with the approved TMDL if it identifies "construction activity" or land disturbance as a source of the pollution.") and Appendix 4 (identifying Non-Sediment TMDLs and Sediment TMDLs).

2. Monitoring Requirements Related to Implementation of TMDLs (Part VI.B and Attachment E, Parts II.E.1-3, V, VI.A.1.b(iii-iv), VI.B.2, VI.C.1.a, VI.D.1.a, VIII.B.1.b(ii), IX.A.5, IX.C.1.a, IX.E.1.a-b, IX.G.1.b, and IX.G.2)

Relying on their contention that the TMDL requirements in the 2012 Permit are state mandates, Claimants simply allege that “because federal law did not compel the LARWQCB to include the TMDLs, the monitoring program to implement those TMDLs was also not required.”³¹⁴ Claimants provide no other rationale other than an incorrect assertion that the 2001 Permit did not include TMDL monitoring.³¹⁵ Claimants list the following provisions of the 2012 Permit as part of the monitoring program to implement TMDLs: Part VI.B and Attachment E, Parts II.E.1-3, V, VI.A.1.b(iii-iv), VI.B.2, VI.C.1.a, VI.D.1.a, VIII.B.1.b(ii), IX.A.5, IX.C.1.a, IX.E.1.a-b, IX.G.1.b, and IX.G.2.

Part VI.B of the 2012 Permit requires Permittees to comply with a Monitoring and Reporting Program (MRP), which is set forth in Attachment E.³¹⁶

Attachment E, Parts II.E.1-3 set forth the required monitoring program elements for the 2012 Permit, including receiving water monitoring (Part II.E.1), stormwater outfall based monitoring (Part II.E.2), and non-stormwater outfall based monitoring (Part II.E.3).³¹⁷ Permittees are required to implement these elements to determine compliance and noncompliance with the 2012 Permit provisions regardless of whether there is a TMDL in place or not.³¹⁸

Attachment E, Parts V, VI.A.1.b(iii-iv), and VI.B.2 identify previously approved TMDL Monitoring Plans and the information pertaining to TMDL-related monitoring that must be included in an Integrated Monitoring Program (IMP) plan and Coordinated Integrated Monitoring Program (CIMP) plan.³¹⁹ Participation in an IMP or CIMP plan is voluntary and allows permittees flexibility to increase cost-efficiency and effectiveness.³²⁰

Attachment E, Parts VI.C.1.a and VI.D.1.a set forth the number of monitoring events per year for wet weather and dry weather, respectively.³²¹

Attachment E, Part VIII.B.1.b(ii) provides alternative definitions of “wet weather conditions” for purposes of scheduling stormwater outfall based monitoring.³²²

³¹⁴ Test Claim 13-TC-01, p. 14 and 13-TC-02, p. 15.

³¹⁵ Test Claim 13-TC-01, p. 12 and 13-TC-02, p. 13

³¹⁶ 2012 Permit, Part VI.B, p. 46 (2015 AR, p. SB-AR-013339).

³¹⁷ 2012 Permit, Attachment E, Part II.E, p. E-4 (2015 AR, p. SB-AR-013513).

³¹⁸ See, for example, 40 C.F.R. § 122.26, subds. (d)(2)(i)(F), (d)(2)(iii).

³¹⁹ 2012 Permit, Attachment E, Parts V, VI.A.1.b(iii-iv), and VI.B.2, pp. E-8 to E-14 (2015 AR, pp. SB-AR-013517 - 523).

³²⁰ *Id.*, Parts II.C. and II.D, p. E-3 (2015 AR, p. SB-AR-013512).

³²¹ *Id.*, Parts VI.C.1.a and VI.D.1.a, pp. E-15 to E-16 (2015 AR, pp. SB-AR-013524 - 525).

³²² *Id.*, Part VIII.B.1.b(ii), p. E-22 (2015 AR, pp. SB-AR-013531).

Attachment E, Parts IX.A.5, IX.C.1.a, and IX.E.1.a-b identify TMDL related considerations to be taken into account when Permittees implement their “Non-Storm Water Outfall Based Screening and Monitoring” program.³²³

Attachment E, Part IX.G.1.b provides a list of the parameters to be monitored in significant non-stormwater discharges, among the list of parameters are pollutants identified in the TMDL provisions as well as other pollutants identified on the CWA section 303(d) list for the receiving water, pollutants identified as causing toxicity in the receiving water, and other parameters in Table E-2 that exceed the lowest applicable water quality objective in the downstream receiving water.³²⁴

Attachment E, Part IX.G.2 states that for MS4 outfalls subject to a dry weather TMDL, the monitoring frequency shall be per the approved TMDL Monitoring Plan, or as specified in an IMP or CIMP.³²⁵

Notably, while the abovementioned parts of Attachment E each make some reference to TMDL-related monitoring or monitoring considerations, the 2012 Permit’s MRP and the particular challenged provisions are not required for the sole purpose of TMDL monitoring. Claimants ignore this fact. This is important because Part VI.B allows Permittees implementing a WMP or EWMP to propose a customized monitoring program per Attachment E, Part IV to meet the five primary objectives set forth in Part II.A, only one of which is to assess compliance with receiving water limitations and WQBELs in the TMDL Provisions.³²⁶

Therefore, Claimants, who are all currently implementing an approved WMP or EWMP, had the ability to propose an alternative monitoring program. Part IV of Attachment E states, in relevant part:

“The Integrated Monitoring Program may leverage monitoring resources *by selecting monitoring locations, parameters, or monitoring techniques that will satisfy multiple monitoring requirements.*” (Part IV.A.3)

“Where appropriate, the Integrated Monitoring Program [or CIMP] may develop and utilize alternative approaches to meet the Primary Objectives (Part II.A)...” (Parts IV.A.4 and IV.B.6)

“The requirements of *an approved TMDL Monitoring Plan may be modified by an IMP [or CIMP]* that is subsequently approved by the Executive Officer...” (Parts IV.A.5 and IV.B.3)³²⁷

³²³ *Id.*, Parts IX.A.5, IX.C.1.a, and IX.E.1.a-b, pp. E-23 to E-26 (2015 AR, pp. SB-AR-013532 - 535).

³²⁴ *Id.*, Part IX.G.1.b, p. E-27 (2015 AR, p. SB-AR-013536).

³²⁵ *Id.*, Part IX.G.2, p. E-28 (2015 AR, p. SB-AR-013537).

³²⁶ *Id.*, Part II.A., p. E-3 (2015 AR, p. SB-AR-013512).

³²⁷ *Id.*, Part IV, pp. E-6 to E-8 (2015 AR, pp. SB-AR-013515 - 517) (emphasis added).

The Provisions are Not a New Program or Higher Level of Service

Claimants allege that TMDL monitoring requirements in the 2012 Permit are new programs or higher levels of service; however, the 2001 Permit also included a MRP. The 2001 Permit MRP included many of the same primary objectives as the 2012 Permit,³²⁸ and included different types of monitoring to meet the objectives. For example, the 2001 Permit MRP included Mass Emissions Monitoring, Tributary Monitoring, and a BMP Effectiveness Study.³²⁹ Mass Emissions Monitoring was required to estimate the mass emissions from the MS4, assess trends in the mass emissions over time, and determine if the MS4 is contributing to exceedances of water quality standards (receiving water limitations). The Tributary Monitoring was required “to identify sub-watersheds where stormwater discharges are causing or contributing to exceedances of Water Quality Standards, and to prioritize drainage and sub-drainage areas that need management actions.” The BMP Effectiveness Study was required in order to “monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year preceding monitoring.” The requirement for outfall monitoring in the 2012 Permit MRP is a refinement of the Tributary Monitoring and BMP Effectiveness Study required in the 2001 Permit MRP.

The 2001 Permit MRP also included the same general frequency of monitoring as the 2012 Permit MRP in Part VI, at three wet weather events and two dry weather events per year.³³⁰ Moreover, the 2001 Permit MRP included TMDL-related monitoring, including shoreline monitoring for bacteria and monitoring for trash in the Los Angeles River and Ballona Creek watershed management areas.³³¹ Just as required in the 2012 Permit MRP in Parts V, VI.A.1.b.iii-iv, VI.B.2.a-c, and IX.G.2, the 2001 Permit MRP was updated in 2005 to reflect the TMDL Monitoring Plan for the Santa Monica Bay Beaches Bacteria TMDLs, including both dry weather and wet weather monitoring.³³²

The 2001 Permit also included a requirement to conduct field screening of the storm drain system, including investigation to determine the source of, and eliminate, any illicit connections and illicit discharges.³³³ Parts II.E.3 and IX.A.5, IX.C.1.a, IX.E.1.a-b, IX.G.1.b of the 2012 Permit’s MRP also pertain to field screening for non-stormwater discharges and simply refine the 2001 Permit requirement for field screening by prioritizing outfalls for screening, source identification, and monitoring based on TMDL considerations.³³⁴

³²⁸ 2001 Permit, MRP, Part II, p. T-6.

³²⁹ *Id.*, Parts II.A, II.C, and II.J, pp. T-6 to T-7, T-9 to T-10, and T-20.

³³⁰ *Id.*, Part II.A., p. T-6.

³³¹ 2001 Permit, Finding C.5, p. 6; Part 6.A.4, p. 72; MRP, pp. T-1, T-11 to T-12, T-13 to T-14; see Wat. Code § 13267 “Request for Trash Monitoring,” issued by the Los Angeles Water Board on December 21, 2001, which is referenced in the 2001 MRP (p. T-14) and provides information on the need for the trash monitoring relative to the adoption of TMDLs for trash in the Los Angeles River and Ballona Creek (2001 AR, pp. R0007973 - 976).

³³² Los Angeles Water Board, “Final Approval of Changes to the Santa Monica Bay Shoreline Monitoring Requirements Contained in the Monitoring and Reporting Program under the Los Angeles County Municipal Storm Water Discharge Permit (NPDES No. CAS004001) to Conform to the Extent Possible with the Santa Monica Bay Beaches Bacterial TMDLs” (Jun. 14, 2005).

³³³ 2001 Permit, Part 4.G, pp. 59-61.

³³⁴ Non-stormwater discharges are considered “illicit discharges” in federal regulations, and the terms are often used interchangeably. In fact, “illicit discharge” is defined by U.S. EPA in its 1990 rulemaking as “any discharge through a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES
(footnote continued on next page)

Therefore, while the 2012 Permit MRP addresses more TMDLs, the MRP is not a new program or higher level of service because the 2001 Permit had a MRP and that MRP included TMDL monitoring.

The Provisions are Necessary to Implement Federal Law

TMDL-related monitoring is necessary to implement federal law. The Clean Water Act and its implementing regulations require monitoring and reporting as a major component of *all* NPDES permits, not just MS4 permits. As a condition of receiving a NPDES permit, a permittee agrees to monitor its discharges to ensure compliance with the permit's terms.³³⁵ Section 308(a) of the Clean Water Act³³⁶ and sections 122.41 (h), (j)-(l), 122.44(i), and 122.48 of Title 40 of the Code of Federal Regulations establish substantive monitoring and reporting requirements for all NPDES permits. Federal regulations applicable to large and medium MS4s also specify additional monitoring and reporting requirements.³³⁷ The regulations specific to monitoring requirements for MS4 discharges are prescriptive and require the permitting agency to include requirements for both stormwater and non-stormwater effluent sampling at representative outfalls, representative receiving water monitoring, sampling of specific pollutants, monitoring at specified intervals (e.g., at least three storm events per year), use of analytical methods specified in 40 C.F.R. Part 136, use of field collection methods (e.g., grab vs. composite samples), among other requirements.³³⁸

As the Ninth Circuit Court of Appeal recently stated in a case concerning the 2001 Permit: "First and foremost, the Clean Water Act *requires* every NPDES permittee to monitor its discharges into the navigable waters of the United States in a manner sufficient to determine whether it is in compliance with the relevant NPDES permit.... That is, an NPDES permit is unlawful if a permittee is not required to effectively monitor its permit compliance."³³⁹ The Court also stated:

But while otherwise more flexible than the traditional NPDES permitting system, nothing in the ms4 permitting scheme relieves permittees of the obligation to monitor their compliance with their NPDES permit in some fashion... Rather, EPA regulations make clear that while ms4 NPDES permits need not require monitoring

permit [other than the permit for the discharge from the MS4]." (55 Fed. Reg. 47990, 47995 (Nov. 16, 1990) (2012 AR, p. RB-AR23722)).

³³⁵ CWA § 402(a)(1) ("the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 1311(a) of this title, upon condition that such discharge will meet either (A) all applicable requirements under sections 1311, 1312, 1316, 1317, 1318, and 1343 of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.")

³³⁶ CWA § 308(a) mandates, in part, that "the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require..."

³³⁷ See, e.g., 40 C.F.R. §§ 122.26, subs. (d)(2)(i)(F) & (d)(2)(iii)(D), 122.42(c).

³³⁸ 40 C.F.R. § 122.26(d)(2).

³³⁹ *Natural Resources Defense Council v. County of Los Angeles* (9th Cir. 2013) 725 F.3d 1194, 1207, cert. den. *Los Angeles County Flood Control Dist. v. Natural Resources Defense Council* (2014) 134 S.Ct. 2135 (citations omitted; emphasis in original) (citing CWA § 402(a)(2) and 40 C.F.R. §§ 122.44(i)(1) and 122.26(d)(2)(i)(F) (emphasis in original).)

(footnote continued on next page)

of each stormwater source at the precise point of discharge, they may instead establish a monitoring scheme “sufficient to yield data which are *representative of the monitored activity...*”³⁴⁰

The federal authority described herein mandates that the Los Angeles Water Board impose a monitoring and reporting program on MS4 permittees that is sufficient to determine compliance with permit terms, as with all NPDES permittees.

In part, federal regulation requires MS4 Permittees, specifically, to “[c]arry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer,” including a “monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations) ...”³⁴¹ The 2012 Permit MRP requirements, including the receiving water monitoring during wet and dry weather (Parts II.E.1 and VI) and stormwater and non-stormwater based outfall monitoring (Parts II.E.2, II.E.3, VIII, and IX), are necessary to meet these federal requirements. Further, because the Los Angeles Region is characterized by two distinct periods, wet weather and dry weather, the frequency of monitoring required by the 2012 Permit MRP in Part VI, generally three wet weather events and two dry weather events per year, is necessary to meet federal requirements for representative data collection. Part VIII.B.1.b(ii) provides various definitions to guide data collection during wet weather conditions to ensure it is representative.

Additionally, federal regulations require that a program to detect and remove illicit discharges includes “on-going field screening activities during the life of the permit” and “procedures to be followed to investigate portions of the separate storm sewer system that ... based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges ... (such procedures may include: sampling procedures ...)...”³⁴² Therefore, the 2012 Permit MRP and, in particular, Parts II.E.3 and IX, are necessary to meet this federal requirement.

The Los Angeles Water Board relied on this federal authority in establishing the 2012 Permit MRP.³⁴³ The Board also provided detailed rationale for the MRP requirements in the 2012 Permit Fact Sheet.³⁴⁴ For example, the Board found that the “purposes of receiving water monitoring are to measure the effects of storm water and non-storm water discharges from the MS4 to the receiving water, to identify water quality exceedances, to evaluate compliance with TMDL WLAs and receiving water limitations, and to evaluate whether water quality is improving, staying the

³⁴⁰ *Id.*, at p. 1209 (citations omitted; emphasis in original) (citing CWA § 402(a)(2) and 40 C.F.R. §§ 122.41(i)(1) and 122.48(b).)

³⁴¹ 40 C.F.R. § 122.26, subds. (d)(2)(i)(F) and (d)(2)(iii)(D).

³⁴² *Id.*, subd. (d)(2)(iv)(B)(2)-(3).

³⁴³ 2012 Permit, Finding P, p. 25 (2015 AR, p. SB-AR-013318), Attachment F (Fact Sheet), Part VII, p. F-116 (2015 AR, p. SB-AR-013688), Attachment E (MRP), Part I, p. E-3 (2015 AR, p. SB-AR-013512).

³⁴⁴ See generally 2012 Permit, Attachment F (Fact Sheet), Part VII, pp. F-116 to F-140 (2015 AR, pp. SB-AR-013688 – 712).

same or declining.”³⁴⁵ The Board also found that “[o]utfall based monitoring is also conducted to assess compliance with WQBELs.”³⁴⁶

Further, MS4 permits issued by U.S. EPA support the conclusion that TMDL-related monitoring is a federal requirement for MS4 permits. For example, the District of Columbia MS4 Permit states under Section 5, Monitoring and Assessment of Controls, that the monitoring must meet several objectives, including “any additional necessary monitoring for purposes of source identification and wasteload allocation tracking. This strategy must align with the Consolidated TMDL Implementation Plan....monitoring must be adequate to determine if relevant WLAs are being attained within specified timeframes in order to make modifications to relevant management programs, as necessary.”³⁴⁷

Therefore, the TMDL-related monitoring requirements in the 2012 Permit are federally required.

This Provisions are Not Unique to Local Government

Requirements for TMDL monitoring are also not unique to local government. For example:

- The MS4 permit issued to Caltrans requires that Caltrans conduct effluent and receiving water monitoring and implement a “Comprehensive TMDL Monitoring Plan;”³⁴⁸
- The Industrial General Stormwater Permit requires industrial facilities to collect samples of their discharge and analyze them for various parameters, including “[a]dditional applicable industrial parameters related to receiving waters with 303(d) listed impairments or approved TMDLs...;”³⁴⁹
- The NPDES permit for stormwater discharges from Sentinel Peak Resources (Inglewood Oil Field) includes effluent limitations based on TMDLs and corresponding effluent and receiving water monitoring requirements;³⁵⁰ and

The above demonstrates that Claimants are not being treated differently than non-local government entities in terms of TMDL monitoring requirements.

For all these reasons, and for the additional reasons discussed in Section IV above, the Commission should find that the TMDL-related monitoring in Part VI.B and Attachment E, Parts II.E.1-3, V, VI.A.1.b(iii-iv), VI.B.2, VI.C.1.a, VI.D.1.a, VIII.B.1.b(ii), IX.A.5, IX.C.1.a, IX.E.1.a-b, IX.G.1.b, and IX.G.2 of the 2012 Permit are not state mandates subject to subvention.

³⁴⁵ *Id.*, Part VII, p. F-118 (2015 AR, p. SB-AR-013690).

³⁴⁶ *Id.*, Part VII, p. F-119 (2015 AR, p. SB-AR-013691).

³⁴⁷ U.S. EPA, Permit for District of Columbia Municipal Separate Storm Sewer System, Modified Permit No. DC0000221 (Oct. 7, 2011, mod. Nov. 9, 2012), Part 5, pp. 32-38 (2015 AR, pp. SB-AR-014183 - 203).

³⁴⁸ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Finding 40, Part E.2.c, and Attachment IV, Section III.A.1.

³⁴⁹ State Water Board, Order No. 2014-0057-DWQ, NPDES General Permit for Storm Water Discharges Associated with Industrial Activities, Part XI.B.6.e, pp. 39-40.

³⁵⁰ Los Angeles Water Board, Order No. R4-2018-0020, NPDES Permit for Sentinel Peak Resources California, LLC Inglewood Oil Field, pp. E-6 to E-9, E-13 to E-15.

B. Prohibitions – Non-Storm Water Discharges

Part III.A of the 2012 Permit requires each Permittee to prohibit non-stormwater discharges through the MS4 to receiving waters, implement BMPs for conditionally exempt non-stormwater discharges, or ensure implementation of BMPs by developing and implementing procedures for dischargers that are not a Permittee to address non-stormwater discharges, evaluate non-stormwater monitoring data, and if a conditionally exempt non-stormwater discharge is found to be a source of pollutants that causes or contributes to an exceedance of applicable receiving water limitations and/or water quality-based effluent limitations, take certain steps to address this.³⁵¹ The challenged provisions of Part III.A. are addressed below.

As an initial matter, Claimants' reliance on *Department of Finance* in relation to non-stormwater discharge prohibition requirements is not applicable here. As explained above, the Supreme Court's focus in *Department of Finance* was the construction of the Clean Water Act's MEP technical standard for MS4 discharges of stormwater. The non-stormwater discharge prohibition in the CWA is not subject to the MEP standard, but rather the wholly independent CWA requirement that MS4 permittees effectively prohibit non-stormwater discharges to their MS4s.³⁵²

1. Prohibition of Non-Stormwater Discharges (Part III.A.1)

Part III.A.1 of the 2012 Permit requires Permittees to prohibit non-stormwater discharges through the MS4 to receiving waters with certain exceptions.³⁵³ Claimants allege that this provision is somehow different than the requirement in the 2001 Permit "to effectively prohibit non-storm water discharges into the MS4 and watercourses." Claimants are wrong.

The Provision is Not a New Program or Higher Level of Service

As a threshold matter, Part III.A.1 of the 2012 Permit was carried over from prior permits and therefore can in no way be considered a new program or higher level of service. The 1996 Permit stated: "Each Permittee shall, within its jurisdiction, effectively prohibit non-storm water discharges into the [MS4] and watercourses..."³⁵⁴ The 2001 Permit stated that "The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses..."³⁵⁵ The 2012 Permit states "Each Permittee shall, for the portion of the MS4 for which it is an owner or operator, prohibit non-storm water discharges through the MS4 to receiving waters..."³⁵⁶ The 2012 Permit language is wholly consistent with the 2001 Permit language. The slight variation in terminology between the 2001 Permit and the 2012 Permit does not alter the substantive requirement but simply serves to provide greater clarity. As explained below, the minor terminology differences are consistent with U.S. EPA's 1990 Phase I MS4 regulations. In the end, there is no meaningful difference between the phrasing of "into the MS4 and watercourses" from

³⁵¹ 2012 Permit, Part III.A., pp. 27-37 (2015 AR, pp. 013320 - 330).

³⁵² CWA § 402(p)(3)(B)(ii); State Water Board Order WQ 2015-0075, pp. 62-63 (2015 AR, pp. SB-AR-013257-258), confirming that non-stormwater discharges through the MS4s under the Clean Water Act are not subject to the MEP standard applicable to stormwater discharges.

³⁵³ 2012 Permit, Part III.A.1, pp. 27 - 28 (2015 AR, p. SB-AR-013320 - 321).

³⁵⁴ 1996 Permit, Part 1.I, p. 11 (2001 AR, p, R0008489).

³⁵⁵ 2001 Permit, Part I.A., p. 23.

³⁵⁶ 2012 Permit, Part III.A.1, p. 27 (2015 AR, p. SB-AR-013320).

the 2001 Permit and “through the MS4 to receiving waters” in the 2012 Permit. Both requirements prohibit non-stormwater discharges from reaching receiving waters, which is wholly consistent with Congress’ ultimate intent in the Clean Water Act and U.S. EPA’s regulations that such non-stormwater discharges not reach receiving waters.³⁵⁷

Since the slight variation in terminology between the 2001 Permit and the 2012 Permit did not alter the substance of the requirement, Permittees should have already been implementing programs to prevent non-stormwater from reaching receiving waters since at least 1996. For Claimants to argue that this provision in the 2012 Permit is somehow a new or a higher level of service is, frankly, disingenuous.

The Provision is Necessary to Implement Federal Law

Claimants allege that the requirement in Part III.A.1 to prohibit non-stormwater discharges *through the MS4 to receiving waters* is contrary to the CWA, which requires that MS4 permits shall effectively prohibit non-stormwater discharges *into the storm sewers*.³⁵⁸ It is not.

The Water Boards acknowledge that CWA section 402, subdivision (p)(3)(B)(ii), requires that MS4 permits include a requirement to effectively prohibit non-stormwater discharges “into the storm sewers.” However, the 2012 Permit’s prohibition of non-stormwater discharges “through the MS4 to receiving waters” is wholly consistent with this mandate and U.S. EPA’s regulations. It can be logically concluded that if non-stormwater discharges are detected leaving the MS4, they must have entered the MS4.

U.S. EPA regulations and its 1990 preamble to the Phase I MS4 regulations use the terms “into,” “to,” “through,” and “from” the MS4 interchangeably when describing the federal requirement to effectively prohibit non-stormwater discharges. As noted previously, federal regulations define illicit discharges as “any discharge *to* a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit...”.³⁵⁹ U.S. EPA in its 1990 preamble states that “[t]hese [MS4] permits are to...effectively prohibit non-storm water discharges *to* the municipal separate storm sewer system,” and that “[t]oday’s rule defines the term ‘illicit discharge’ to describe any discharge *through* a municipal separate storm sewer that is not composed entirely of storm water and that is not covered by an NPDES permit. Such illicit discharges are not authorized under the CWA. Section 402(p)(3)(B) of the CWA requires that permits for discharges *from* municipal separate storm sewers require the municipality to ‘effectively prohibit’ non-storm water discharges *from* the municipal separate storm sewer... Ultimately, such non-storm water discharges *through a municipal separate storm sewer* must either be removed from the system or become subject to an NPDES permit.”³⁶⁰ Further on, U.S. EPA states that “[t]he CWA prohibits the point source discharge of non-storm water not subject to an NPDES permit *through* municipal separate storm sewers to waters of the United States.”³⁶¹ In addressing comments related to various types of non-stormwater discharges, U.S. EPA again

³⁵⁷ 55 Fed. Reg. 47990, 47997 (Nov. 16, 1990) (2012 AR, p. RB-AR23724) (“The entire thrust of today’s regulation is to control pollutants that enter receiving water from storm water conveyances.”).

³⁵⁸ CWA § 402(p)(3)(B)(ii).

³⁵⁹ 40 C.F.R. § 122.26(b)(2).

³⁶⁰ 55 Fed. Reg. 47990, 47995 (Nov. 16, 1990) (2012 AR, p. RB-AR23722).

³⁶¹ *Id.*, at p. 47996 (2012 AR, p. RB-AR23723).

uses “through” to describe the nature of the non-stormwater discharge prohibition, stating with regard to street wash waters that “such discharges...must be addressed by municipal management programs as part of the prohibition on non-storm water discharges *through* municipal separate storm sewer systems.”³⁶² Congress’ intent and U.S. EPA’s phraseology in its own regulations therefore support the Water Board’s interpretation that there is no meaningful difference with these terms, and that permittees must have adequate legal authority to control discharges into and from a portion of an MS4 for which it is an owner or operator.

The Los Angeles Water Board specifically states that the “provisions in this Order to effectively prohibit non-storm water discharges are also mandated by the Clean Water Act. (33 U.S.C. § 1342(p)(3)(B)(ii).)”³⁶³ This finding is entitled to deference.

When commenting on a draft version of the 2012 Permit, U.S. EPA supported the non-stormwater discharge prohibition. In addressing the allegation that Claimants again make here, U.S. EPA stated:

We understand that concerns have been raised specifically on Section III.A.1 of the draft permit which requires that the permittee prohibit certain non-stormwater discharges “through” the MS4 while Section 402(p)(3)(B)(ii) of the Clean Water Act requires that the permittee prohibit discharges “into” the MS4. We support the Board’s proposed language on this issue. We would note that the preamble to EPA’s 1990 stormwater regulations (55 FR 47995) itself uses the word “through” in describing the discharges which are to be prohibited. We believe this is in recognition of the fact that a discharge “into” the MS4 is tantamount to a discharge “through” the MS4 to receiving waters since the principal purpose of an MS4 is conveyance of water.³⁶⁴

This is also not the first time that many of the Claimants have made this argument. This exact argument was raised by many of the Claimants when they challenged several provisions of the 2001 Permit. And they lost. The Los Angeles County Superior Court upheld the language in the 2001 Permit and rejected the “into” versus “from” argument that Claimants make here again. The court stated:

[A]lthough this Court recognizes that it may not always be possible to prevent something from going into the system, it probably is the cheapest method. If something does not go in, then there is no concern about it coming out the other end. If the contaminant does not enter the system, there is no need to process it at the end of the system.³⁶⁵

³⁶² *Id.*, at p. 47990, 47996 (2012 AR, p. RB-AR23723).

³⁶³ 2012 Permit, Attachment F (Fact Sheet), Part IX, p. F-159 (2015 AR, p. SB-AR-013731).

³⁶⁴ U.S. EPA Comments on Draft MS4 Permit for Los Angeles County (July 23, 2012), p. 6 (2012 AR, pp. RB-AR17764).

³⁶⁵ In *re Los Angeles County Municipal Storm Water Permit Litigation* (Sup. Ct. Los Angeles County, March 24, 2005, Case No. BS 080548), Statement of Decision from Phase I Trial on Petitions for Writ of Mandate, p. 16 (2012 AR, p. RB-AR23172).

The court further stated that the permit's "regulation of what goes 'into' the storm drain does not take away from the Petitioners' rights and needs to control the process" and set regional controls.³⁶⁶

Most Claimants also filed petitions for review with the State Water Board on the 2012 Permit similarly contesting the usage of the phrase "through the MS4."³⁶⁷ In Order WQ 2015-0075, the State Water Board agreed with the Los Angeles Water Board and found "the variation in language to be a distinction without a difference." It concluded "[w]hether the Los Angeles MS4 Order prohibits non-storm water discharges *into the MS4* or *through the MS4 to receiving waters*, the intent and effect of the prohibition is to prevent non-exempt non-storm water discharges from reaching the receiving waters. The legal standard governing non-storm water – effective prohibition – is not altered because the Los Angeles MS4 Order imposes the prohibition at the point of entry into the receiving water rather than the point of entry into the MS4 itself. Instructively, USEPA has used the terms "into," "from," and "through" interchangeably when describing the prohibition."³⁶⁸

Therefore, the language in Part III.A.1 implements federal law.

The Provision Is Not Unique to Local Government

The non-stormwater discharge prohibition is not unique to local government. The non-stormwater discharge prohibition is a key provision in other permits issued to non-local governmental entities in order to effectively reduce and/or prevent pollutants from reaching waterbodies. For example, Caltrans, as well as industrial and construction stormwater dischargers, are also prohibited from discharging non-stormwater to the MS4 and/or waterbodies. Examples of relevant permit provisions are as follows:

- NPDES Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for State of California Department of Transportation, Order 2012-0011-DWQ (as amended) (issued by State Water Board)³⁶⁹:
 - "Discharge of material other than storm water, or discharge that is not composed entirely of storm water, to waters of the United States or another permitted MS4 is prohibited, except as conditionally exempted under Section B.2 of this Order or authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit."³⁷⁰

³⁶⁶ *Id.*, at p. 17 (2012 AR, p. RB-AR23173).

³⁶⁷ Claimants that filed petitions for review by the State Water Board on the 2012 Permit include the cities of Agoura Hills, Beverly Hills, Carson, Commerce, Downey, Huntington Park, Manhattan Beach, Norwalk, Pico Rivera, Rancho Palos Verdes, Redondo Beach, San Marino, Signal Hill, South El Monte, Vernon, and Westlake Village. (2015 AR, pp. SB-AR-001007 to SB-AR-001106; SB-AR-001186 to SB-AR-001210; SB-AR-001426 to SB-AR-002058; SB-AR-002767 to SB-AR-002798; SB-AR-002831 to SB-AR-002852; SB-AR-002920 to SB-AR-002978; SB-AR-003492 to SB-AR-004923; SB-AR-005610 to SB-AR-005770; SB-AR-006343 to SB-AR-006392; SB-AR-006924 to SB-AR-007109).

³⁶⁸ State Water Board Order WQ 2015-0075, p. 61 (2015 AR, p. SB-AR-013256).

³⁶⁹ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation.

³⁷⁰ *Id.*, Provision A.3., p. 15.

- “The Department shall effectively prohibit non-storm water discharges into its storm water conveyance system unless such discharges are either: a. Authorized by a separate NPDES permit; or b. Conditionally exempt in accordance with provision B.2. of this NPDES permit.”³⁷¹
- NPDES General Permit for Storm Water Discharges Associated with Industrial Activities, Order 2014-0057-DWQ (issued by State Water Board)³⁷²:
 - “Except for non-storm water discharges (NSWDs) authorized in Section IV, discharges of liquids or materials other than storm water, either directly or indirectly to waters of the United States, are prohibited unless authorized by another NPDES permit. Unauthorized NSWDs must be either eliminated or authorized by a separate NPDES permit.”³⁷³
 - “Unauthorized NSWDs can be generated from various pollutant sources. Depending upon their quantity and location where generated, unauthorized NSWDs can discharge to the storm drain system during dry weather as well as during a storm event (comingled with storm water discharge). These NSWDs can consist of, but are not limited to: (1) waters generated by the rinsing or washing of vehicles, equipment, buildings, or pavement, or (2) fluid, particulate or solid materials that have spilled, leaked, or been disposed of improperly.”³⁷⁴
- NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ (as amended) (issued by State Water Board)³⁷⁵:
 - “All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit.”³⁷⁶
 - Dischargers “shall implement measures to control all non-storm water discharges during construction.”³⁷⁷
 - “Non-storm water discharges directly connected to receiving waters or the storm drain system have the potential to negatively impact water quality. The discharger must implement measures to control all non-storm water discharges during construction,

³⁷¹ *Id.*, Provision B.1., p. 16.

³⁷² State Water Board, Order No. 2014-0057-DWQ, NPDES General Permit for Storm Water Discharges Associated with Industrial Activities.

³⁷³ *Id.*, Provision III.B, p. 19.

³⁷⁴ *Id.*, Fact Sheet, pp. 14-15.

³⁷⁵ State Water Board, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit for Storm Water Discharges Associated With Construction And Land Disturbance Activities.

³⁷⁶ *Id.*, Provision III.B, p. 20.

³⁷⁷ *Id.*, Attachment A (Linear Underground/Overhead Requirements), Provision J.3.a., p. 24; Attachment C (Risk Level 1 Requirements), Provision C.1, p. 4; Attachment D (Risk Level 2 Requirements), Provision C.1., p. 4; Attachment E (Risk Level 3 Requirements), Provision C.1., p. 4.

and from dewatering activities associated with construction. Examples include: properly washing vehicles in contained areas, cleaning streets, and minimizing irrigation runoff.³⁷⁸

The above clearly demonstrates that Claimants are not being treated any differently than non-local government entities.

2. Conditional Exemptions from Non-Storm Water Discharge Prohibition (Part III.A.2) and Permittee Requirements (Parts III.A.4.a and III.A.4.b)

Part III.A.2 of the 2012 Permit conditionally exempts certain categories of non-stormwater discharges from the non-stormwater discharge prohibition, including discharges from non-emergency fire-fighting activities,³⁷⁹ drinking water supplier distribution systems where not otherwise regulated by an individual or general NPDES permit,³⁸⁰ and other categories of non-stormwater discharges that are not a source of pollutants, if the discharges meet required conditions specified in the Permit or as otherwise approved by the Los Angeles Water Board Executive Officer.³⁸¹

Part III.A.4.a requires Permittees to develop and implement procedures to ensure that a discharger, if not a Permittee, notifies the Permittee of the planned discharge in advance, obtains the appropriate permits, conducts monitoring of the discharge if required by the Permittee, implements appropriate BMPs, and maintains records of discharges to the MS4.³⁸²

Part III.4.b requires Permittees to develop and implement procedures that minimize the discharge of landscape irrigation water into the MS4 by promoting conservation programs.³⁸³ This provision requires Permittees to coordinate with the local water purveyor(s), where applicable, to promote landscape water use efficiency requirements for existing landscaping, use of drought tolerant, native vegetation, and the use of less toxic options for pest control and landscape management. It also requires Permittees to develop and implement a coordinated outreach and education program to minimize the discharge of irrigation water and pollutants associated with irrigation water consistent with the Public Information and Participation Program in the permit.

Citing *Department of Finance*, which is not applicable here as discussed above, Claimants allege that the specificity in these provisions “usurp[] the [Claimants’] ability to design their own

³⁷⁸ *Id.*, Fact Sheet, Section II.J.1.d, p. 30.

³⁷⁹ This includes fire-fighting training activities, which simulate emergency responses, and routine maintenance and testing activities necessary for the protection of life and property, including building fire suppression system maintenance and testing (e.g. sprinkler line flushing) and fire hydrant testing and maintenance. Discharges from vehicle washing are not considered essential and as such are not conditionally exempt from the non-storm water discharge prohibition. 2012 Permit, Part III.A.2.i, pg. 28, fn. 7 (2015 AR, p. SB-AR-013321).

³⁸⁰ Drinking water supplier distribution system releases refers to sources of flows from drinking water storage, supply and distribution systems (including flows from system failures), pressure releases, system maintenance, distribution line testing, and flushing and dewatering of pipes, reservoirs, and vaults, and minor non-invasive well maintenance activities not involving chemical addition(s) where not otherwise regulated by NPDES Permit No. CAG674001, NPDES Permit No. CAG994005, or another separate NPDES permit. 2012 Permit, Part III.A.2.ii, pg. 29, fn. 8 (2015 AR, p. SB-AR-013322).

³⁸¹ 2012 Permit, Part III.A.2, pp. 28-30 (2015 AR, pp. SB-AR-013321 - 323).

³⁸² *Id.*, Part III.A.4.a, pp. 30-31 (2015 AR, pp. SB-AR-013323 - 324).

³⁸³ *Id.*, Part III.A.4.b, p. 31 (2015 AR, p. SB-AR-013324).

program.”³⁸⁴ However, this is simply not true. As discussed in Section IV.B.3.ii, above, Part III.A.4 of the 2012 Permit, including all their subparts, are provisions that Permittees can customize in an approved WMP or EWMP.³⁸⁵ Part VI.C.1.b states that this allowance for customization includes the contested provisions of Part III.A.4. As such, the WMP/EWMP provisions provide significant flexibility to Permittees to select alternative means to comply with the federal requirement to effectively prohibit non-stormwater discharges. All Claimants elected to develop, and are now implementing, an approved WMP or EWMP. Therefore, regardless of the specificity, the choice to implement the specific requirements of Part III.A.4.a-b, rather than alternative activities consistent with federal regulations was the Claimants’ and is, therefore, not a state mandate.

Furthermore, even if Claimants did not elect to implement permit requirements through a WMP or EWMP, Part III.A.2 allows Permittees to propose for approval by the Los Angeles Water Board Executive Officer alternative conditions from those specified in Parts III.A.2 and III.A.4, including Table 8, for the conditionally exempt discharges. Part III.A.2 states “[t]he following categories of non-storm water discharges are conditionally exempt from the non-storm water discharge prohibition, provided they meet all required conditions specified below, *or as otherwise approved by the Regional Water Board Executive Officer ...*”.³⁸⁶

Lastly, Claimants state that both Parts III.A.2 and VI.D.9.f relate to conditional exemptions from the non-stormwater discharge prohibition and require the Claimants to assure appropriate BMPs are employed for discharges from essential non-emergency firefighting activities.³⁸⁷ However, Part III.A.2 is not related to Part VI.D.9.f. Part VI.D.9.f does not apply to “essential non-emergency fire fighting activities.” Footnote 7 of the 2012 Permit clearly defines “essential *non-emergency* fire-fighting activities” and states that “[d]ischarges from vehicle washing are not considered essential and as such are not conditionally exempt from the non-storm water discharge prohibition.”³⁸⁸ Part VI.D.9.f only applies to vehicle and equipment washing, which is a prohibited non-stormwater discharge unless in compliance with certain BMPs.³⁸⁹ The BMPs that Permittees are required to implement under Part VI.D.9.f are different than the BMPs under Part III.A.1.

As such, the Water Boards do not understand Claimants’ reference here. Since there are no specific allegations concerning Part VI.D.9.f aside from an incorrect reference to inapplicable conditional exemptions, the Water Boards do not consider the Claimants as having challenged Part VI.D.9.f as a separate state mandate and the time for Claimants to assert any new allegations has passed. Therefore, the Water Boards are not providing a response to that specific provision. If the Commission determines otherwise, the Los Angeles Water Board requests an opportunity to submit supplemental comments on that provision.

The Provisions are Not New Programs or Higher Levels of Service

³⁸⁴ Test Claims 13-TC-01, p. 16 and 13-TC-02, p. 18.

³⁸⁵ *Id.*, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-013341) and Part VI.C.5.b.iv.(1), p. 63 (2015 AR, p. SB-AR-013356).

³⁸⁶ *Id.*, Part III.A.2, pp. 28-30 (2015 AR, p. SB-AR-013321 - 323).

³⁸⁷ Test Claim 13-TC-01, pp. 14-15 and 13-TC-02, p. 16.

³⁸⁸ 2012 Permit, Part III.A.2.a.i, footnote 7, p. 28 (2015 AR, p. SB-AR-013321).

³⁸⁹ *Id.*, Part VI.D.9.f, p. 132 (2015 AR, p. SB-AR-013425).

The provision in Part III.A.2.a.i is not a new program or higher level of service. Under the 2001 Permit, “essential *non-emergency* firefighting activities” was not a category of discharge conditionally exempt from the non-stormwater discharge prohibition.³⁹⁰ This means that, under the 2001 Permit, those discharges fell under the non-stormwater discharge prohibition and Permittees were not authorized to discharge non-stormwater associated with non-emergency firefighting activities at all through the MS4 to receiving waters. To comply with the prohibition, Permittees would have had to employ BMPs to ensure that this category of discharge did not reach receiving waters. Part III.A.2.a.i of the 2012 Permit changed that by allowing the discharge of non-stormwater from non-emergency firefighting activities, but subject to certain conditions, recognizing this category as an essential conditionally exempt non-stormwater discharge.³⁹¹ As such, this provision, which allows for a conditional discharge that was otherwise previously prohibited, certainly can not be considered a new program or higher level of service; if anything, it is a lesser standard since Permittees would have to employ fewer BMPs.

The provision in Part III.A.2.a.ii is also not a new program or higher level of service. Under the 2001 Permit, “potable drinking water supply and distribution system releases” was identified as a conditionally exempt non-stormwater discharge. The 2001 Permit stated that the category of discharge was conditioned on the releases being “consistent with American Water Works Association guidelines for dichlorination and suspended solids reduction practices.”³⁹² The 2012 Permit carried over this conditional exemption, but refined the applicable conditions.³⁹³ Permittees’ BMPs are still required to be implemented based on the American Water Works Association guidelines or an equivalent industry standard BMP manual. The remaining conditions simply require the Claimants to work with drinking water suppliers that discharge 10,000 gallons or more to a Permittee’s MS4 such that the Permittees receive advanced notice of the discharge and that the drinking water supplier monitor the discharge and keep records.

Regarding the other conditionally exempt non-stormwater discharges in Part III.A.2.b of the Permit, dewatering of lakes, landscape irrigation, dechlorinated/dibrominated swimming pool/spa discharges, dewatering of decorative fountains, non-commercial car washing by residents or by non-profit organizations, and sidewalk rinsing were all conditionally exempted in the 2001 Permit.³⁹⁴ The 2012 Permit carried over these categories, but with clarification and centralization of the conditions that need to be met in order for the discharge to be exempted from the non-stormwater discharge prohibition and thus allowed through the MS4.³⁹⁵ The Los Angeles Water Board made extensive findings pertaining to the purpose of the conditions and BMPs required in the 2012 Permit Fact Sheet.³⁹⁶

Although the 2001 Permit did not specify how to address the conditionally exempt non-stormwater discharges, Part 1.A.2 of the 2001 Permit authorized the Los Angeles Water Board Executive

³⁹⁰ Only “flows from emergency fire fighting activit[ies]” were conditionally exempted. (2001 Permit, Part 1.A.2.b), p. 23). Non-stormwater discharges from emergency fire fighting activities are still authorized in the 2012 Permit. See 2012 Permit, Part III.A.1.c, p. 267 (2012 Permit, p. SB-AR-013320).

³⁹¹ 2012 Permit, Part III.A.2.a.i, p. 28 (2015 AR, p. SB-AR-013321).

³⁹² 2001 Permit, Part 1.A.2.c)(2), p. 23.

³⁹³ 2012 Permit, Part III.A.2.a.ii, p. 29 (2015 AR, p. SB-AR-013322).

³⁹⁴ 2001 Permit, Part 1.A.2.c)

³⁹⁵ 2012 Permit, Part III.A.2.b. and Table 8, pp. 29-30, 34-37 (2015 AR, p. SB-AR-013322 – 323, 327 – 330).

³⁹⁶ See 2012 Permit, Attachment F (Fact Sheet), p. F-26 to F-32 (2015 AR, p. SB-AR-013598 – 604).

Officer to impose conditions or withdraw the exemption if non-stormwater discharges were determined to be a source of pollutants. Specifically, Part 1.A.2 of the 2001 Permit states that “[t]he Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of antidegradation policies and TMDLs.”³⁹⁷ Consistent with this provision of the 2001 Permit, the Los Angeles Water Board clarified the conditions for the continued exemption from the non-stormwater discharge prohibition for these categories of non-stormwater discharges in the 2012 Permit.

Regarding the BMPs for street/sidewalk wash water, the Los Angeles Water Board noted in its Fact Sheet that the requirements for street/sidewalk wash water contained in Resolution 98-08 were explicitly incorporated into the 2012 Permit.³⁹⁸ As part of the 1996 Permit, the City of Los Angeles conducted a study on pollutants entering storm drains from street and sidewalk washing operations and recommended BMPs in a report titled “*A Study of Pollutants Entering Storm Drains from Street and Sidewalk Washing Operations in Los Angeles, California.*”³⁹⁹ The BMPs included in Table 8 of the 2012 Permit for street/sidewalk wash water are the same as those in Resolution No. 98-08.⁴⁰⁰

The other conditions in the 2012 Permit for these categories of non-stormwater discharges were based on what the Permittees were already doing under the 2001 Permit. The Los Angeles Water Board found that the conditions are common practice and have been incorporated into other area MS4 permits.⁴⁰¹ During the implementation of the 2001 Permit, Permittees implemented measures such as ordinances to meet permit requirements and reported on these in their reports of waste discharge/permit reapplications. For example, Los Angeles County reported in its report of waste discharge submitted on behalf of all Los Angeles County MS4 Permittees that Permittees adopted ordinances:

to prohibit the discharge of runoff to the MS4 from: wash water from the cleaning of gas stations, auto repair garages, or other types of automotive services facilities; mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations; areas where repair of machinery and equipment, that are visibly leaking oil, fluid or antifreeze, is undertaken; storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials; chlorinated/brominated swimming pool water and filter backwash; the washing of toxic materials from paved or unpaved areas; washing impervious surfaces in industrial/commercial

³⁹⁷ 2001 Permit, Part 1.A.2, p. 24.

³⁹⁸ 2012 Permit, Attachment F (Fact Sheet), p. F-31 (2015 AR, p. SB-AR-013603).

³⁹⁹ Resolution No. 98-08 (2012 AR, pp. RB-AR24499 - 24503).

⁴⁰⁰ 2012 Permit, p. 34-37 (2015 AR, SB-AR-013327 - 330) and Resolution No. 98-08, Attachment 2 (2012 AR, p. RB-AR24503).

⁴⁰¹ See 2012 Permit, Attachment F (Fact Sheet), p. F-32 (2015 AR, p. SB-AR-013604).

areas; and concrete or cement laden wash water from concrete trucks, pumps, tools, and equipment.⁴⁰²

Therefore, some of the aforementioned non-stormwater discharges were already prohibited through ordinances prior to the issuance of the 2012 Permit. Additionally, on their website, the City of Los Angeles identifies BMPs for discharges from swimming pools, spas, and fountains to ensure that these discharges are not a source of pollutants.⁴⁰³

Also, on September 29, 2011, U.S. EPA conducted a joint audit with the Los Angeles Water Board of the City of El Segundo's Illicit Connection and Illicit Discharge Elimination (IC/IDE) program, where they found that the City "had in place a permit process for discharges of permitted non-storm water discharges that specifically prohibits, including dechlorinated and debrominated swimming pool water and decorative fountain water, from being discharged into the storm drain system. All non-storm water discharges are to be directed to the sanitary sewer. In addition, the City has a prohibition against the draining of swimming pools and decorative fountains to the public right-of-way."⁴⁰⁴ Likewise, on September 30, 2011, U.S. EPA conducted a joint audit with the Board of Culver City's IC/IDE program where they found that "[t]he City does not authorize the discharge of pool water to the storm sewer system. Essentially, there are no authorized discharges to the storm drain system with residential car washing being a 'grey area' of oversight."⁴⁰⁵ U.S. EPA's findings from the audits show that permittees already had in place prohibitions on certain non-stormwater discharges.

Note that Part III.A.6 of the 2012 Permit is consistent with Part 1.A.2 of the 2001 Permit where the Los Angeles Water Board Executive Officer can modify a category of authorized non-stormwater discharges if the Executive Officer determines that the non-stormwater discharge category is a source of pollutants.⁴⁰⁶ Therefore, regardless of the Claimant's allegations that federal regulations allow only the Permittee to make a determination if certain non-stormwater discharges are a source of pollutants,⁴⁰⁷ the Executive Officer had the authority to do so in the 2001 Permit, and continues to have the same authority in the 2012 Permit, to impose conditions on non-stormwater discharges if determined to be a source of pollutants. As noted above, this is also consistent with federal regulations as explained in U.S. EPA's preamble to its 1990 regulations, which states that the permitting authority may include permit conditions to control the types of non-stormwater discharges that may otherwise be allowed to enter the MS4 where appropriate.⁴⁰⁸

⁴⁰² Los Angeles County. *Report of Waste Discharge - Renewal Application for the County of Los Angeles National Pollutant Discharge Elimination System Municipal Stormwater Permit Order 01-182 NPDES Permit CAS004001*. June 12, 2006. (2012 AR, pp. RB-AR1 - 69).

⁴⁰³ The City of Los Angeles is a Permittee of the 2012 Permit; City of Los Angeles. *Best Management Practices – Swimming Pool, Spa, and Fountain Maintenance*. Accessed September 27, 2012. (2012 AR, pp. RB-AR24379 to RB-AR24381).

⁴⁰⁴ U.S. EPA. *Municipal Separate Storm Sewer System (MS4) Compliance Inspection City of El Segundo Inspection Report*. November 22, 2011. (2012 AR, pp. RB-AR24357 - 367).

⁴⁰⁵ U.S. EPA. *Municipal Separate Storm Sewer System (MS4) Compliance Inspection Culver City Inspection Report*. November 22, 2011. (2012 AR, p. RB-AR24372).

⁴⁰⁶ 2012 Permit, Part III.A.6, p. 33 (2015 AR, p. SB-AR-013326; 2001 Permit, Part 1.A.2, p. 24).

⁴⁰⁷ Test Claim 13-TC-01 p. 16 and 13-TC-02 p. 17.

⁴⁰⁸ 55 Fed. Reg. 47990, 48037 (Nov. 16, 1990) (2012 AR, p. RB-AR23764).

The Provisions are Necessary to Implement Federal Law

U.S. EPA's preamble to its 1990 Phase I MS4 regulations explain that the "effective prohibition" means that non-stormwater discharges to MS4s require separate NPDES permits, and that such permits must meet applicable requirements of CWA sections 402 and 301.⁴⁰⁹ In response to public comments suggesting that certain types of non-stormwater discharges should not be prohibited in such a manner because they did not pose significant environmental problems, U.S. EPA stated that "[it] disagrees that the above described flows will not pose, in every case, significant environmental problems." U.S. EPA goes on to state that "[it] is clarifying that section 402(p)(3)(B) of the CWA (which requires permits for municipal separate storm sewers to 'effectively' prohibit non-storm water discharges) does not require permits for municipalities to prohibit certain discharges or flows of non-storm water to waters of the United States through municipal separate storm sewers in all cases."⁴¹⁰ U.S. EPA clarified that the permitting authority (i.e., Los Angeles Water Board) "may include permit conditions that either require municipalities to prohibit or otherwise control any of these types of discharges where appropriate."⁴¹¹

Additionally, federal regulations require that MS4 permittees have a program "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."⁴¹² As discussed above, while federal regulations have no definition for "non-storm water discharges," illicit discharges most closely represent the statutory term and are defined as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit . . . and discharges resulting from firefighting activities."⁴¹³ The program must include among other elements a program to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the MS4. The program is to address all types of illicit discharges, however the federal regulations specifically identify the following categories of non-storm water discharges to be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water."⁴¹⁴ Accordingly, federal regulations require that non-stormwater discharges be controlled if they are a significant source of pollutants and the permitting authority is expected to include permit conditions to prohibit or control specified categories of non-stormwater discharges if they are determined to be a source of pollutants to waters of the United States.

⁴⁰⁹ *Id.*, at p. 48036-48037 (2012 AR, p. RB-AR23763 - 64).

⁴¹⁰ *Id.*, at p. 48037 (2012 AR, p. RB-AR23764).

⁴¹¹ *Id.*, at p. 48037 (2012 AR, p. RB-AR23764).

⁴¹² 40 C.F.R. § 122.26(d)(2)(iv)(B).

⁴¹³ *Id.*, § 122.26(b)(2). The preamble to the regulations states: "Today's rule defines the term 'illicit discharge' to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit." (55 Fed. Reg. 47990, 47995 (Nov. 16, 1990) (2012 AR, p. RB-AR23722).)

⁴¹⁴ 40 C.F.R. § 122.26(d)(2)(iv)(B)(1).

As required by federal law, the 2012 Permit specifies requirements to effectively prohibit non-stormwater discharges, but includes allowances for some categories of non-stormwater discharges that would otherwise be prohibited if certain conditions are met such that the non-stormwater discharge is not a significant source of pollutants to waters of the United States. These particular discharges are termed “conditionally exempt non-stormwater discharges.”

Part III.A.2 of the 2012 Permit allows specified categories of non-stormwater discharges under the condition that appropriate BMPs are implemented to ensure that they are not a source of pollutants.⁴¹⁵ Part III.A.4.a-b of the 2012 Permit requires Permittees to develop and implement procedures to ensure that dischargers that are not Permittees address non-stormwater discharges and “effectively” prohibit non-stormwater discharges as required by the CWA.⁴¹⁶ The requirement to “develop and implement procedures” to address non-stormwater discharges directly stems from the requirement in federal regulations that MS4 permittees have a program to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the MS4.⁴¹⁷

The need for conditions on exempt non-stormwater discharges is supported by an evaluation of Los Angeles County mass emission stations dry weather data from 2005 to 2011 conducted by PG Environmental on behalf of the Los Angeles Water Board, which found that non-stormwater discharges are a source of pollutants and recommended the use of dry weather controls for non-stormwater prohibitions/exemptions.⁴¹⁸ Additionally, during the 2001 Permit term, the Awwa Research Foundation and U.S. EPA sponsored a study on non-treatment discharges from drinking water utilities where they found that these drinking water supplier distribution system discharges could be a source of pollutants and recommended certain BMPs for drinking water supplier distribution systems based on their findings.⁴¹⁹ The report states, “[t]he levels of these constituents can pose concerns with surface [water quality standards] compliance ... [i]f these concerns are mitigated, either by BMPs or simple chemical treatment prior to discharge, the environmental impacts to receiving stream quality, TMDL mass loadings, and aquatic life can be minimized.”⁴²⁰ The Los Angeles Water Board noted the pollutants of concern from drinking water supplier distribution system releases, including trash and debris, including organic matter, total suspended solids (TSS), residual chlorine, and pH.⁴²¹ As required by federal regulations and the 2001 Permit, the Board incorporated BMPs for non-stormwater discharges identified by Permittees and Permittee member associations in consideration of the numerous TMDLs established to address water quality impairments during dry weather and the incorporation of water quality-based effluent limitations for non-stormwater discharges consistent with these TMDLs.⁴²²

⁴¹⁵ 2012 Permit, Part III.A.2, pp. 28-30 (2015 AR, pp. SB-AR-013321 - 323).

⁴¹⁶ *Id.*, Part III.A.4.a-b, pp. 30-31 (2015 AR, pp. SB-AR-013323 - 324); CWA § 402(p)(3)(B)(ii).

⁴¹⁷ 40 C.F.R. §§ 122.26, subds. (d)(2)(i)(B)-(C), (d)(2)(iv)(B)(1).

⁴¹⁸ PG Environmental. *Preliminary Evaluation of Los Angeles County MS4 Dry Weather Monitoring Data*. November 30, 2011. (2012 AR, pp. RB-AR24510 - 12).

⁴¹⁹ Awwa Research Foundation and U.S. EPA. *Environmental Impacts of Non-Treatment Discharges from Drinking Water Utilities*. 2007. (2012 AR, pp. RB-AR24023 - 288).

⁴²⁰ *Environmental Impacts of Non-Treatment Discharges From Drinking Water Utilities*. 2007. Sponsored by Awwa Research Foundation and U.S. EPA. (2012 AR, p. RB-AR24043).

⁴²¹ 2012 Permit, Part III.A.2.a.ii, p. 29, fn. 8 (2015 AR, p. SB-AR-013322).

⁴²² 2001 Permit, Part 1.A.2.

The City of Torrance contacted the Los Angeles Water Board prior to the issuance of the 2012 Permit and provided a photograph of a non-stormwater discharge of opaque burgundy-colored water from flushing of a fire sprinkler system. The City of Torrance recognized this non-stormwater discharge as a source of pollutants and recognized the need to allow this discharge only with appropriate actions to abate the pollutants.⁴²³

In addition, U.S. EPA's MS4 Permit Improvement Guide includes the following example of MS4 permit language addressing the Permittee's authority to require compliance by Dischargers: "Authority to Require Compliance – Require compliance with conditions in the permittee's ordinances, permits, contracts, or orders (i.e., hold dischargers accountable for their contributions of pollutants and flows)."⁴²⁴

Part III.A.4.a-b of the 2012 Permit is therefore consistent with federal regulations by requiring Permittees to develop and implement procedures to ensure that a discharger, if not a Permittee, controls non-stormwater discharges such that they are not a significant source of pollutants to waters of the United States.

The alternative to Part III.A.2 and Part III.A.4.a-b of the 2012 Permit, which is more stringent than permit requirements and is a conservative interpretation of CWA 402(p)(3)(B)(ii), is to require Permittees to effectively prohibit all non-stormwater discharges. However, with this alternative, Permittees may incur more costs to implement a prohibition of all non-stormwater discharges than to implement or ensure implementation of specified BMPs to address non-stormwater discharges that are conditionally exempt from the discharge prohibition.

Prior to the issuance of the 2012 Permit, the Los Angeles Water Board explored this alternative at a permit reissuance workshop where the Board proposed to remove specific exempt categories of non-stormwater discharges such as landscape irrigation.⁴²⁵ After the Board workshop, Larry Walker Associates, in a memorandum to the City of Los Angeles, stated that "[i]mplementing a strict prohibition on landscape irrigation would require a considerable amount of public agency funding to enforce the prohibition...For a city the size of Los Angeles, the resources and staff hours to inspect and eliminate such discharges would be fiscally irresponsible."⁴²⁶ In lieu of a prohibition, that memorandum proposed conditional exemptions for non-stormwater discharges to be included in the 2012 Permit as required in the Ventura County MS4 Permit (Order No. R4-2010-0108) including coordinating with the local water purveyor(s) to promote landscape water use efficiency and using an outreach and education program that focuses on water conservation and landscape water use efficiency per the Public Information and Participation program.⁴²⁷ Consistent with these findings, the Board included landscape irrigation as a conditionally exempt

⁴²³ City of Torrance. *FW: Hazardous Spill?* July 12, 2012. (2012 AR, p. RB-AR24552).

⁴²⁴ U.S. EPA. *MS4 Improvement Guide* (2010), p. 11 (2012 AR, p. RB-AR53465).

⁴²⁵ Los Angeles Water Board. *LA County MS4 Permit Reissuance December 15, 2011 Workshop – Part II: Regulation of Non-Storm Water Discharges*. (2012 AR, pp. RB-AR953 - 966).

⁴²⁶ Larry Walker Associates. *Proposed Conditions to Allow for the Continued Exemption of Landscape Irrigation Discharges*. January 30, 2012. (2012 AR, pp. RB-AR24504 - 505).

⁴²⁷ *Ibid.*; 2010 Ventura County MS4 Permit, pp. 33-35 (2010 AR, pp. F0001388 - 1390). "2010 AR" refers to the administrative record for the Los Angeles Water Board's issuance of the 2010 Ventura County MS4 Permit, Order No. R4-2010-0108.

non-stormwater discharge in the 2012 Permit and included conditions in line with those suggested by the City of Los Angeles.

Other Mandates Exceptions Apply

Notably, many of the conditions and BMPs for exempt non-stormwater discharges that are included in the 2012 Permit were identified or proposed by Los Angeles County MS4 Permittees.

For example, Claimants and other permittees identified the BMPs that should be implemented for non-stormwater discharges from essential non-emergency firefighting activities and drinking water supplier distribution systems. Various Permittees, including the City of Beverly Hills, along with the cities of El Segundo and Torrance, developed the recommended BMP manual by CAL FIRE in Part III.A.2.a.i of the 2012 Permit.⁴²⁸ Note that Part III.A.2.a.i of the 2012 Permit specifies use of BMPs from CAL FIRE's BMP Manual, but provides Permittees the option to implement appropriate BMPs per an "equivalent BMP manual for fire training activities and post-emergency fire fighting activities."⁴²⁹ Therefore, this requirement gives Permittees flexibility to design their own program by choosing their BMP manual to address non-stormwater discharges from essential non-emergency fire-fighting activities.

Additionally, various agencies including the City of Pomona and the City of Downey developed the American Water Works Association's (California-Nevada Section) suggested BMP manual addressing discharges from drinking water supplier distribution systems identified in Part III.A.2.a.ii of the 2012 Permit.⁴³⁰ Note that Part III.A.2.ii of the 2012 Permit specifies the use of this BMP manual, but gives Permittees the option to implement appropriate BMPs per an "equivalent industry standard BMP manual."⁴³¹ Therefore, this requirement gives Permittees flexibility to design their own program by choosing their BMP manual to address non-stormwater discharges from drinking water supplier distribution systems not otherwise regulated by an NPDES permit. For example, the Los Angeles Water Board considered and included in the Administrative Record the City of Los Angeles' Pollution Prevention Plan for water system discharges⁴³² as well as the Golden State Water Company's Water Pollution Control Program for potable water distribution system releases for unincorporated areas of Los Angeles County.⁴³³

⁴²⁸ CAL FIRE. *Office of the State Fire Marshal's Water-Based Fire Protection Systems Discharge Best Management Practices Manual*. September 2011. (2012 AR, pp. RB-AR24289 - 337); 2012 Permit, Part III.A.2.a.i, p. 28 (2015 AR, p. SB-AR-013321).

⁴²⁹ 2012 Permit, Part III.A.2.a.i, p. 28 (2015 AR, p. SB-A-013321).

⁴³⁰ The City of Pomona is a permittee of the 2012 Permit; The City of Downey is a Claimant in Test Claim No. 13-TC-01; American Water Works Association's (California-Nevada Section). *Guidelines for the Development of Your Best Management Practices (BMP) Manual for Drinking Water System Releases*. 2005. (2012 AR, pp. RB-AR23969 to RB-AR24022); 2012 Permit, Part III.A.2.a.ii, p. 28 (2015 AR, pp. SB-AR-013322).

⁴³¹ 2012 Permit, Part III.A.2.a.ii, p. 28 (2012 AR, pp. SB-AR-013322).

⁴³² The City of Los Angeles is a Permittee of the 2012 Permit; City of Los Angeles Department of Water and Power: Waste Water Quality Compliance Group. *Pollution Prevention Plan for Water System Discharges*. 2008. (2012 AR, pp. RB-AR24382 to RB-AR24415).

⁴³³ Golden State Water Company. *Water Pollution Control Program – Potable Water Distribution System Releases for Unincorporated Areas of Los Angeles County*. June 2007. Notably, Golden State Water Company states that the manual was developed to comply with the requirements of the 2001 Permit. (2012 AR, pp. RB-AR24416 - 478, see in particular RB-AR24419 - 420). Los Angeles County is a Claimant in Test Claim No. 13-TC-02.

The City of Los Angeles also identified proposed conditions for landscape irrigation during the 2012 Permit development and the Los Angeles Water Board used the City's proposed conditions in large part such as working with local water purveyors to reduce landscape irrigation runoff.⁴³⁴

3. Permittee Requirements (Parts III.A.4.c and III.A.4.d)

Part III.A.4.c of the 2012 Permit requires Permittees to evaluate non-stormwater monitoring data resulting from the implementation of the Monitoring and Reporting Program (Attachment E of the 2012 Permit) and available non-stormwater monitoring data to determine if any of the exempt non-stormwater discharges are a source of pollutants or are causing or contributing to an exceedance of receiving water limitations and/or water quality-based effluent limitations.⁴³⁵ If monitoring data shows that any authorized non-stormwater discharges are a source of pollutants that causes or contributes to an exceedance of receiving water limitations and/or water quality-based effluent limitations, Part III.A.4.d of the 2012 Permit requires Permittees to address this discharge.⁴³⁶

Claimants allege that Part III.A.4.c of the 2012 Permit was previously an obligation of the Los Angeles Water Board per the 2001 Permit and that federal regulations do not require Permittees to "affirmatively evaluate" non-stormwater discharges to determine if they are a source of pollutants that may be causing or contributing to an exceedance of a receiving water limitation.⁴³⁷ However, the challenged requirements to evaluate authorized non-stormwater discharges derive directly from the 2001 Permit and federal regulations.

Again, as discussed in Section IV.B.3.ii, above, Part III.A.4 of the 2012 Permit, including all their subparts, are provisions that Permittees can customize in an approved WMP or EWMP.⁴³⁸ All Claimants elected to develop, and are now implementing, an approved WMP or EWMP. Therefore, regardless of the specificity, the choice to implement the specific requirements of Part III.A.4, rather than alternative activities consistent with federal regulations was the Claimants' and is, therefore, not a state mandate.

The Provisions are Not New Programs or Higher Levels of Service

Consistent with federal regulations, the 2001 Permit required non-stormwater discharges to be prohibited unless the discharge fell within one of the federally-enumerated categories and was not considered a significant source of pollutants.⁴³⁹ While the 2001 Permit did not call it an "evaluation," this requirement was at a minimum implicit throughout the permit. Under Part 3.G.2.d) of the 2001 Permit, Permittees were required to possess the legal authority to "[c]arry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the

⁴³⁴ Larry Walker Associates. Proposed Conditions to Allow for the Continued Exemption of Landscape Irrigation Discharges, January 30, 2012 (2012 AR, p. RB-AR24504 – 505).

⁴³⁵ 2012 Permit, Part III.A.4.c, pp. 31-32 (2015 AR, pp. SB-AR-013324 - 325).

⁴³⁶ *Id.*, Part III.A.4.d, p. 32 (2015 AR, p. SB-AR-013325).

⁴³⁷ Test Claims 13-TC-01, pp. 16-17 and 13-TC-02, pp. 17-18.

⁴³⁸ 2012 Permit, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-013341) and Part VI.C.5.b.iv.(1), p. 63 (2015 AR, p. SB-AR-013356).

⁴³⁹ 2001 Permit, Part 1.A. p. 23-24.

MS4.”⁴⁴⁰ Furthermore, Part 2, subpart 3.a and Part 6.A.3 of the 2001 Permit required that Permittees determine whether stormwater or non-stormwater discharges were causing or contributing to an exceedance of water quality standards and report such circumstances to the Los Angeles Water Board and “...report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.”⁴⁴¹ Part 3.D.6 (Designation and Responsibilities of the Principal Permittee) of the 2001 Permit required LACFCD, the Principal Permittee, to “[i]mplement the Countywide Monitoring Program required under this Order and *evaluate*, assess and synthesize the *results of the monitoring program*.”⁴⁴² Further, Part 3.G.2.a) of the 2001 Permit required that Permittees possess adequate legal authority to “[r]equire persons within their jurisdiction to comply with conditions in Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows).”⁴⁴³ Thus, some level of analysis and field screening would be involved for Permittees to make these determinations. The challenged provisions merely make explicit what was already required in the prior permit.

The requirements of Parts III.A.4.c-d of the 2012 Permit are substantively the same as those in the 2001 Permit by requiring Permittees to monitor and evaluate non-stormwater discharges to ensure that they are not a source of pollutants and address them if they are. As such, the provisions do not constitute a new program or higher level of service.

The Provisions are Necessary to Implement Federal Law

A central part of the federal regulatory scheme for MS4s is the requirement that MS4 permittees develop and implement a program to prevent illicit discharges.⁴⁴⁴ As discussed above, while federal regulations have no definition for “non-stormwater discharges,” illicit discharges most closely represent the statutory term and are defined as “any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit . . . and discharges resulting from firefighting activities.”⁴⁴⁵ Federal regulations specify what an illicit discharge prevention program must contain.⁴⁴⁶ Fundamentally, the illicit discharge prevention program must include provisions to “detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”⁴⁴⁷ Furthermore, federal regulations require the illicit discharge prevention program to include “procedures to conduct field screening activities during the life of the permit” and “procedures to be followed to investigate portions of the separate storm

⁴⁴⁰ *Id.*, Part 3.G.2.d), p. 30.

⁴⁴¹ *Id.*, Part 2, subpart 3.a), p. 24, Part 6.A.3, p. 72.

⁴⁴² LACFCD is a Claimant in Test Claim No. 13-TC-02; 2001 Permit, Part 3.D.6, pp. 26-27 (emphasis added).

⁴⁴³ 2001 Permit, Part 3.G.2.a), p. 30.

⁴⁴⁴ 40 C.F.R. § 122.26(d)(2)(iv)(B).

⁴⁴⁵ 40 C.F.R. § 122.26(b)(2). The preamble to the regulations states: “Today’s rule defines the term ‘illicit discharge’ to describe any discharge through a municipal separate storm sewer system that is not composed entirely of storm water and that is not covered by an NPDES permit.” (55 Fed. Reg. 47990, 47995 (Nov. 16, 1990) (2012 AR, p. RB-AR23722).)

⁴⁴⁶ 40 C.F.R. § 122.26(d)(2)(iv)(B).

⁴⁴⁷ *Id.*, subd. (d)(2)(iv)(B)(1).

sewer system that ... indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.”⁴⁴⁸

MS4 permittees must possess legal authority to “[c]arry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.”⁴⁴⁹ Federal regulations also require that all NPDES permittees furnish to the permitting authority any information it may request to determine compliance with the permit, and report all instances of noncompliance.⁴⁵⁰ Regarding the requirement of Part III.A.4.d, federal regulations require MS4 permittees to possess the legal authority to prohibit through ordinance, order or similar means, illicit discharges to the MS4 and control through ordinance, order or similar means the discharge to a MS4 of materials other than stormwater.⁴⁵¹

Certain categories of non-stormwater discharges are allowable as long as these discharges are not “identified by the municipality as sources of pollutants to waters of the United States.”⁴⁵² Therefore, federal regulations require Permittees to affirmatively evaluate available monitoring data for non-stormwater discharges for “compliance and noncompliance with permit conditions,” and if determined to be a source of pollutants, address the discharge through “a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system.”⁴⁵³

Thus, the federal regulations clearly require the Permittees to affirmatively screen, or evaluate, the levels of pollutants in non-stormwater discharges. Part III.A.4.c-d implements this federal directive by requiring the Permittees to affirmatively evaluate whether any of the authorized discharges are a significant source of pollutants and, if one is, to prevent the discharge or otherwise mitigate the impacts.

For all these reasons, and for the additional reasons discussed in Section IV above, the Commission should find that Parts III.A.1, III.A.2, and III.A.4.a-d of the 2012 Permit are not state mandates subject to subvention.

C. Public Information and Participation Program (PIPP)

Parts VI.D.5.a, VI.D.5.b, VI.D.5.c, and VI.D.5.d of the 2012 Permit require Claimants to implement a Public Information and Participation Program (PIPP); provide a means for public participation and public reporting of illicit discharges/dumping and other water quality impacts from MS4 discharges; and implement a residential outreach program through the distribution of educational materials on the proper handling of various waste material via the Permittee’s website or links to other websites, and to various points-of-purchase and school children.⁴⁵⁴ Claimants allege these requirements constitute new programs or higher levels of service because the 2001 Permit

⁴⁴⁸ *Id.*, subd. (d)(2)(iv)(B).

⁴⁴⁹ *Id.*, subd. (d)(2)(i)(F).

⁴⁵⁰ *Id.*, § 122.41, subds, (h), (l)(7).

⁴⁵¹ *Id.*, § 122.26(d)(2)(i)(B)-(C).

⁴⁵² *Id.*, subd. (d)(2)(iv)(B)(1) (emphasis added).

⁴⁵³ *Id.*, subds. (d)(2)(i)(F), (d)(2)(iv)(B)(1).

⁴⁵⁴ 2012 Permit, Part VI.D.5, pp. 89-91 (2015 AR, pp. SB-AR-013382 - 384).

“contained no requirements for permittees other than the District, the Principal Permittee under that permit, to undertake these PIPP obligations” and also that the requirements are not mandated by federal law.⁴⁵⁵

First, as a threshold matter, the PIPP requirements in the 2012 Permit do not constitute new programs on the part of Permittees other than the LACFCD. Claimants mischaracterize the 2001 Permit by alleging it had no requirements for Permittees other than the LACFCD, as the former Principal Permittee, to implement a PIPP. They use this mischaracterization to argue that the 2012 Permit requirement to implement a PIPP is a new program for all Permittees except the LACFCD. It is disingenuous of the history of the Los Angeles County MS4 Permit, including the collective decision of the Permittees to designate the LACFCD as the Principal Permittee in their 2001 Permit reapplication package and the Los Angeles Water Board’s subsequent naming of the LACFCD as the Principal Permittee, to now suggest that the PIPP requirements constitute a new program for the rest of the co-Permittees.⁴⁵⁶ When co-Permittees designate one Permittee to act on others’ behalf, it does not alleviate the responsibility of each Permittee to ensure that all requirements are implemented for the Permittee’s discharges.

The 2001 Permit states, in part, “[e]ach Permittee shall, at a minimum, implement the SQMP [Storm Water Quality Management Program]” and that “[t]he SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2).”⁴⁵⁷ The PIPP is part of the SQMP. Part 3.E of the 2001 Permit states, “[e]ach Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries” including “comply[ing] with the requirements of the SQMP and any modifications thereto.” Nothing in Part 3.D of the 2001 Permit, which lists the responsibilities of the LACFCD as Principal Permittee, places all responsibility for implementing the PIPP on the LACFCD.⁴⁵⁸ Therefore, while Part 4.B of the 2001 Permit indicates that the Principal Permittee will implement a PIPP, it is clear from Parts 3.D and 3.E that this was a responsibility of all Permittees and not solely the Principal Permittee.

In 2006, the Permittees submitted reports of waste discharge (ROWDs), which serve as reapplication for a federal NPDES permit, to the Los Angeles Water Board.⁴⁵⁹ In November 2010, the LACFCD withdrew from its 2006 ROWD and submitted a new ROWD notifying the Los Angeles Water Board that it would no longer act as the Principal Permittee under the fourth-term Los Angeles County MS4 permit.⁴⁶⁰ As such, any responsibilities previously assumed by the Principal Permittee by mutual agreement of the co-Permittees must be implemented by the other Permittees as required by 40 C.F.R. section 122.26(d)(2).⁴⁶¹ To the extent needed, each

⁴⁵⁵ Test Claim 13-TC-01, pp. 18-19 and 13-TC-02, pp. 25-26.

⁴⁵⁶ County of Los Angeles Department of Public Works, Report of Waste Discharge for Municipal Stormwater and Urban Runoff Discharges in the County of Los Angeles (Order No. 96-054, NPDES No. CAS614001), January 31, 2001 (2001 AR, pp. R000001, R0000019).

⁴⁵⁷ 2001 Permit, Part 3.A., p. 26.

⁴⁵⁸ *Id.*, Part 3.D., pp. 26-27.

⁴⁵⁹ See generally 2012 AR, pp. RB-AR1 to 238.

⁴⁶⁰ Los Angeles County Flood Control District (LACFCD), Report of Waste Discharge for the Los Angeles County Flood Control District Municipal Separate Storm Sewer System, November 24, 2010, p. 3 (2012 AR, p. RB-AR239, at 247).

⁴⁶¹ 2012 Permit, Attachment F, Part VI.E.3, p. F-115 (2015 AR, p. SB-AR-013687).

Permittee is required to modify its stormwater management programs, protocols, practices, and municipal codes to be consistent with the requirements of the 2012 Permit.⁴⁶²

Therefore, Parts VI.D.5.a, VI.D.5.b, VI.D.5.c, and VI.D.5.d are not new programs or higher levels of service on *any* of the Claimants just because the co-Permittees designated a Principal Permittee to implement these activities on their behalf in the past, and the Los Angeles Water Board agreed to reflect the Permittees' collective choice in the 2001 Permit.

Second, the Los Angeles Water Board made specific findings concerning the PIPP requirements in the Fact Sheet to the 2012 Permit explaining why the requirements were necessary to implement federal law.⁴⁶³ This includes, but is not limited to, the Los Angeles Water Board's determination that implementation of a PIPP is a critical BMP and a necessary component of a stormwater management program and that to satisfy the public education and outreach minimum control measure, it is necessary for the Permittees to implement a PIPP that met the objectives discussed below.⁴⁶⁴ These findings are entitled to deference.

Third, as discussed in Section IV.B.3.ii, above, Permittees have broad discretion to propose alternative PIPP elements and activities through a WMP or EWMP to replace the specific requirements of Parts VI.D.5.a, VI.D.5.b, VI.D.5.c, and VI.D.5.d contained in the 2012 Permit.⁴⁶⁵ All Claimants elected to develop, and are now implementing, an approved WMP or EWMP. Therefore, the choice to implement the specific requirements of Parts VI.D.5.a, VI.D.5.b, VI.D.5.c, and VI.D.5.d rather than alternative activities consistent with federal regulations was the Claimants' and is, therefore, not a state mandate.

Fourth, as explained below, the PIPP requirements are not new and the 2012 Permit simply requires the Permittees to generally continue what was already required and taking place under the 2001 Permit. In most cases, Permittees have established programs with existing materials developed to educate the public. Since the majority of costs were incurred prior to issuance of the 2012 Permit, the Water Boards believe that any additional costs to meet the minimum requirement of the provision are *de minimus*.

Each provision is also addressed separately in more detail below.

1. General and PIPP Implementation (Parts VI.D.5.a and VI.D.5.b)

Parts VI.D.5.a and VI.D.5.b of the 2012 Permit require each Permittee to implement a PIPP and sets forth the objectives for a PIPP and options to implement the program.⁴⁶⁶ Permittees may participate in a County-wide program, participate in one or more Watershed Group sponsored programs, or conduct a program individually within its jurisdiction.⁴⁶⁷ The objectives of the PIPP identified in the 2012 Permit are the same as those in the 2001 Permit:

⁴⁶² *Id.*, Part VI.D.3.a, p. 72 (2015 AR, p. SB-AR-013365).

⁴⁶³ *Id.*, Attachment F (Fact Sheet), pp. F-59 to F-61 (2015 AR, pp. SB-AR-013631 - 633).

⁴⁶⁴ *Id.*, Attachment F (Fact Sheet), p. F-60 (2015 AR, p. SB-AR-013632).

⁴⁶⁵ *Id.*, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-013341) and Part VI.C.5.b.iv.(1), p. 63 (2015 AR, p. SB-AR-013356).

⁴⁶⁶ *Id.*, Part VI.D.5.a, pp. 89-90 (2015 AR, pp. SB-AR-013382 – 013383).

⁴⁶⁷ *Id.*, Part VI.D.5.b.i, p. 90 (2015 AR, p. SB-AR-013383).

- (1) To measurably increase the knowledge of the target audiences about the MS4, the adverse impacts of storm water pollution on receiving waters and potential solutions to mitigate the impacts.
- (2) To measurably change the waste disposal and storm water pollution generation behavior of target audiences by developing and encouraging the implementation of appropriate alternatives.
- (3) To involve and engage a diversity of socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution.⁴⁶⁸

The Provisions are Not New Programs or Higher Levels of Service

Parts VI.D.5.a and VI.D.5.b of the 2012 Permit are not a new program and do not require a higher level of service. The requirement for Permittees to implement a PIPP was carried over from the 2001 Permit.⁴⁶⁹ Since a Principal Permittee designation was not carried over from the 2001 Permit, Part VI.D.5.b of the 2012 Permit gives each Permittee the choice to individually or jointly implement a PIPP, including participating in a County-wide PIPP as under the 2001 Permit.⁴⁷⁰ As noted earlier, all Claimants are participants in a group WMP or EWMP and therefore are participating in a County-wide or Watershed Group PIPP.

Part VI.D.5.b.ii of the 2012 Permit requires a Permittee participating in a County-wide or Watershed Group PIPP “to provide the contact information for their appropriate staff responsible for storm water public education activities to the designated PIPP coordinator and contact information changes no later than 30 days after a change occurs.”⁴⁷¹ This requirement is the same as Part 4.B.1.c(8) of the 2001 Permit, which required Permittees to “provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee no later than April 1, 2002, and changes to contact information no later than 30 days after a change occurs.”⁴⁷² There is no meaningful difference between providing such information to a Principal Permittee as compared to a PIPP coordinator.⁴⁷³

The Provisions are Not Unique to Local Government

The requirement to develop and implement a PIPP is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities in order to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required to implement a Statewide Public Education Program that includes the follow elements: a plan for conducting research on public behavior, a public education strategy, education of the general public, mass media advertising that focuses on behaviors of concern, and a process for

⁴⁶⁸ Compare PIPP objectives of the 2001 Permit, Part 4.B, p. 31 to the 2012 Permit, Part VI.D.5.a, pp.89-90 (2015 AR, pp. SB-AR-013382 - 383).

⁴⁶⁹ 2001 Permit, Part 4.B.

⁴⁷⁰ 2012 Permit, Part VI.D.5.b.i, p. 90 (2015 AR, p. SB-AR-013383).

⁴⁷¹ *Id.*, Part VI.D.5.b.ii, p. 90 (2015 AR, p. SB-AR-013383).

⁴⁷² 2001 Permit, Part 4.B.1.c(8), p. 33.

⁴⁷³ 2012 Permit, Attachment F (Fact Sheet), Table F-5, p. F-53 (2015 AR, p. SB-AR-013625).

revising and updating the public education campaign based on research results.⁴⁷⁴ Additionally, Caltrans is required to identify measurable objectives for the Public Education Program and report on its progress in meeting the measurable objectives.⁴⁷⁵ The above demonstrates that Claimants are not being treated differently than non-local government entities.

The Provisions are Necessary to Implement Federal Law

Parts VI.D.5.a and VI.D.5.b are necessary to implement federal regulations applicable to MS4 discharges, which require that MS4 permittees have a comprehensive management program that includes public participation, educational activities, and public information activities, among other elements.⁴⁷⁶ Pursuant to these federal regulations, Part VI.D.5.b requires Permittees to develop and implement PIPP requirements.

The U.S. EPA Phase II Fact Sheet 2.3 finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."⁴⁷⁷

The U.S. EPA MS4 Permit Improvement Guide recommends that the following provision is included in all MS4 permits: "Continue to implement, revise if necessary within [specify the time when the development of the program must be completed, e.g., within the first year after permit issuance], a comprehensive stormwater education/outreach program."⁴⁷⁸ Furthermore, many U.S. EPA issued Phase I permits such as the District of Columbia MS4 Permit,⁴⁷⁹ Boise/Garden City Area MS4 Permit,⁴⁸⁰ and the Middle Rio Grande MS4 Permit⁴⁸¹ include the requirement for Permittees to implement a PIPP.

The Fact Sheet for the 2012 Permit Fact states that "[t]he intent of these changes is to provide an increase in public knowledge of storm water pollution prevention practices in an effective cost

⁴⁷⁴ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.I, p. 50.

⁴⁷⁵ *Id.*, Part E.2.n, p. 51.

⁴⁷⁶ 40 C.F.R. § 122.26(d)(2)(iv).

⁴⁷⁷ U.S. EPA. Storm Water Phase II Final Rule - Public Education and Outreach Minimum Control Measure, Fact Sheet 2.3, January 2000. (2012 AR, p. RB-AR35133); 2012 Permit, Attachment F (Fact Sheet), p. F-60 (2015 AR, p. SB-AR-013632).

⁴⁷⁸ U.S. EPA. *MS4 Permit Improvement Guide* (2010), p. 18 (2012 AR, p. RB-AR53472).

⁴⁷⁹ U.S. EPA, Permit for District of Columbia Municipal Separate Storm Sewer System, Modified Permit No. DC0000221 (Oct. 7, 2011, mod. Nov. 9, 2012), Part 4.9, pp. 26 - 28 (2015 AR, pp. SB-AR-014177 - 179).

⁴⁸⁰ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.6, p. 30.

⁴⁸¹ U.S. EPA, NPDES Permit No. NMR04A000, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to the Middle Rio Grande Watershed (Dec. 22, 2014), Parts I.D.5.g and h, pp. 44 and 47, respectively.

efficient manner, while still providing flexibility for the Permittees to implement the requirements on a watershed group basis.”⁴⁸²

The objectives in Part VI.D.5.a to measurably increase the knowledge and change the behavior of target audiences address federal requirements and U.S. EPA guidance on how to meet those requirements. With regards to assessing the effectiveness of a Permittee’s stormwater management program, such an assessment is specifically required of MS4 permittees by federal regulations at 40 C.F.R. sections 122.26(d)(2)(v) and 122.42(c)(3). Section 122.26(d)(2)(v) requires an assessment of controls [BMPs] proposed to be implemented as a result of the Permittees’ stormwater quality management programs,⁴⁸³ while section 122.42(c)(3) requires that Permittees revise their stormwater quality management program as necessary in each annual report based on actual program implementation outcomes (e.g., changes in public behavior).⁴⁸⁴

U.S. EPA’s Storm Water Menu of BMPs for the Minimum Control Measure: Public Education and Outreach on Stormwater Impacts states, “All successful programs incorporate methods of evaluation, to help them see what works and what does not. ... Evaluation will also help justify future funding or if the scope of the activity or product must be expanded or scaled down.”⁴⁸⁵ In Chapter 2 of the MS4 Permit Improvement Guide, U.S. EPA states:

[f]inally, the underlying principle of any public education and outreach effort is to change behaviors. The permittee must develop a process to assess how well its public education and outreach programs is changing public awareness and behaviors and to determine what changes are necessary to make its public education program more effective. This assessment of public education programs is typically conducted via phone surveys, but other assessment methods that quantify results can be used. The permittee is encouraged to use a variety of assessment methods to evaluate the effectiveness of different public education activities.⁴⁸⁶

Based on this, U.S. EPA’s MS4 Improvement Guide recommends the following provision be included in MS4 permits: “Within [insert deadline, e.g., within the permit term], the permittee must assess changes in public awareness and behavior resulting from the implementation of the program such as using a statistically valid survey and modify the education/outreach program accordingly.”⁴⁸⁷

Additionally, U.S. EPA-issued MS4 permits include similar provisions. The MS4 permit for the District of Columbia states, “[t]he permittee shall assess current education and outreach efforts

⁴⁸² 2012 Permit, Attachment F (Fact Sheet), Part VI.C.4.c, p. F-61 (2015 AR, p. SB-AR-013633).

⁴⁸³ 40 C.F.R. sections 122.26(d)(2)(v), 122.42(c)(3). Recall that public participation, educational activities, and public information activities are part of a Permittee’s required stormwater quality management program, and they are a type of BMP to control the discharge of pollutants by changing the behavior of residents.

⁴⁸⁴ Note, also, that 40 C.F.R. § 122.34(d)(1) dictates that permits “must require the permittee to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the components of its storm water management program, and the status of achieving the measurable requirements in the permit.”

⁴⁸⁵ U.S. EPA. *Developing an Outreach Strategy, Minimum Measure: Public Education and Outreach on Stormwater Impacts: Developing Municipal Outreach Programs*, p. 3.

⁴⁸⁶ U.S. EPA. *MS4 Permit Improvement Guide* (2010), p. 20 (2012 AR, p. RB-AR53474).

⁴⁸⁷ *Id.*, at p. 19 (2012 AR, p. RB-AR53473).

and identify areas where additional outreach and education are needed.” The permit provision lists several audiences and subject areas to be considered including the general public and homeowners, and pet waste, vehicle maintenance, landscaping and household hazardous waste⁴⁸⁸ Part 4.9.2 states “The permittee shall continue to measure the understanding and adoption of selected targeted behaviors among the targeted audiences. The resulting measurements shall be used to direct education and outreach resources most effectively, as well as to evaluate changes in the adoption of the targeted behaviors.”⁴⁸⁹ Additionally, a similar provision is in the U.S. EPA-issued MS4 permit for the Boise/Garden City Area, which states, “[t]he Permittees must assess, or participate in an effort to assess understanding and adoption of behaviors by the target audiences. The resulting assessments must be used to direct storm water education and outreach resources most effectively.”⁴⁹⁰ Finally, Part 2.3.2 of the U.S. EPA-issued MS4 general permit for Massachusetts requires that permittees “identify methods that it will use to evaluate the effectiveness of the educational messages” and that “any methods ... shall be tied to ... the overall objective of changes in behavior and knowledge.”⁴⁹¹

As indicated above, Part VI.D.5.a of the 2012 Permit is necessary to implement federal requirements for assessing and reporting on program effectiveness.

Part VI.D.5.a.(3) of the 2012 Permit, which is the objective to involve and engage a diversity of socio-economic groups and ethnic communities to participate in mitigating the impacts of stormwater pollution, will be discussed in the response below for Part VI.D.5.d of the 2012 Permit.

2. Public Participation (Part VI.D.5.c)

Part VI.D.5.c.i requires each Permittee to provide a means for public reporting of clogged catch basin inlets and illicit discharges/dumping, faded or missing catch basin labels, and general stormwater and non-stormwater pollution prevention information, including a hotline and contact information. Permittees are required to provide information on the hotline and contacts in public information, including the government pages of the telephone book and on its website.⁴⁹²

Part VI.D.5.c.ii requires each Permittee to organize events targeted to residents and population subgroups to educate and involve the community in stormwater and non-storm water pollution prevention and clean-up, and gives some examples of events that a Permittee might implement.”⁴⁹³

⁴⁸⁸ U.S. EPA, Permit for District of Columbia Municipal Separate Storm Sewer System, Modified Permit No. DC0000221 (Oct. 7, 2011, mod. Nov. 9, 2012), Part 4.9.1.2, pp. 26 - 27 (2015 AR, pp. SB-AR-014177 - 178).

⁴⁸⁹ *Id.*, Part 4.9.1.2, p. 27 (2015 AR, pp. SB-AR-014178).

⁴⁹⁰ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.6.b(ii), pp. 31-32.

⁴⁹¹ U.S. EPA, General Permits For Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) In Massachusetts, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to MS4s located in the Commonwealth of Massachusetts, NPDES Permits No. MAR041000, MAR042000, and MAR043000 (Apr. 4, 2016), p. 29.

⁴⁹² 2012 Permit, Part VI.D.5.c.i, p. 90 (2015 AR, p. SB-AR-013383).

⁴⁹³ *Id.*, Part VI.D.5.c.ii, p. 90 (2015 AR, p. SB--AR-013383).

The Provision Is Not a New Program or Higher Level of Service

Part VI.D.5.c.i of the 2012 Permit is not a new program and does not require a higher level of service because each Permittee had to implement this requirement in the 2001 Permit. Part 4.B.1.b) of the 2001 Permit required a hotline to serve as the general public reporting contact for reporting clogged catch basins inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general stormwater management information. Each Permittee had the option of using 888-CLEAN-LA or, if preferred, establishing its own hotline. Furthermore, each Permittee was required to include the reporting information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed or published.⁴⁹⁴ These are substantially the same requirements as the 2012 Permit. Permittees still have the option of using 888-CLEAN-LA as the general public reporting contact. The only difference in the requirements is that, in the 2001 Permit, the Permittees were required to provide reporting contacts and updated information to the Principal Permittee and the Principal Permittee was required to compile a list of all the reporting contacts and make the list available on the 888CleanLA.com website, while under the 2012 Permit, each Permittee is only required to make the reporting contact and hotline information available on its own website.

Part VI.D.5.c.ii of the 2012 Permit is a refinement of Part 4.B.1.c)(4) of the 2001 Permit and, therefore, is not a new program or higher level of service. Part 4.B.1.c)(4) of the 2001 Permit required each Permittee to conduct educational activities within its jurisdiction and to participate in countywide events.⁴⁹⁵ Furthermore, Permittees were already organizing events to educate their communities since the 2001 Permit. The June 12, 2006 report of water discharge/reapplication package submitted by the LACFCD and Los Angeles County on behalf of all the Permittees gave examples of such events. The reapplication package stated that Claimant City of Manhattan Beach “estimated that over half of the City’s residents (20,000) participated in the Hometown Fair, Household Hazardous Waste Awareness Week, and Earth Day events. The City operated a booth at each event and gave out stormwater educational material to both adults and children,” while Claimant City of Rancho Palos Verdes “promoted stormwater pollution prevention at several City sponsored events throughout the year.”⁴⁹⁶

The Provision is Necessary to Implement Federal Law

Federal regulations require Permittees to propose in their permit application, a description of a program to “promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.”⁴⁹⁷ Additionally, federal regulations require Permittees to provide a “description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.”⁴⁹⁸

⁴⁹⁴ 2001 Permit, Part 4.B.1.c)(4), p. 33.

⁴⁹⁵ *Ibid.*

⁴⁹⁶ LACFCD and Los Angeles County. *Report of Waste Discharge: Renewal Application for the County of Los Angeles National Pollutant Discharge Elimination System Municipal Stormwater Permit Order 01-182 NPDES Permit CAS004001*. June 12, 2016. Appendix A, p. 46 (2012 AR, p. RB-AR050). The cities of Manhattan Beach and Rancho Palos Verdes are claimants in Test Claim 13-TC-01.

⁴⁹⁷ 40 C.F.R. § 122.26(d)(2)(iv)(B)(5).

⁴⁹⁸ *Id.*, subd. (d)(2)(iv)(B)(6).

Part VI.D.5.d.i of the 2012 Permit, which requires Permittees to establish a public reporting process for illicit discharges and clogged/mislabeled catch basins, implements federal requirements to establish public reporting for illicit discharges and proper management/disposal of used oil and toxic materials.

Part VI.D.5.d.ii of the 2012 Permit also implements federal regulations by requiring Permittees to implement public education/information activities.⁴⁹⁹ Although Claimants allege that federal regulations for public education apply only to commercial applicators and distributors of pesticides, herbicides, and fertilizers and not the *general public*,⁵⁰⁰ the 1990 Federal Register states that “[m]any of the management programs depend upon an ongoing high level of *public education*.”⁵⁰¹ Furthermore, federal regulations require annual reports submitted by Permittees to provide a summary of *public education* programs.⁵⁰² Therefore, the federal requirement for Permittees to provide a summary of *public education* programs in the annual report clarifies that public education requirements in 40 C.F.R § 122.26 apply to the *general public* as well as commercial distributors of pesticides, herbicides, and fertilizers.

With regards to Part VI.D.5.d.ii of the 2012 Permit, which requires Permittees to organize events targeted to residents and population subgroups for public education, the U.S. EPA MS4 Permit Improvement Guide states that the “public education and outreach program must be tailored and targeted to specific water quality issues of concern in the relevant community.”⁵⁰³ The U.S. EPA MS4 Permit Improvement Guide also recommends including the following provision among others in the permit: “Identify and analyze the target audience(s).”⁵⁰⁴

The U.S. EPA issued District of Columbia MS4 Permit and Boise/Garden City Area MS4 Permit both require Permittees to implement a public education program aimed at residents, businesses, industries, elected officials, policy makers, planning staff and other employees of the permittee to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.⁵⁰⁵ The U.S. EPA Middle Rio Grande MS4 Permit furthermore states:

[t]he permittee shall, individually or cooperatively, develop, revise, implement, and maintain a comprehensive stormwater program to educate the community, employees, businesses, and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that stormwater discharges on local waterways as well as the steps that the public can take to reduce pollutants in stormwater. The permittee must implement a public education program to distribute educational knowledge to the community or

⁴⁹⁹ *Id.*, subds. (d)(2)(iv), (d)(2)(iv)(A)(6), and (d)(2)(iv)(B)(6).

⁵⁰⁰ Test Claim 13-TC-02, pp. 25-26 and 13-TC-01, p. 18.

⁵⁰¹ 55 Fed. Reg. 47990, 48059 (Nov. 16, 1990) (2012 AR, p. RB-AR23786).

⁵⁰² 40 C.F.R. § 122.42(c)(6).

⁵⁰³ U.S. EPA, *MS4 Permit Improvement Guide* (2010), p. 20 (2012 AR, p. RB-AR53474).

⁵⁰⁴ *Id.*, at p. 18 (2012 AR, p. RB-AR53472).

⁵⁰⁵ U.S. EPA, Permit for District of Columbia Municipal Separate Storm Sewer System, Modified Permit No. DC0000221 (Oct. 7, 2011, mod. Nov. 9, 2012), Part 4.9, pp. 26 - 28 (2015 AR, pp. SB-AR-014177 - 179); U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.6, p. 30.

conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.⁵⁰⁶

3. Residential Outreach Program (Part VI.D.5.d)

Part VI.D.5.d of the 2012 Permit requires each Permittee in conjunction with a County-wide or Watershed Group sponsored PIPP or individually to implement activities, including: conducting public service announcements and advertising campaigns; providing public education materials on the proper handling of various waste materials and pesticides and fertilizers; distributing activity specific stormwater pollution prevention public education materials at various points of purchase; maintaining stormwater websites or providing links to stormwater websites via the Permittee's website; and providing schools within in each Permittee's jurisdiction with materials to educate school children (K-12) on stormwater pollution. The provisions also require that when implementing these activities Permittees use effective strategies to educate and involve ethnic communities in stormwater pollution prevention through culturally effective methods.⁵⁰⁷ Claimants are challenging six specific provisions within the Residential Outreach Program.

The Provision Is Not a New Program or Higher Level of Service

Part VI.D.5.d of the 2012 Permit is not a new program and does not require a higher level of service because all the requirements and/or substantially similar requirements were in the 2001 Permit.

The first requirement, Part VI.D.5.d.i.(1) of the 2012 Permit,⁵⁰⁸ carries over the requirement to conduct public service announcements and advertising campaigns from Part 4.B.1.c)(1) of the 2001 Permit.⁵⁰⁹ Permittees have already been involved in conducting public service announcements and advertising campaigns since the 2001 Permit. For example, the June 12, 2006 report of waste discharge/reapplication package submitted by the LACFCD and Los Angeles County on behalf of all the Permittees stated that the "Principal Permittee partnered with Cities in Malibu Creek Watershed to purchase '4 Our Planet' PSAs on KNBC television station targeting specific pollutants within the watershed."⁵¹⁰ There was also a "joint calendar project, coordinated across multiple watersheds, [which] allowed participating cities to distribute to residents a full color, one-page, poster-type calendar delivering the stormwater pollution prevention message through compelling photographic images."⁵¹¹

⁵⁰⁶ U.S. EPA, NPDES Permit No. NMR04A000, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to the Middle Rio Grande Watershed (Dec. 22, 2014), Parts I.D.5.g.(i)-(ii), p. 44.

⁵⁰⁷ 2012 Permit, Part VI.D.5.d, pp. 90-91 (2015 AR, pp. SB-AR-013383 - 384).

⁵⁰⁸ *Id.*, Part VI.D.4.d.i.(1), p. 91 (2015 AR, p. SB-AR-013384).

⁵⁰⁹ 2001 Permit, Part 4.B.1.c)(1), p. 32.

⁵¹⁰ LACFCD and Los Angeles County. *Report of Waste Discharge: Renewal Application for the County of Los Angeles National Pollutant Discharge Elimination System Municipal Stormwater Permit Order 01-182 NPDES Permit CAS004001*. June 12, 2016. Appendix A, p. 45 (2012 AR, p. RB-AR049). Claimants Agoura Hills and Westlake Village are located in the Malibu Creek Watershed.

⁵¹¹ *Id.*, at p. 46 (2012 AR, p. RB-AR050).

The second requirement, Part VI.D.5.d.i.(2) of the 2012 Permit,⁵¹² is a refinement of Part 4.B.1.d) of the 2001 Permit,⁵¹³ which required the Principal Permittee in coordination with co-Permittees to develop pollutant-specific outreach programs. Rather than specifying the targeted pollutants by watershed as done in the 2001 Permit, the 2012 Permit identifies the source of pollutants of concern, which includes vehicle waste fluids, household waste materials, construction waste materials, pesticides/fertilizers, green waste, and animal waste. Permittees have already been involved in developing and distributing education materials for proper handling of pollutant sources since the 2001 Permit. The Ballona Creek WMC Annual Assessment 2011-2012 report explains that Rancho Palos Verdes has a waste hauler newsletter mailer containing information about proper handling of vehicle waste fluids and household hazardous waste.⁵¹⁴ In another example, the June 12, 2006 report of waste discharge/reapplication package submitted by the LACFCD and Los Angeles County on behalf of all the Permittees states that the City of Alhambra distributed public education brochures and related promotional materials with an “emphasis on trash, pet waste, homeowner maintenance such as landscaping and painting, and fertilizer and pesticide use.”⁵¹⁵

Similarly, the third requirement, Part VI.D.4.d.i.(3) of the 2012 Permit,⁵¹⁶ is a refinement of Part 4.B.1.c)(1)(iv) of the 2001 Permit⁵¹⁷ which requires the distribution of “How To” instructional material in a targeted and activity-related manner. Since the 2001 Permit, Permittees have been developing educational materials that could be distributed to points of purchase because they are activity-specific. The June 12, 2006 report of waste discharge/reapplication package submitted by the LACFCD and Los Angeles County on behalf of all the Permittees gave the following example, the “Ballona WMC developed and distributed a joint mailer to promote stormwater pollution prevention throughout the watershed. A bifold pamphlet was developed providing a “To Do” list of activities that could cause pollution and suggested things that individuals can do to reduce or eliminate the adverse impacts of these activities.”⁵¹⁸

The fourth requirement, Part VI.D.5.d.i.(4) of the 2012 Permit,⁵¹⁹ is a refinement of Part 4.B.1.b) of the 2001 Permit,⁵²⁰ which requires general public reporting contacts from all Permittees to be made available on a website. Note that Part VI.D.5.d.i.(4) of the 2012 Permit gave Permittees the option to maintain existing stormwater websites or provide links to stormwater websites via the

⁵¹² 2012 Permit, Part VI.D.4.d.i.(2), p. 91 (2015 AR, p. SB-AR-013384).

⁵¹³ 2001 Permit, Part 4.B.1.d), p. 34.

⁵¹⁴ The Ballona Creek & Santa Monica Bay Watershed Management Committee, Annual Assessment 2010-2011 (Sept. 2012), p. 25. City of Rancho Palos Verdes is a Claimant in Test Claim 13-TC-01.

⁵¹⁵ LACFCD and Los Angeles County. *Report of Waste Discharge: Renewal Application for the County of Los Angeles National Pollutant Discharge Elimination System Municipal Stormwater Permit Order 01-182 NPDES Permit CAS004001*. June 12, 2016. Appendix A, p. 47 (2012 AR, p. RB-AR051).

⁵¹⁶ 2012 Permit, Part VI.D.4.d.i.(3), p. 91 (2015 AR, p. SB-AR-013384).

⁵¹⁷ 2001 Permit, Part 4.B.1.c)(1)(iv), p. 32.

⁵¹⁸ LACFCD and Los Angeles County. *Report of Waste Discharge: Renewal Application for the County of Los Angeles National Pollutant Discharge Elimination System Municipal Stormwater Permit Order 01-182 NPDES Permit CAS004001*. June 12, 2016. Appendix A, p. 46 (2012 AR, p. RB-AR050); Claimants Beverly Hills, Manhattan Beach, Rancho Palos Verdes, and Redondo Beach are part of the Ballona Creek Watershed Management Committee (Ballona Creek WMC).

⁵¹⁹ 2012 Permit, Part VI.D.4.d.i.(4), p. 91 (2015 AR, p. SB-AR-013384).

⁵²⁰ 2001 Permit, Part 4.B.1.b), p. 32.

Permittee's website. Therefore, all Claimants had the choice to continue to maintain the countywide website that was already established to implement Part 4.B.1.b) of the 2001 Permit. The June 12, 2006 report of waste discharge/reapplication package submitted by the LACFCD and Los Angeles County on behalf of all the Permittees states that the "City of Los Angeles' Stormwater Program website had over 95,000 more hits in 2004-05 than the previous year...indicate[s] that the messages on preventing storm water pollution...[is] reaching an expanded audience."⁵²¹

The fifth requirement, Part VI.D.5.d.i.(5) of the 2012 Permit,⁵²² carries over the requirement that the Principal Permittee in cooperation with co-Permittees provide schools with materials to educate school children on stormwater pollution from Part 4.B.1.c)(7) of the 2001 Permit.⁵²³ Part VI.D.5.d.i.(5) of the 2012 Permit gives Permittees the option to use existing materials produced by other statewide agencies and associations. Since the 2001 Permit, Permittees have already been distributing educational materials to school children. The June 12, 2006 report of waste discharge/reapplication package submitted by the LACFCD and Los Angeles County on behalf of all the Permittees states that the "Cities of Rolling Hills Estates and Rolling Hills distributed copies of USEPA/Weather Channel's video After the Storm and Algalita Marine Research Foundation's video Plastics in the Open Ocean to middle and high school environmental science teachers in public and private schools. All 6 periods of AP Environmental Science students at Palos Verdes Peninsula High School were shown these videos."⁵²⁴ Hence, Permittees have existing materials developed and/or used under the 2001 Permit as well as the option to use other available materials for distribution to school children.

The final requirement, Part VI.D.5.d.i.(6) of the 2012 Permit,⁵²⁵ carries over the requirement from Part 4.B.1.c)(2) of the 2001 Permit⁵²⁶ to develop a strategy to educate ethnic communities and businesses through culturally effective methods. Under the 2001 Permit, Permittees were already reaching out to different ethnic communities through culturally effective methods. The June 12, 2006 report of waste discharge/reapplication package submitted by the LACFCD and Los Angeles County on behalf of all the Permittees states that "West Hollywood received a Partners in Education grant from the Santa Monica Bay Restoration Commission to provide Russian/English pollution prevention posters/flyers, waterbrooms, and follow-up visits to area restaurants."⁵²⁷

As such, all six requirements in the 2012 Permit are simply continuing what was already required and taking place under the 2001 Permit.

⁵²¹ LACFCD and Los Angeles County. *Report of Waste Discharge: Renewal Application for the County of Los Angeles National Pollutant Discharge Elimination System Municipal Stormwater Permit Order 01-182 NPDES Permit CAS004001*. June 12, 2016. Appendix A, p. 46 (2012 AR, p. RB-AR050).

⁵²² 2012 Permit, Part VI.D.4.d.i.(5), p. 91 (2015 AR, p. SB-AR-013384).

⁵²³ 2001 Permit, Part 4.B.1.c)(7), p. 33.

⁵²⁴ LACFCD and Los Angeles County. *Report of Waste Discharge: Renewal Application for the County of Los Angeles National Pollutant Discharge Elimination System Municipal Stormwater Permit Order 01-182 NPDES Permit CAS004001*. June 12, 2016. Appendix A, p. 47 (2012 AR, p. RB-AR051).

⁵²⁵ 2012 Permit, Part VI.D.4.d.i.(6), p. 91 (2015 AR, p. SB-AR-013384).

⁵²⁶ 2001 Permit, Part 4.B.1.c)(2), p. 32.

⁵²⁷ LACFCD and Los Angeles County. *Report of Waste Discharge: Renewal Application for the County of Los Angeles National Pollutant Discharge Elimination System Municipal Stormwater Permit Order 01-182 NPDES Permit CAS004001*. June 12, 2016. Appendix A, p. 48 (2012 AR, p. RB-AR052).

The Provision Is Not Unique to Local Government

The requirement to develop and implement a PIPP is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities in order to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required to implement a Statewide Public Education Program that includes the follow elements: a plan for conducting research on public behavior, a public education strategy, education of the general public, mass media advertising that focuses on behaviors of concern, and a process for revising and updating the public education campaign based on research results.⁵²⁸ Additionally, Caltrans is required to identify measurable objectives for the Public Education Program and report on its progress in meeting the measurable objectives.⁵²⁹ The above demonstrates that Claimants are not being treated differently than non-local government entities.

The Provision is Necessary to Implement Federal Law

Residential outreach is necessary to meet federal standards applicable to MS4 discharges. As noted above, one of the required means of achieving these federal requirements is through a comprehensive stormwater management program.⁵³⁰ Federal regulations identify four broad sources of pollutants within a MS4 service area that must be addressed by MS4 dischargers: runoff from commercial and residential areas, stormwater runoff from industrial areas, runoff from construction sites, and non-stormwater discharges.⁵³¹ Residential outreach is critical to addressing the first and last of these sources, and is a required element of a Permittee's stormwater management program.⁵³²

Part VI.D.5.d addressing residential outreach and education was included pursuant to 40 C.F.R. section 122.26(d)(2)(iv) including the overarching provision requiring public participation as well as subsections (A)(6) and (B)(6), which require educational outreach for pollutants in discharges of pesticides/herbicides, fertilizers, oil, and toxic materials. The 2012 Permit Fact Sheet states in Finding B that “[s]torm water and non-storm water discharges are often contaminated with pesticides, fertilizers, fecal indicator bacteria and associated pathogens, trash, automotive byproducts...” among others.⁵³³

The U.S. EPA MS4 Permit Improvement Guide presents the following as an appropriate provision to include in the permit: “Develop appropriate educational materials (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at

⁵²⁸ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.I, p. 50.

⁵²⁹ *Id.*, Part E.2.n, p. 51.

⁵³⁰ 40 C.F.R. § 122.26(d)(2)(iv).

⁵³¹ 55 Fed. Reg. 47990, 48052 (Nov. 16, 1990) (2012 AR, p. RB-AR23779).

⁵³² See, 40 C.F.R. § 122.26(d)(2)(iv), including, in particular, subsections (A) [regarding structural and source control measures to reduce pollutants from commercial and residential areas], (A)(6) [regarding reduction of pollutants associated with application of pesticides, herbicides and fertilizer], (B)(5) [regarding facilitate public reporting of illicit discharges or water quality impacts from MS4 discharges], and (B)(6) [regarding educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials].

⁵³³ 2012 Permit, Attachment F (Fact Sheet), Part II.B, p. F-7 (2015 AR, p. SB-AR-013579).

select locations, radio advertisements, television advertisements, websites).”⁵³⁴ Part VI.D.5.d.i.(1) and (4) of the 2012 Permit therefore required Permittees to conduct public service announcements and advertising campaigns and use websites to provide educational material.

Part VI.D.5.d.i.(2)-(3) and (5)-(6) of the 2012 Permit targets pollutants of concern and relevant audiences. In Chapter 2 of the MS4 Permit Improvement Guide, U.S. EPA states:

[t]he public education and outreach program must be tailored and targeted to specific water quality issues of concern in the relevant community...EPA recommends that the permit writer consider requiring permittees to identify and describe issues, such as specific pollutants, the sources of those pollutants, impacts on biology, and the physical attributes of stormwater runoff, in their education/outreach program, which affect local watershed(s)...For Phase I, individual permits, it may be appropriate for the permit writer to specify the priority issues based on known issues, monitoring data, historical trends, etc.⁵³⁵

U.S. EPA’s MS4 Permit Improvement Guide also provides an example permit provision to target three residential issues for stormwater education/outreach messaging, and includes in the list of examples residential car washing and auto maintenance control measures, home and garden care activities, disposal of household hazardous waste (e.g., paints, cleaning products), and pet and other animal waste.⁵³⁶ Part VI.D.5.d.i.(2) of the 2012 Permit identifies various residential issues based on pollutants of concern in Los Angeles County; these pollutants of concern include indicator bacteria (found in animal wastes), total aluminum, copper, lead, zinc (sources can be household hazardous waste, construction waste, pesticides and fertilizers), diazinon (a pesticide), and trash/debris (including construction debris and household waste).⁵³⁷ Nutrients (found in green waste) are also pollutants of concern in four watersheds in Los Angeles County.⁵³⁸

This is consistent with the federal intent for a permittee(s) to tailor their stormwater management program, including public education efforts, based on an understanding of the pollutant sources in their MS4 service area. With regard to the specific distribution points for educational materials, the 1990 Federal Register notice states that, “... improper disposal of oil into storm drains is often associated with do-it-yourself automobile oil changes in residential areas, or improper application or over-use of herbicides and pesticides in residential areas ...”⁵³⁹ To effectively reach the appropriate audiences, Part VI.D.5.i.(3) of the 2012 Permit correlates target pollutants for outreach previously specified in Part 4.B.1.d) of the 2001 Permit with key purchase points associated with these residential activities as follows: (i) metals with automotive parts stores; (ii) nutrients and pesticides with home improvement centers/lumber yards/hardware stores and landscaping/gardening centers; and (iii) indicator bacteria with pet shops/feed stores.

Additionally, U.S. EPA’s Storm Water Menu of BMPs for the Minimum Control Measure: Public Education and Outreach on Stormwater Impacts states:

⁵³⁴ U.S. EPA. *MS4 Permit Improvement Guide* (2010), p. 19 (2012 AR, p. RB-AR53473).

⁵³⁵ *Id.*, at pp. 20-21 (2012 AR, pp. RB-AR53474 - 75).

⁵³⁶ *Id.*, at pp. 18-20 (2012 AR, pp. RB-AR53472 - 74).

⁵³⁷ 2012 Permit, Attachment F (Fact Sheet), Part II.B, pp. F-10 to F-11 (2015 AR, pp. SB-AR-013582 - 583).

⁵³⁸ *Id.*, Part VI.D, pp. F-92 to F-100 (2015 AR, pp. SB-AR-013664 - 672).

⁵³⁹ 55 Fed. Reg. 47990, 48052 (Nov. 16, 1990) (2012 AR, p. RB-AR23779).

[m]ultiple goals are common for an outreach strategy. You should match outreach goals with the goals of the overall stormwater program and its environmental and water protection concerns. With specific goals that dovetail with the environmental goals for the affected waterbodies, you can more efficiently spend dollars to reduce the pollution issue. If reducing nutrients in local waterbodies is a concern, outreach goals should address nutrients generated by the public. For example, you could target the public's gardening practices. An example of an outreach goal might be: "Increase residential awareness of nutrient runoff and encourage behaviors that will reduce nutrient pollution in local streams and lakes."⁵⁴⁰

U.S. EPA-issued MS4 permits such as the one for Massachusetts include requirements to implement an education program that is based on stormwater issues of significance within the MS4 area.⁵⁴¹

In addition to targeting audiences at points of purchase, Part VI.D.5.d.i.(5) of the 2012 Permit targets children (K-12) at schools. Federal regulations state that MS4 permits should require permittees to tailor the public education program to specific audiences and lists implementing educational programs targeted at school age children.⁵⁴² The U.S. EPA's Storm Water Menu of BMPs for the Minimum Control Measure: Public Education and Outreach on Stormwater Impacts states, "[c]lassroom education plays an integral role in any stormwater pollution outreach program. Providing stormwater education through schools conveys the message not only to students but to their parents. Many municipal stormwater programs partner with educators and experts to develop storm water-related programs for the classroom. These lessons need not be elaborate or expensive to be effective."⁵⁴³ Furthermore, a similar provision was included in the U.S. EPA-issued Middle Rio Grande MS4 permit, which states, "[u]se tailored public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children..."⁵⁴⁴

To be consistent with U.S. EPA guidance that schools can be one of the most effective mediums to target school-aged children in comparison to public counters and events, Part VI.D.5.d.i.(5) of the 2012 Permit continued and refined the requirement in the 2001 Permit to target school-aged children in schools.

⁵⁴⁰ U.S. EPA. *Developing an Outreach Strategy, Minimum Measure: Public Education and Outreach on Stormwater Impacts. Developing Municipal Outreach Programs*, p. 2.

⁵⁴¹ U.S. EPA, General Permits For Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) In Massachusetts, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to MS4s located in the Commonwealth of Massachusetts, NPDES Permits No. MAR041000, MAR042000, and MAR043000 (Apr. 4, 2016), Part 2.3.2, pp. 27-28.

⁵⁴² 40 C.F.R. § 122.34(b)(1)(ii).

⁵⁴³ U.S. EPA. *Classroom Education on Stormwater, Minimum Measure: Public Education and Outreach on Stormwater Impacts: Promoting the Stormwater Message*, p. 1.

⁵⁴⁴ U.S. EPA, NPDES Permit No. NMR04A000, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to the Middle Rio Grande Watershed (Dec. 22, 2014), Part 1.D.5.g(ii)(e), p. 45.

To meet the federal standards applicable to MS4 discharges, Part VI.D.5.d.i.(5) of the 2012 Permit promotes public awareness about stormwater pollution prevention on a long-term basis by encouraging behavior changes as school-aged residents mature. Given the population characteristics of Los Angeles County where over 22% of the population are children under 18 years old, this provision is necessary per the U.S. EPA guidance and U.S. EPA issued MS4 permits.⁵⁴⁵

In order to target the entire array of population groups within Los Angeles County, Part VI.D.5.d.i.(6) of the 2012 Permit, consistent with federal regulations, targets ethnic communities. Federal regulations state that “[t]he permit should encourage the permittee to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.”⁵⁴⁶ This particular provision is included to ensure the Permittees’ PIPP reaches population segments that might otherwise be overlooked.⁵⁴⁷ Further, it ensures that the public outreach required as part of Permittees’ stormwater management programs is not ineffective due to language/cultural barriers.

As in federal regulations, U.S. EPA’s Fact Sheet on the Public Education and Outreach Minimum Control Measure states, “the public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children.”⁵⁴⁸ Part 1.D.5.g(ii)(f) of the 2014 U.S. EPA issued Middle Rio Grande MS4 Permit states that “[t]he permittee may tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children. The permittee *must make information available for non-English speaking residents*, where appropriate” (emphasis added).⁵⁴⁹

The U.S. EPA Fact Sheet “Tailoring Outreach Programs to Minority and Disadvantaged Communities and Children” finds that, “Many residents of ethnically and culturally diverse communities don't speak English. English messages contained in signs, brochures, advertisements, newsletters and other outreach materials are mostly lost on these groups.”⁵⁵⁰ Furthermore, the U.S. EPA’s Storm Water Menu of BMPs for the Minimum Measure: Public Education and Outreach on Stormwater Impacts states:

Basic census research on income and educational demographics might be supplemented by feedback from small focus groups of the target audience with whose help you can better understand them. Research can tell you where the audience needs help to overcome barriers that perpetuate polluting behaviors (for

⁵⁴⁵ See U.S. Census Bureau, Quick Facts, Los Angeles County, California (accessed March 16, 2018).

⁵⁴⁶ 40 C.F.R. § 122.34(b)(1)(ii).

⁵⁴⁷ 2012 Permit, Attachment F (Fact Sheet), Part VI.C.4, p. F-61 (2015 AR, p. SB-AR-013633).

⁵⁴⁸ U.S. EPA. *Stormwater Phase II Final Rule Fact Sheet: Public Education and Outreach Minimum Control Measure* December 2005. p. 2 (2012 AR, p. RB-AR35134).

⁵⁴⁹ U.S. EPA, NPDES Permit No. NMR04A000, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to the Middle Rio Grande Watershed (Dec. 22, 2014), p. 44-45.

⁵⁵⁰ U.S. EPA. *Promoting the Stormwater Message: Public Education and Outreach on Stormwater Impacts Minimum Control Measure, Tailoring Outreach Programs to Minority and Disadvantaged Communities and Children*. p. 1 (2012 AR, p. RB-AR35136).

example, all pollution prevention messages are in English, but a large section of the audience speaks Spanish.) It is worth getting to know the target audiences specifically to develop outreach messages that both resonate with, and more importantly, reach them.⁵⁵¹

The contested provision merely requires that public education messages must be available to and comprehensible by the entire population group. Given the population characteristics of Los Angeles County, where over 56% of the population speaks a language other than English at home, over 34% of the population is foreign-born, and over 48% of the population is Hispanic or Latino, this provision is a federal requirement as evidenced by U.S. EPA guidance and U.S. EPA issued MS4 permits.⁵⁵²

In summary, the requirements of Part VI.D.5.d in the 2012 Permit are designed to meet federal requirements by establishing provisions tailored to pollutants of concern in Los Angeles County and the target audiences associated with those pollutants of concern. Consistent with U.S. EPA guidance, these provisions ensure residential outreach is done in a manner appropriate to the audience and targets points in their activities where they are most likely to engage in polluting behaviors and where they purchase materials that are likely to end up as pollution (e.g., motor oil, fertilizers).⁵⁵³ This program is intended to increase public knowledge of stormwater pollution and change behaviors in an effective and cost-efficient manner.

Part VI.D.5.d of the 2012 Permit therefore implements the federal requirement for MS4 permittees to shape their stormwater management program, including public education efforts, based on an understanding of the pollutant sources in their MS4 service area.

For all these reasons, and for the additional reasons discussed in Section IV above, the Commission should find that Parts VI.D.5.a, VI.D.5.b, VI.D.5.c, and VI.D.5.d of the 2012 Permit are not state mandates subject to subvention.

D. Industrial/Commercial Facilities Program

Part VI.D.6 of the 2012 Permit sets forth provisions designed to prevent illicit discharges from industrial and commercial facilities and to reduce pollutants in stormwater discharges from these facilities.⁵⁵⁴ Claimants allege that the requirements to: track nurseries and nursery centers, include certain information in the inventory of critical sources, maintain tracking in an electronic database, update the critical sources inventory annually, and evaluate the effectiveness of BMPs at the facilities are new programs or higher levels of service and are not mandated by federal law.⁵⁵⁵

⁵⁵¹ U.S. EPA. *Developing an Outreach Strategy, Minimum Measure: Public Education and Outreach on Stormwater Impacts: Developing Municipal Outreach Programs*, p. 3.

⁵⁵² U.S. Census Bureau. *Quick Facts, Los Angeles County, California* (accessed March 16, 2018).

⁵⁵³ U.S. EPA. *Developing an Outreach Strategy, Minimum Measure: Public Education and Outreach on Stormwater Impacts: Developing Municipal Outreach Programs*, p. 3.

⁵⁵⁴ 2012 Permit, Part VI.D.6, pp. 91-97 (2015 AR, pp. SB- AR-013384 - 390).

⁵⁵⁵ Test Claim 13-TC-01, pp. 20-21 and 13-TC-02, pp. 28-29.

As discussed in Section IV.B.3.ii, above, Part VI.D.6 of the 2012 Permit, including all its subparts, is one of the permit provisions that Permittees can customize in an approved WMP or EWMP.⁵⁵⁶ All Claimants elected to develop, and are now implementing, an approved WMP or EWMP. Therefore, the choice to implement the specific requirements of Parts VI.D.6.b, VI.D.6.d, and VI.D.6.e rather than alternative activities consistent with federal regulations was the Claimants' and is, therefore, not a state mandate.

1. Track Critical Industrial / Commercial Sources (Part VI.D.6.b)

Part VI.D.6.b of the 2012 Permit requires each Permittee to identify and track critical industrial and commercial sources of stormwater that may discharge to the Permittees' MS4. Permittees are required to maintain an updated watershed-based inventory or database of all industrial and commercial facilities that are critical sources of stormwater pollution within their jurisdictions.⁵⁵⁷

The Provision is Not a New Program or Higher Level of Service

While the specific information required under Part VI.D.6.b of the 2012 Permit is slightly modified from that of the 2001 Permit, the requirement to track critical sources by maintaining a watershed-based inventory is directly carried over from Part 4.C.1 of the 2001 Permit.⁵⁵⁸ Regarding Claimants' contentions about the inclusion of certain information such as the source, NAICS code, status of exposure, including whether a facility has filed a "No Exposure Certification" with the State Water Board, name of the receiving water, and whether the facility is tributary to a waterbody listed as impaired, this information is the same as that required in the 2001 Permit. Permittees would have already compiled information on source, receiving water, and whether the facility is tributary to an impaired waterbody.⁵⁵⁹ Part 4.C.1.b of the 2001 Permit required Permittees to verify coverage of pertinent facilities under the General Permit for Storm Water Discharges Associated with Industrial Activities (IGP); exposure of industrial activities to stormwater is a major factor in determining whether coverage under the IGP is required and documentation regarding certification is available in the State Water Board's online database of IGP enrollees. As for tracking of the NAICS code, the NAICS was established in 1997 to address insufficiencies in the SIC system and there are readily available "crosswalk" tables to identify the NAICS code from the SIC code.

Additionally, the requirement in Part VI.D.6.b.iii of the 2012 Permit for Permittees to update their inventory of critical sources at least annually through collection of new information obtained through field activities or through other readily available intra-agency informational databases is the same as the requirement in Part 4.C.1.c of the 2001 Permit.⁵⁶⁰ Regarding the requirement to maintain tracking in an electronic database, this simply builds on the 2001 Permit provision

⁵⁵⁶ 2012 Permit, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-013341) and Part VI.C.5.b.iv.(1), p. 63 (2015 AR, p. SB-AR-013356).

⁵⁵⁷ *Id.*, Part VI.D.6.b, pp. 92-92 (2015 AR, pp. SB-AR-013385 - 386).

⁵⁵⁸ 2001 Permit, Part 4.C.1, pp. 35-36.

⁵⁵⁹ 2001 Permit, Parts 4.C.1 and 4.C.3.b, pp. 35-36, 40. Part 4.C.3.b states that Permittees must consider requiring facility operators to implement additional controls to reduce pollutants if the facility is in an environmentally sensitive area or tributary to a CWA § 303(d) listed impaired waterbody. To fulfill this requirement, Permittees had to identify, for each facility, the receiving water and whether the receiving water was impaired. Thus, this is not new information required.

⁵⁶⁰ 2012 Permit, Part VI.D.6.b.iii, p. 93 (20152 AR, p. SB-AR-013386); 2001 Permit, Part 4.C.1.c, p. 36.

recommending use of an automated database system, recognizing current technology and the efficiency to be gained with an electronic format when updating the inventory.⁵⁶¹ It is also consistent with the 2001 Permit Monitoring and Reporting Program requirement that each Permittee submit a quarterly electronic submittal of its Industrial/Commercial Facilities Program activities.⁵⁶² For these reasons, the contested elements of Part VI.D.6.b do not constitute a new program or higher level of service.

Lastly, Claimants appear to argue that the Commission has previously determined that certain critical source tracking requirements related to the Industrial/Commercial Facilities Control Program in the 2001 Permit represented a new program or higher level of service.⁵⁶³ That is incorrect. The requirement to track critical sources for the Industrial/Commercial Facilities Control Program in the 2001 Permit was contained in Part 4.C.1, which the claimants did not challenge in their test claim on the 2001 Permit. As such, Claimants are wrong that the Commission has previously made a determination that tracking requirements related to the Industrial/Commercial Facilities Control Program in the 2001 Permit constitute a new program or higher level of service.

The Provision is Necessary to Implement Federal Law

The U.S. EPA MS4 Permit Improvement Guide states that, "Phase I MS4 regulations specify that several key elements be included in Phase I MS4 stormwater management programs [to control pollutants in stormwater discharges to the MS4 from industrial and commercial facilities]. These elements include: adequate legal authority to require compliance and inspect sites, inspection of priority industrial and commercial facilities, establishing control measure requirements for facilities that may pose a threat to water quality, and enforcing stormwater requirements. *In order to implement these requirements, MS4 permits require the development of an inventory of facilities and prioritization protocol and adequate staff training to ensure proper inspection and enforcement of requirements.*"⁵⁶⁴

Federal regulations at 40 C.F.R. section 122.26(d)(2)(ii) require MS4 operators to "[p]rovide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity."⁵⁶⁵ U.S. EPA's MS4 Permit Improvement Guide provides a draft permit provision for permitting authorities, which states "[t]he permittee must continue to maintain an inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could discharge pollutants in stormwater to the MS4. The inventory must be updated [*insert frequency, e.g. annually*] and available for review by the permitting authority upon request."⁵⁶⁶ The Guide provides the following rationale for the inventory requirement:

The inventory information will provide the permittee with information on potential pollutant sources that contribute to its MS4 system, and at what locations in the

⁵⁶¹ 2001 Permit, Part 4.C.1.b, p. 36.

⁵⁶² *Id.*, Attachment U-4, p. 17.

⁵⁶³ Test Claim 13-TC-01, 20 and 13-TC-02, p. 28.

⁵⁶⁴ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Chapter 7, p. 85 (2012 AR, p. RB-AR53539) (emphasis added).

⁵⁶⁵ 40 C.F.R. § 122.26(d)(2)(ii).

⁵⁶⁶ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Chapter 7, p. 85 (2012 AR, p. RB-AR53539).

system into which they discharge. This information will also allow the permittee to prioritize inspections and tailor education and outreach efforts, which will best assist the facility in implementing appropriate pollution prevention practices or other on-site stormwater controls. In addition, the inventory data will allow the permittee to determine whether the facilities may discharge pollutants of concern into impaired waters. Finally, the information contained in the inventory will enable permittees to characterize these facilities and prioritize them based on their potential impact on stormwater quality. By prioritizing facilities in such a manner, the permittee may then establish a targeted approach towards conducting inspections...⁵⁶⁷

Regarding the inclusion of nurseries and nursery centers as critical commercial sources in the 2012 Permit, nurseries and nursery centers are commercial facilities.⁵⁶⁸ Furthermore, nurseries and nursery centers are associated with loose soil and chemicals contained in pesticides, herbicides, and fertilizer. These materials contribute to stormwater pollution. In the 2012 Permit Fact Sheet, the Los Angeles Water Board found that “[s]torm water and non-storm water discharges are often contaminated with pesticides, fertilizers,” among other pollutants.⁵⁶⁹ Federal regulations at 40 C.F.R. § 122.26(d)(2)(iv)(A)(6) requires the reduction of pollutants in discharges from MS4s associated with the application of pesticides, herbicides and fertilizer.⁵⁷⁰ U.S. EPA’s MS4 Permit Improvement Guide provides a draft permit provision, which states that “[a]t a minimum, the following sites/sources must be included in the inventory: 1. Commercial Sites/Sources: ... Landscaping ...Nurseries and greenhouses...”⁵⁷¹ As such, nurseries and nursery centers must be listed and tracked as critical commercial sources of stormwater pollution.

Regarding the fields and electronic format of the inventory, federal regulations at 40 C.F.R. § 122.26(d)(1)(iv)(C) requires Permittees to provide “a list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation, and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been: (1) assessed and reported in section 305(b) reports ...”⁵⁷² U.S. EPA’s MS4 Permit Improvement Guide provides a draft permit provision pertaining to the inventory of facilities that states, “The inventory must include the following minimum information for each industrial and commercial site/source: ... 4. Name of receiving water ... 6. Identification of whether the site/source is (1) tributary to an impaired water body segment (i.e., whether it is listed under

⁵⁶⁷ *Id.*, at p. 87 (2012 AR, p. RB-AR53541).

⁵⁶⁸ The 2001 Permit defines “Industrial/Commercial Facility” as any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.”

⁵⁶⁹ 2012 Permit, Attachment F (Fact Sheet), p. F-7 (2015 AR, p. SB-AR-013579).

⁵⁷⁰ 40 C.F.R. § 122.26(d)(2)(iv)(A)(6).

⁵⁷¹ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Chapter 7, pp. 86-87 (2012 AR, p. RB-AR53540 - 541).

⁵⁷² 40 C.F.R. § 122.26(d)(1)(iv)(C).

Section 303(d) of the Clean Water Act) and (2) whether it generates pollutants for which the water body segment is impaired ...”⁵⁷³

Therefore, the requirement to maintain an inventory is a federal requirement designed to ensure control of pollutant discharges in stormwater from industrial and commercial facilities, paying particular areas attention to facilities where stormwater is discharged to waterbodies listed as impaired under CWA section 303(d).

Furthermore, the U.S. EPA-issued MS4 permit for the Boise/Garden City Area includes provisions that require inventory and inspection of industrial and commercial facilities,⁵⁷⁴ demonstrating that these are federal requirements.

Other Mandates Exceptions Apply

Because the Permittees would have completed the majority of the work to establish and maintain an inventory of critical sources as required under the previous permits, the Water Boards believe that any additional costs to meet the minimum requirements of Part VI.D.6.b are *de minimis*. For example, in the 1994 Report of Waste Discharge (ROWD), Volume 2, Section III, Permittees state that “[a]s required under the current [1990] Permit, the Permittees have produced a listing of industries by SIC category for each drainage area.” In that ROWD, the Permittees also proposed an updated procedure through the annual report to the Los Angeles Water Board.⁵⁷⁵

Additionally, as discussed in Section IV.B.2, above, it is feasible and reasonable for Permittees to collect fees from commercial and industrial facilities for the costs associated with implementing these permit provisions. Notably, in its Statement of Decision concerning the trash receptacle and inspection requirements in the 2001 Permit, the Commission specifically determined that the claimants have fee authority under article XI, section 7 of the California Constitution for inspections of industrial and commercial facilities, and construction sites.⁵⁷⁶ The Commission even noted that, in June 2005, the City of Covina “adopted stormwater inspection fees on restaurant, retail gasoline outlets, automotive service facilities, etc., as part of its business license fee, expressly for the purpose of complying with the [2001 Permit].”⁵⁷⁷ The Commission further found that “a local regulatory stormwater fee, if appropriately calculated and charged, would not be a special tax” and that “local fees for inspections... would not be subject to the vote requirement of Proposition 218.”⁵⁷⁸ Here, Claimants likewise have fee authority for compliance with the provisions in Part VI.D.6.b as they are related to inspections of critical commercial and industrial sources.

⁵⁷³ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Chapter 7, pp. 85-86 (2012 AR, p. RB-AR53539 - 540).

⁵⁷⁴ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.3, pp. 20-21.

⁵⁷⁵ Los Angeles County Department of Public Works, 1994 Report of Waste Discharge, Task 5.2, Volume 2, pp. III-1 to III-2.

⁵⁷⁶ *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009), pp. 54-56.

⁵⁷⁷ *Id.*, at p. 56 (referring to City of Covina, Resolution No. 05-6455).

⁵⁷⁸ *Id.*, at pp. 66-70.

In addition, it is worth noting that the City of Glendora recently participated in a presentation to the Los Angeles Water Board in which it presented information on its inspection fee schedule, which covers inspections of commercial and industrial facilities, including nurseries and those facilities enrolled in the IGP.⁵⁷⁹

2. Inspect Critical Commercial and Industrial Sources (Parts VI.D.6.d and VI.D.6.e)

To ensure BMPs are effectively implemented, Parts VI.D.6.d and VI.D.6.e of the 2012 Permit require each Permittee to inspect all commercial and industrial facilities identified as critical sources.⁵⁸⁰

The Provisions are Not New Programs or Higher Levels of Service

The requirement to visit industrial/commercial sites stems from the 1996 Permit.⁵⁸¹ Part V.B of the 1996 Permit required each permittee to develop and implement an “industrial/commercial site visit program.”⁵⁸² Permittees were required to develop a list of specific stormwater BMPs for each industrial/commercial SIC group of facilities requiring educational site visits no later than May 30, 1997. Upon approval by the Los Angeles Water Board, the BMP lists were incorporated in each Permittee's outreach measures conducted during industrial/commercial site visits.⁵⁸³ While the stated purpose of this program was identified as educational, the real intent was to provide facility operators sufficient knowledge to enable them to appropriately manage their site to reduce pollutants being discharged in stormwater runoff from their site to the MS4 through use of the BMP list in conjunction with stormwater guidance/advice provided during the site visits.

The “industrial/commercial site visit program” from the 1996 Permit was carried over to the 2001 Permit, but with more of a focus on inspections and BMP verification rather than education. However, whether it is called an “educational site visit” or an “inspection,” the 2001 Permit required an almost identical level of effort, since Permittees had to physically visit an industrial/commercial site. Further, both permits required visits to a site at the same frequency, once in 24 months with a minimum of 2 inspections/site visits to occur within the five-year term of each respective permit.

These requirements from the 2001 Permit were largely carried over to the 2012 Permit. Claimants allege that the 2001 Permit “did not require the inspectors to evaluate the effectiveness of the BMPs at the [industrial and commercial] facilities.”⁵⁸⁴ However, Parts 4.C.2 and 4.C.3.a of the 2001 Permit specifically required each Permittee to confirm that BMPs were being effectively implemented at the subject facility, and to require implementation of other BMPs where

⁵⁷⁹ “Industrial Sites Task Force,” Presentation to the Los Angeles Water Board (Oct. 5, 2017), pp. 41-45.

⁵⁸⁰ 2012 Permit, Parts VI.D.6.d-e, pp. 94-96 (2015 AR, pp. SB-AR-013387-389).

⁵⁸¹ Claimants note that while some inspection requirements were carried over from the 2001 Permit, those requirements were previously determined by the Commission to represent a new program or higher level of service. The Water Boards recognize that the Commission found provisions related to inspections of industrial/commercial sites in the 2001 Permit to constitute a new program or higher level of service. The Water Boards, however, continue to dispute that determination and the issue has been appealed. However, whether the inspection provisions in the 2001 Permit constitute a new program or higher level of service as compared to the 1996 Permit has yet to be addressed by the courts.

⁵⁸² 1996 Permit, Part 2.V.B, p. 53 (2001 AR, p. R0028712).

⁵⁸³ *Id.*, Part V.B.2, pp. 54-55 (2001 AR, pp. R0028713-R0028714).

⁵⁸⁴ Test Claim 13-TC-01, p. 21 and 13-TC-02, p. 28.

necessary.⁵⁸⁵ The minor language difference between the provisions in the 2001 Permit and the 2012 Permit are merely semantic. Furthermore, Part 4.C.3.b of the 2001 Permit prescribed that Permittees must consider requiring implementation of additional BMPs where critical sources discharge to an environmentally sensitive area or a CWA section 303(d) listed impaired water body.⁵⁸⁶ Therefore, these requirements related to inspections of these critical sources are not new.

Thus, the verification of appropriate BMPs at facilities represents a *de minimis* change in effort from requirements first stemming from the 1996 Permit.

The Provisions are Necessary to Implement Federal Law

Claimants allege that inspections of commercial facilities and some of the industrial facilities identified in the 2012 Permit are not mandated by federal law.⁵⁸⁷ However, federal regulations at 40 C.F.R. section 122.26(d)(2)(iv)(A) require a program to reduce pollutants in stormwater discharges to MS4s from commercial and residential areas, while 40 C.F.R. section 122.26(d)(2)(iv)(C) requires a program to monitor and control pollutants in stormwater discharges to MS4s from industrial facilities. Federal regulations further state that the program shall “Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.”⁵⁸⁸ Additionally, 40 C.F.R. § 122.26(d)(2)(i)(F) requires Permittees to “[c]arry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.”⁵⁸⁹ Therefore, per federal requirements, Permittees must require implementation of controls, such as BMPs, to reduce the discharge of pollutants and carry out inspections to determine compliance with this requirement.

In U.S. EPA’s MS4 Permit Improvement Guide, “EPA expects the permitting authority to continue to make significant progress and ensure that the intent of the regulations or more stringent requirements is captured in the permit.”⁵⁹⁰ In the same document, U.S. EPA provides a draft permit provision for Industrial and Commercial Facility Inspections that closely resembles that of the 2012 Permit.⁵⁹¹ U.S. EPA developed this provision based on the regulations at 40 C.F.R. section 122.26(d)(2)(iv).⁵⁹²

Moreover, in a letter dated April 10, 2008, the U.S. EPA Region 9 Director of the Water Division stated that “[a] program for commercial and industrial facility inspection and enforcement that includes restaurants and automobile facilities, would appear to be both practicable and effective. Such an inspection program ensures that stormwater discharges from such facilities are reducing their contribution of pollutants and that there are no non-stormwater discharges or illicit

⁵⁸⁵ 2001 Permit, Part 4.C.2, pp. 36-39.

⁵⁸⁶ *Id.*, Part 4.C.3.b, p. 40.

⁵⁸⁷ Test Claim 13-TC-01, p. 21 and 13-TC-02, pp. 28-29.

⁵⁸⁸ 40 C.F.R. § 122.26(d)(2)(iv)(C)(1).

⁵⁸⁹ *Id.*, subd. (d)(2)(i)(F).

⁵⁹⁰ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Cover Letter (2012 AR, p. RB-AR53452).

⁵⁹¹ *Id.*, Chapter 7.3, pp. 91-92 (2012 AR, pp. RB-AR53545 - 546).

⁵⁹² *Id.*, Chapter 7, p. 85 (2012 AR, p. RB-AR53539).

connections. Thus, these programs are founded in both 402(p)(3)(B)(ii) and (iii) and are well within the scope of 40 C.F.R. § 122.26(d)(2)(iv)(A) and (B).⁵⁹³

Furthermore, the U.S. EPA-issued MS4 permit for the Boise/Garden City Area includes provisions that require inventory and inspection of industrial and commercial facilities,⁵⁹⁴ demonstrating that these are federal requirements.

The above clearly demonstrates that Parts VI.D.6.d and VI.D.6.e of the 2012 Permit are based on federal requirements.

Other Mandates Exceptions Apply

Additionally, as discussed in Section IV.B.2, above, it is feasible and reasonable for Permittees to collect fees from commercial and industrial facilities for the costs associated with implementing these permit provisions. Notably, in its Statement of Decision concerning the trash receptacle and inspection requirements in the 2001 Permit, the Commission specifically determined that the claimants have fee authority under article XI, section 7 of the California Constitution for inspections of industrial and commercial facilities, and construction sites.⁵⁹⁵ The Commission even noted that, in June 2005, the City of Covina “adopted stormwater inspection fees on restaurant, retail gasoline outlets, automotive service facilities, etc., as part of its business license fee, expressly for the purpose of complying with the [2001 Permit].”⁵⁹⁶ The Commission further found that “a local regulatory stormwater fee, if appropriately calculated and charged, would not be a special tax” and that “local fees for inspections... would not be subject to the vote requirement of Proposition 218.”⁵⁹⁷ Thus, Claimants have fee authority for compliance with the provisions in Parts VI.D.6.d and VI.D.6.e to inspect critical commercial and industrial sources.

In addition, it is worth noting that the City of Glendora recently participated in a presentation to the Los Angeles Water Board in which it presented information on its inspection fee schedule, which covers inspections of commercial and industrial facilities, including nurseries and those facilities enrolled in the IGP.⁵⁹⁸

For all these reasons, and for the additional reasons discussed in Section IV above, the Commission should find that Parts VI.D.6.b, VI.D.6.d, and VI.D.6.e of the 2012 Permit are not state mandates subject to subvention.

⁵⁹³ Letter from U.S. EPA, Alexis Strauss, to State Water Board, April 10, 2008, concerning Los Angeles County Copermittee Test Claims Nos. 03-TC-04, 03-TC-19, 03-TC-20, and 03-TC-21, p. 2 (2012 AR, p. RB-AR34518).

⁵⁹⁴ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.3, pp. 20-21.

⁵⁹⁵ *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009), pp. 54-56.

⁵⁹⁶ *Id.*, at p. 56 (referring to City of Covina, Resolution No. 05-6455).

⁵⁹⁷ *Id.*, at pp. 66-70.

⁵⁹⁸ “Industrial Sites Task Force,” Presentation to the Los Angeles Water Board (Oct. 5, 2017), pp. 41-45.

E. Planning and Land Development Program

Part VI.D.7.d.iv of the 2012 Permit includes requirements to implement a tracking system and inspection and enforcement program for new development and redevelopment projects requiring implementation of post-construction BMPs. These requirements include:

- (1) Part VI.D.7.d.iv.(1)(a) and Attachment E, Part X – requirements to implement a Geographic Information System (GIS) or other electronic system for tracking projects that have been conditioned for post-construction BMPs;⁵⁹⁹ and to maintain a database providing information on applicable new development and redevelopment projects;⁶⁰⁰
- (2) Part VI.D.7.d.iv.(1)(b) – a requirement to inspect all development sites upon completion of construction and prior to the issuance of occupancy certificates to ensure proper installation of low impact development (LID) measures, structural BMPs, treatment control BMPs and hydromodification control BMPs;⁶⁰¹ and
- (3) Part VI.D.7.d.iv.(1)(c) – a requirement to verify proper maintenance of operation of post-construction BMPs previously approved for new development and redevelopment and operated by the Permittee. Additionally, this maintenance inspection program should include the development of an inspection checklist and inspections of Permittee-operated post-construction BMPs at an interval of at least once every two years after project completion.⁶⁰²

Each of these requirements is addressed separately, below.

1. Implementation of an Electronic System for Tracking Projects (Part VI.D.7.d.iv.(1)(a) and Attachment E, Part X)

The challenged aspects of Part VI.D.7.d.iv.(1)(a) and Attachment E, Part X specify that the Permittees track and maintain information on projects that have been conditioned for post-construction BMPs.

Part VI.D.7.d.iv.(1)(a) requires that Permittees implement a GIS or other electronic system for tracking projects that have been conditioned for post-construction BMPs. Information to be tracked includes project identification, acreage, BMP type and description, BMP locations, dates of acceptance and maintenance agreement, inspection dates and summaries, and corrective actions.⁶⁰³

Attachment E, Part X requires that Permittees maintain a database that contains information on each applicable new development and redevelopment project approved by the Permittee. Information, if applicable, to be included in the database includes project name; project location; date of certificate of occupancy; size of specific storm events; hydromodification criteria; project

⁵⁹⁹ 2012 Permit, Part VI.D.7.d.iv.(1)(a), p. 115 (2015 AR, p. SB-AR-013408).

⁶⁰⁰ *Id.*, Attachment E, Part X, pp. E-28 to E-29 (2015 AR, pp. SB-AR-013537 - 538).

⁶⁰¹ *Id.*, Part VI.D.7.d.iv.(1)(b), p. 115 (2015 AR, p. SB-AR-013408).

⁶⁰² *Id.*, Part VI.D.7.d.iv.(1)(c), pp. 115-116 (2015 AR, pp. SB-AR-013408 - 409).

⁶⁰³ *Id.*, Part VI.D.7.d.iv.(1)(a), p. 115 (2015 AR, p. SB-AR-013408).

design parameters; locations for off-site mitigation sites; and documentation of issuance of requirements to the developer.⁶⁰⁴

The Provisions are Not New Programs or Higher Levels of Service

Part VI.D.7.d.iv.(1)(a) of the 2012 Permit is a refinement of Part 4.D and Attachment U-4 of the 2001 Permit⁶⁰⁵ and, therefore, is not a new program or higher level of service. As is required in the 2012 Permit, the 2001 Permit required that each Permittee require the implementation of post-construction treatment controls for specific categories of new development and redevelopment projects. The 2001 Permit Monitoring and Reporting Program required that each Permittee track these projects and BMPs in order to report on the number of projects by category that were conditioned for post-construction BMPs, and the types and numbers of BMPs required for priority projects.⁶⁰⁶

Further, although the 2001 Permit did not list all the fields of information that the 2012 Permit lists in Part VI.D.7.d.iv.(1), the 2001 Permit contained provisions that directly rely on information included under the 2012 Permit tracking provision. These 2001 Permit provisions outline the categories of projects requiring implementation for post-construction treatment controls, including project categories based on the project's area; provisions for the numerical design criteria of post-construction treatment control BMPs; and provisions for the verification of maintenance of post-construction BMPs. Permittees should already have been collecting much, if not all, of the information required in Part VI.D.7.d.iv.(1) to implement the 2001 Permit to ensure that projects are appropriately implementing post-construction BMPs and that these post-construction BMPs are adequately maintained and reducing the discharge of pollutants to the MS4.

As such, the tracking of information related to projects that have been conditioned for post-construction BMPs is not a new program or higher level of service.

The Provisions are Necessary to Implement Federal Law

Federal regulations identify the need to develop, implement, and enforce controls to reduce the discharge of pollutants from MS4s, which receive discharges from areas of new development and significant redevelopment; and to reduce pollutants in discharges from MS4s after construction is completed.⁶⁰⁷

The tracking provisions outlined in Part VI.D.7.d.iv.(1)(a) and Attachment E, Part X address the above federal requirements by ensuring that permittees are properly implementing permit requirements for new development and redevelopment projects and by ensuring that permittees are tracking the operation and maintenance of post-construction BMPs. The importance of these provisions in relation to the 2012 Permit's Planning and Land Development Program is noted in the 2012 Permit Fact Sheet, where the Los Angeles Water Board found that a "tracking system is deemed critical to the success of the [Planning and Land Development Program]."⁶⁰⁸

⁶⁰⁴ *Id.*, Attachment E, Part X, pp. E-28 to E-29 (2015 AR, pp. SB-AR-013537 - 538).

⁶⁰⁵ 2001 Permit, Part 4.D, pp. 42-50.

⁶⁰⁶ *Id.*, Attachment U-4, Section IV.C, pp. 18-19.

⁶⁰⁷ 40 C.F.R. § 122.26(d)(2)(iv)(A)(2).

⁶⁰⁸ 2012 Permit, Attachment F, Part VI.C.1.b, p. F-55 (2015 AR, p. SB-AR-013627).

A similar tracking provision is provided in U.S. EPA's MS4 Permit Improvement Guide. This provision requires that "[t]he permittee must continue to maintain an inventory of all post-construction structural stormwater control measures installed and implemented at new development and redeveloped sites, including both public and private sector sites located within the permit area."⁶⁰⁹ Furthermore, the provision also requires that "[e]ach entry to the inventory must include basic information on each project, such as project name, owner's name and contact information, location, start/end date, etc." and that inventory entries include a short description of each stormwater control measure type; latitude and longitude coordinates; short description of maintenance requirements; and inspection information.⁶¹⁰

Additionally, U.S. EPA requires tracking of post-construction BMPs in MS4 permits that it issues such as for the Boise/Garden City Area.⁶¹¹ The inclusion of a similar provision in U.S. EPA-issued MS4 permits and U.S. EPA's MS4 Permit Improvement Guide supports the conclusion that the 2012 Permit's tracking provisions are a federal requirement.

This Provisions are Not Unique to Local Government

The requirement to track post-construction BMPs is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities in order to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required as an element of its Storm Water Management Plan (SWMP) to track treatment BMPs and treatment BMP maintenance within its jurisdiction. Caltrans must track for each BMP: name, location, size, capacity, type, date of installation, maintenance certificates, inspection dates and findings, compliance status, and corrective actions.⁶¹² The above demonstrates that Claimants are not being treated differently than non-local government entities.

Other Mandates Exceptions Apply

Even if the Commission concludes that some aspect of these provisions imposes state mandates, the costs to implement these provisions are *de minimis* and therefore not entitled to subvention. This is apparent in the provision's language, which simply requires Permittees to implement an "electronic system" or "database," which could entail simple spreadsheets and other readily available software. The provisions do not specify any requirements for the electronic system or database that a Permittee uses to track this information. In describing the tracking provisions, the 2012 Permit's Fact Sheet states that "a tracking system need not be complex and can, and has, been developed using spreadsheets or equivalent."⁶¹³ This underscores that the challenged provisions are not requiring Permittees to procure a new technology for tracking, but to perform

⁶⁰⁹ U.S. EPA. *MS4 Permit Improvement Guide* (2010), p. 62 (2012 AR, p. RB-AR53516).

⁶¹⁰ *Ibid.*

⁶¹¹ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.2.e)(i), p. 18.

⁶¹² State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.d, pp. 41-42.

⁶¹³ 2012 Permit, Attachment F, Part VI.C.1.b, p. F-55 (2015 AR, p. SB-AR-013627).

routine tracking with existing technology that would be expected for the successful implementation of the new development and redevelopment requirements.

Furthermore, the tracking provisions require Permittees to maintain information that they should already be obtaining to implement Planning and Land Development Program requirements. For example, to implement the new development and redevelopment requirements in Part VI.D.7.b and the new development and redevelopment project performance criteria in Part VI.D.7.c, Permittees should be obtaining and evaluating basic project information such as project acreage, the descriptions of BMPs to be installed at the site, and the locations of BMPs. If a Permittee were not obtaining this information, there would be reason for concern that the Permittee is not adequately conditioning and reviewing new development and redevelopment projects in their jurisdiction.

2. Inspection of Development Sites Upon Completion and Before Issuance of an Occupancy Certificate (Part VI.D.7.d.iv.(1)(b))

The challenged aspects of Part VI.D.7.d.iv.(1)(b) specify that the Permittees inspect all development sites upon completion of construction and before issuance of an occupancy certificate to “ensure proper installation” of LID measures, structural BMPs, treatment control BMPs and hydromodification control BMPs.

The Provision is Not a New Program or Higher Level of Service

Part VI.D.7.d.iv.(1)(b) of the 2012 Permit is a refinement of Part 4.D of the 2001 Permit⁶¹⁴ and, therefore, is not a new program or higher level of service. As is required in the 2012 Permit, the 2001 Permit required that each Permittee require the implementation of post-construction treatment controls for specific categories of new development and redevelopment projects, and the control of post-development peak stormwater runoff discharge rates, velocities, and duration in Natural Drainage Systems to prevent accelerated stream erosion and to protect natural habitat.⁶¹⁵ The inspection provision is necessary to ensure the appropriate implementation of permit-required post-construction treatment controls and hydromodification controls in new development and redevelopment projects that have been in place since the 2001 Permit. Therefore, Part VI.D.7.d.iv.(1)(b) is not a new program or higher level of service.

The Provision is Necessary to Implement Federal Law

The challenged inspection provision requires that Permittees inspect BMPs constructed by third parties within their jurisdiction so that there is assurance that BMPs are being appropriately implemented. This directly addresses federal regulations, which identify the need to develop, implement, and enforce controls to reduce MS4 discharges of pollutants due to new development and redevelopment after construction is completed.⁶¹⁶

Federal regulations for small MS4s specifically highlight the need for such an inspection provision and/or other provisions related to BMP verification. It is logical to consider these federal regulations, which state:

⁶¹⁴ 2001 Permit, Part 4.D, pp. 42-50.

⁶¹⁵ *Id.*, Part 4.D.2.a-e, pp. 43-44 and Part 4.D.1.a-f, pp. 42-43.

⁶¹⁶ 40 C.F.R. § 122.26(d)(2)(iv)(A)(2).

“EPA recommends that the permit ensure the appropriate implementation of the structural BMPs, by considering some or all of the following: Pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for noncompliance with design, construction or operation and maintenance.”⁶¹⁷

U.S. EPA’s MS4 Permit Improvement Guide provides a draft permit provision for post-construction inspections, which states that “the permittee must conduct a post-construction inspection to verify that the permittee’s performance standards have been met.”⁶¹⁸ The Guide provides rationale for such a provision, stating that “[i]nspection of post-construction control measures is key to ensuring the protection of water quality. If control measures are not inspected and maintained they could become sources of pollution rather than reducing pollution.”⁶¹⁹

Furthermore, the U.S. EPA-issued MS4 Permit for the District of Columbia includes a requirement that the permittee “must establish/update and maintain” a “post-construction verification process, and the U.S. EPA-issued MS4 permit for the Boise/Garden City Area includes a requirement for Permittees to implement an inspection program for permanent stormwater management controls.”⁶²⁰

The inclusion of similar provisions in these U.S. EPA guidance documents and MS4 permits further supports the conclusion that the 2012 Permit’s inspection provision is necessary to meet federal requirements.

This Provision Is Not Unique to Local Government

The requirement to inspect development sites to ensure proper installation of post-construction BMPs is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities in order to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required as an element of its Storm Water Management Plan (SWMP) to inspect all newly installed treatment BMPs within 45 days of installation to ensure they have been installed and constructed correctly.⁶²¹ The above demonstrates that Claimants are not being treated differently than non-local government entities.

⁶¹⁷ *Id.*, § 122.34(b)(5)(ii).

⁶¹⁸ U.S. EPA. *MS4 Permit Improvement Guide* (2010), p. 63 (2012 AR, p. RB-AR53517).

⁶¹⁹ *Ibid.*

⁶²⁰ U.S. EPA, Permit for District of Columbia Municipal Separate Storm Sewer System, Modified Permit No. DC0000221 (Oct. 7, 2011, mod. Nov. 9, 2012), Part 4.1.1, p. 11. (2015 AR, p. SB-AR-014162); U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.2.f, pp. 18-19.

⁶²¹ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.a, p. 41.

Other Mandates Exceptions Apply

Even if the Commission concludes that some aspect of this provision imposes a state mandate, the cost to implement this provision is *de minimis* and therefore not entitled to subvention. This is because the 2012 Permit states that, “[t]he inspection may be combined with other inspections provided it is conducted by trained personnel.” Local codes regulate the design and construction of buildings and structures, and often require inspections including “final inspections” following project completion and prior to issuing a certificate of occupancy.⁶²² Additionally, as discussed below under Section V.F, Development Construction Program, Part VI.D.8.j.ii.(2)(c) of the 2012 Permit requires that each Permittee inspect project sites at the conclusion of construction and as a condition of approving and/or issuing a certificate of occupancy. Therefore, the requirement of Part VI.D.7.d.iv.(1)(b) can be met at no additional cost when fulfilling the requirement for a final inspection under Part VI.D.8.j.

3. Development of a Post-Construction BMP Maintenance Program (Part VI.D.7.d.iv.(1)(c))

The challenged aspects of Part VI.D.7.d.iv.(1)(c) specify that the Permittees develop a post-construction BMP maintenance inspection checklist and inspect at an interval of at least once every two years Permittee-operated post-construction BMPs to assess operation conditions.

The Provision is Not a New Program or Higher Level of Service

Part VI.D.7.d.iv.(1)(c) of the 2012 Permit is a refinement of Part 4.D of the 2001 Permit⁶²³ and, therefore, is not a new program or higher level of service. As is required in the 2012 Permit, the 2001 Permit required that each Permittee require the implementation of post-construction BMPs for development projects. For these post-construction BMPs, the 2001 Permit specifically included verification of maintenance provisions that required written conditions in sales or lease agreements that require recipients to assume responsibility for maintenance of structural or treatment control BMPs and to conduct a maintenance inspection at least once a year.⁶²⁴

The challenged provision does not require an inspection program for facilities not operated by the Permittee, but only requires that Permittees inspect post-construction BMPs that they operate. As such, the provision is a refinement of the 2001 Permit’s verification of maintenance provisions, which ensures that maintenance inspections are conducted at Permittee-operated facilities that may not have sales or lease agreements to ensure consistent and even-handed oversight of post-construction BMPs.

The Provision is Necessary to Implement Federal Law

Part VI.D.7.d.iv.(1)(c) complies with federal regulations that require that Permittees implement a management program that includes maintenance activities and a maintenance schedule for structural controls to reduce pollutants in discharges from MS4s and procedures to develop, implement, and enforce controls to reduce the discharge of pollutants from areas of new

⁶²² County of Los Angeles Building Code (Title 26) 101.2.

⁶²³ 2001 Permit, Part 4.D, pp. 42-50.

⁶²⁴ *Id.*, Part 4.D.8, p. 47.

development and significant redevelopment after construction is completed.⁶²⁵ The regular inspection of Permittee-operated BMPs ensures that BMPs under the Permittee's direct control are properly maintained and functioning.

The inclusion of similar provisions in U.S. EPA- issued MS4 permits supports the conclusion that Part VI.D.7.d.iv.(1)(c) is necessary to meet federal requirements. As an example, the U.S. EPA-issued Boise/Garden City Area MS4 Permit has an inspection program for new development and redevelopment sites, which states that "all high priority locations must be inventoried and associated inspections must be scheduled to occur at least once annually" and that "Permittees must develop checklists."⁶²⁶

The Provision Is Not Unique to Local Government

The requirement to inspect post-construction BMPs is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities in order to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required to inspect all installed stormwater treatment BMPs at least once every year.⁶²⁷ Permittees enrolled under the IGP are required to conduct annual comprehensive facility compliance evaluations, including "an inspection of any BMPs" and "a review and effectiveness assessment of all BMPs ... to determine if the BMPs are properly designed, implemented, and are effective in reducing and preventing pollutants in industrial storm water discharges ..."⁶²⁸ The above demonstrates that Claimants are not being treated differently than non-local government entities.

Other Mandates Exceptions Apply

Even if the Commission concludes that this provision imposes requirements that are state mandates, the costs to implement this provision is *de minimis* and therefore not entitled to subvention. Regarding the challenged provision's requirement to develop an inspection checklist, Part VI.D.7.d.iv.(1)(c)(i) does not specify what items Permittees must include in a post-construction BMP maintenance inspection checklist. This lack of specificity gives Permittees the flexibility to determine the checklist items and the overall level of detail necessary. Although Permittees can develop a complex checklist with several technical items, they can also develop a simple checklist with a few items and still comply with the permit provision. Therefore, the challenged provision's requirement to develop a checklist is a minimal cost.

Further, the requirement to conduct an inspection at least every two years represents a *de minimus* cost, since it only requires inspections of Permittee-operated post-construction BMPs, which Permittees should be already maintaining and checking for proper operation. In effect, the

⁶²⁵ 40 C.F.R. § 122.26(d)(2)(iv)(A)(1)-(2).

⁶²⁶ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.2.f.(i)-(ii), p. 19.

⁶²⁷ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.b, p. 41.

⁶²⁸ State Water Board, Order No. 2014-0057-DWQ, NPDES General Permit for Storm Water Discharges Associated with Industrial Activities, Part XV.E-F, p. 59.

provision requires Permittees to inspect their own work. Finally, this provision overlaps with the requirements in Parts VI.D.4.c.vii.(7)(a) and VI.D.9.h.x.(1) of the 2012 Permit, which requires each Permittee to implement an inspection and maintenance program for all Permittee-owned treatment control BMPs, including post-construction treatment control BMPs.⁶²⁹

For all these reasons, and for the additional reasons discussed in Section IV above, the Commission should find that Parts VI.D.7.d.iv.(1)(a), VI.D.7.d.iv.(1)(b), VI.D.7.d.iv.(1)(c), and Attachment E, Part X of the 2012 Permit are not state mandates subject to subvention.

F. Development Construction Program

Part VI.D.8 of the 2012 Permit sets forth requirements to ensure pollutants in stormwater runoff from construction sites are controlled such that those pollutants do not reach receiving waters.⁶³⁰ The 2012 Permit Fact Sheet identifies the basis in federal regulations for these provisions and others as 40 C.F.R. section 122.26(d)(2)(iv).⁶³¹

Claimants reference the Commission's prior determination that Part 4.E. of the 2001 Permit constituted a state mandate and assert that inclusion of those requirements in the 2012 Permit means it still represents a state mandate. However, Claimants neglect to mention that, while the Commission did determine Part 4.E of the 2001 Permit constituted a state mandate, it also found that the claimants were not subject to subvention as claimants had fee authority. In its Statement of Decision, the Commission specifically determined that the claimants have fee authority under article XI, section 7 of the California Constitution for inspections of industrial and commercial facilities, and construction sites.⁶³² The Commission further found that "a local regulatory stormwater fee, if appropriately calculated and charged, would not be a special tax" and that "local fees for inspections...would not be subject to the vote requirement of Proposition 218."⁶³³ The Commission found that a fee "would not be an incident of property ownership because it results from the owner's voluntary decision to build on or develop the property."⁶³⁴ Thus, Claimants have fee authority for compliance with the provisions in Parts VI.D.8 related to inspections of construction sites. As discussed in Section IV.B.2, above, it is feasible and reasonable for

⁶²⁹ 2012 Permit, Parts VI.D.4.c.vii.(7)(a) and VI.D.9.h.x.(1), pp. 82, 137 (2015 AR, pp. SB-AR-013376, 430).

⁶³⁰ *Id.*, Part VI.D.8, pp. 116-125 (2015 AR, pp. SB-AR-013409 - 418).

⁶³¹ *Id.*, Attachment F (Fact Sheet), Part VI.C.1.a, p. F-50 (2015 AR, p. SB-AR-013623) ("The previous permit, Order No. 01-182, included six categories of minimum control measures that are considered to be baseline or default requirements for meeting the requirements of 40 CFR section 122.26(d)(2)(iv). These requirements were determined appropriate within Order No. 01-182 and again appropriate for this Order. The minimum control measures require Permittees to implement BMPs that are considered necessary to reduce pollutants in storm water to the MEP and to effectively prohibit non-storm water discharges."). Claimants suggest that the Los Angeles Water Board improperly cites 40 C.F.R. § 122.34(b)(4) as the legal authority for Part VI.D.8; however, it is clear from the abovementioned citation as well as the 2012 Permit itself (Part VI.D.1.a, p. 70 (2015 AR, p. SB-AR-013363) that the Board is primarily relying on 40 C.F.R. § 122.26(d)(2)(iv) as the federal authority for these minimum control measure provisions.

⁶³² *In re Test Claim on: Los Angeles Regional Water Quality Control Board Order No. 01-182, Case Nos. 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21* (July 31, 2009), pp. 54-56.

⁶³³ *Id.*, at pp. 66-70.

⁶³⁴ *Id.*, at p. 68 (noting that article XIII D of the California Constitution states that it shall not be construed to "affect existing laws relating to the imposition of fees or charges as a condition of property development"). The Commission also referred to a report by the Office of the Legislative Analyst, which states "Developer fees and fees imposed on businesses that contribute to urban runoff [] are not restricted by Proposition 218 and may be approved by a vote of the governing body." *Id.*, at pp. 68-69, fn. 169.

Permittees to collect fees from developers for the costs associated with implementing these permit provisions.

The Water Boards recognize that the Commission found provisions related to inspections of construction sites in the 2001 Permit to constitute a new program or higher level of service.⁶³⁵ Nevertheless, the Water Boards assert that the provisions in Part VI.D.8 of the 2012 Permit relating to inspections of construction sites continue to stem from the 1996 Permit. Part 2.III.B.3 of the 1996 Permit required the Permittees to develop a model “construction activity inspection program,” no later than September 30, 1997. The model program was required to include procedures for construction site inspection, procedures to require corrective action be undertaken by contractors at noncomplying sites, procedures for enforcement against noncomplying construction activity, and appropriate training for program staff.⁶³⁶ Upon approval of the model program by the Los Angeles Water Board, the Permittees were required to implement a construction activities inspection program no later than July 30, 1999.⁶³⁷ Permittees were allowed to integrate this program with the Permittees’ regular program of construction inspection “for maximum efficiency.”⁶³⁸ The Permittees were also required in the 1996 Permit to develop, by September 30, 1998, countywide development construction guidance materials for all development project construction activities, including BMPs appropriate for various activities and checklists for use in design and inspection. The countywide minimum requirements and recommended BMPs were required to, among other things, include erosion and sediment control practices; target construction areas and activities with the potential to general significant pollutant loads; require on-site retention (to the MEP) of sediment and other pollutants from construction activity; and require use of structural drainage controls to minimize the escape of sediment and other pollutants from the site.⁶³⁹

The construction activity inspection program from the 1996 Permit was largely carried over to the 2001 Permit. The programs were substantively the same, with both permits requiring verification of appropriate BMPs for pollutant generating activities on construction sites during Permittee inspections. While the Water Boards continue to assert that the construction activity inspection program stemmed from the 1996 Permit, for purposes of the sections below, the Water Boards only compare the provisions from the 2012 Permit to the 2001 Permit.

Moreover, as discussed in Section IV.B.3.ii, above, Part VI.D.8 of the 2012 Permit, including all its subparts, is one of the permit provisions that Permittees can customize in an approved WMP or EWMP.⁶⁴⁰ All Claimants elected to develop, and are now implementing, an approved WMP or EWMP. Therefore, regardless of the specificity, the choice to implement the specific requirements of Part VI.D.8, subdivisions g-j and l, rather than alternative activities consistent with federal regulations was the Claimants’ and is, therefore, not a state mandate.

⁶³⁵ The Water Boards, however, continue to dispute that determination and the issue has been appealed. However, whether the inspection provisions in the 2001 Permit constitute a new program or higher level of service as compared to the 1996 Permit has yet to be addressed by the courts.

⁶³⁶ 1996 Permit, Part 2.III.B.3a, p. 40 (2001 AR, p. R0028699).

⁶³⁷ *Id.*, Part 2.III.B.3a, pp. 40-41 (2001 AR, pp. R0028699 - 700).

⁶³⁸ *Ibid.*

⁶³⁹ *Id.*, Part 2.III.B.1, pp. 38-39 (2001 AR, pp. R0028697 - 698).

⁶⁴⁰ 2012 Permit, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-013341) and Part VI.C.5.b.iv.(1), p. 63 (2015 AR, p. SB-AR-013356).

1. Construction Site Inventory / Electronic Tracking System (Part VI.D.8.g)

To effectively track the sources of pollution associated with construction activities, Part VI.D.8.g of the 2012 Permit requires each Permittee to maintain an inventory of any permits or other municipal authorization it issues for activities that involve land disturbance. In order to ensure proper and complete implementation of inspection requirements in Part VI.D.8.j, the 2012 Permit requires the inclusion of certain information for each site in the inventory.⁶⁴¹

The Provision is Not a New Program or Higher Level of Service

Claimants allege that the 2001 Permit did not include the tracking requirements contained in Part VI.D.8.g of the 2012 Permit and, thus, this requirement constitutes a new program or higher level of service. While the specific tracking requirements of the Development Construction Program in the 2012 Permit are better defined, this program existed in the 2001 Permit.⁶⁴²

Part 4.E.3.c of the 2001 Permit required the use an effective system to track grading permits issued by each Permittee.⁶⁴³ This previous requirement is analogous to, and the basis for, Part VI.D.8.g of the 2012 Permit.

The Provision is Necessary to Implement Federal Law

Federal regulations at 40 C.F.R. section 122.26(d)(2)(iv)(D) require that Permittees have a program “to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system” that includes several elements. One of these elements, identified in 40 C.F.R. section 122.26(d)(2)(iv)(D)(3) requires a description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.⁶⁴⁴

According to U.S. EPA’s MS4 Permit Improvement Guide, “[t]o effectively conduct inspections, the permittee must know where construction activity is occurring. A construction site inventory tracks information such as project size, disturbed area, distance to any waterbody or flow channel, when the erosion and sediment control/stormwater plan was approved by the Permittee, and whether the project is covered by the permitting authority’s construction general permit. This inventory will allow the permittee to track and target its inspections.”⁶⁴⁵ U.S. EPA also states in a draft permit provision to guide permit development that “[t]he inventory must be continuously updated as new projects are permitted and projects are completed.”⁶⁴⁶ Therefore, the requirements of Part VI.D.8.g, including but not limited to the tracking of information on site characteristics (ii(2)), proximity to receiving waters and water body impairment status (ii(3)), threat to water quality (ii(4)), construction phase (ii(5)), and project start date and anticipated completion date (ii(7)), are necessary to implement federal requirements. Additionally, 40 C.F.R. section 122.26(d)(2)(iv)(A)(2) requires that Permittees have a comprehensive master plan “to develop,

⁶⁴¹ *Id.*, Part VI.D.8.g, p. 118 (2015 AR, pp. SB-AR-013411).

⁶⁴² 2001 Permit, Part 4.E, pp. 50-53.

⁶⁴³ *Id.*, Part 4.E.3.c, p. 52.

⁶⁴⁴ 40 C.F.R. § 122.26(d)(2)(iv)(D)(3).

⁶⁴⁵ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Chapter 4, p. 41 (2012 AR, p. RB-AR53495).

⁶⁴⁶ *Ibid.*

implement and enforce controls to reduce the discharge of pollutants ... from areas of new development and significant redevelopment” and that “[s]uch plan shall address controls to reduce pollutants ... after construction is completed.” As such, tracking post-construction structural BMPs as required in Part VI.D.8.g.ii(10) is necessary to meet this federal requirement.

Other Mandates Exceptions Apply

The information to be tracked per Part VI.D.8.g of the 2012 Permit is readily available to each Permittee as part of their own local permitting requirements for construction activities (e.g., issuance of local grading permits, encroachment permits, demolition permits, and building permits) or from information previously collected by Permittees as required by federal regulation such as documentation of waterbodies that receiving MS4 discharges and whether these waterbodies are impaired.⁶⁴⁷ Furthermore, in a comment letter submitted by the City of La Cañada Flintridge on January 31, 2012, commenting on the draft core requirements of the 2012 Permit, the City, which is one of the Permittees under the 2012 Permit, stated that verification of coverage under the Construction General Permit (CGP) “is a normal requirement today for every City.”⁶⁴⁸ Additionally, a number of Permittees already reported using electronic tracking systems to track grading and building permits under prior permits.⁶⁴⁹ Because the information to be tracked is readily available as part of Permittees’ local permitting processes or is information that Permittees would have previously compiled as required under previous permits, and in many cases electronic tracking systems were already in place, the Water Boards believe that any additional costs to meet the minimum requirements of Part VI.D.8.g are *de minimis*.

2. Construction Plan Review and Approval Procedures (Part VI.D.8.h)

Part VI.D.8.h of the 2012 Permit requires Permittees to have procedures to review and approve relevant construction plan documents to ensure implementation of BMPs at construction sites to prevent illicit discharges and reduce pollutants in stormwater runoff.⁶⁵⁰ Claimants allege that the 2001 Permit did not include the requirement in Part VI.D.8.h of the 2012 Permit to develop and implement procedures for reviewing construction plan documents, or to develop a checklist to conduct and document the review of the Erosion and Sediment Control Plan (ESCP) and, thus, this requirement constitutes a new program or higher level of service. Claimants further allege that Part VI.D.8.h of the 2012 Permit is not mandated by federal law.⁶⁵¹

The Provision is Not a New Program or Higher Level of Service

Part 4.E.2.a of the 2001 Permit stated that Permittees must require preparation and submittal of a Local SWPPP for approval prior to issuance of a grading permit for construction projects, which

⁶⁴⁷ 40 C.F.R. § 122.26(d)(1)(iv)(C).

⁶⁴⁸ Comments Received on Staff Presentation at January 23, 2012 Staff Workshop, City of La Cañada Flintridge, p. 3 (2012 AR, p. RB-AR1102).

⁶⁴⁹ See, e.g., City of Manhattan Beach, 2011-12 NPDES Annual Report, p. 26; City of Norwalk, 2011-12 NPDES Annual Report, p. 26; City of Westlake Village, 2011-12 NPDES Annual Report, p. 24 (Westlake Village is one of a number of cities that contract with Los Angeles County for various services. The City indicates that Los Angeles County uses a computerized database to track all grading and building permits).

⁶⁵⁰ 2012 Permit, Part VI.D.8.h, pp. 118-120 (2015 AR, pp. SB-AR-013411 - 413).

⁶⁵¹ Test Claim 13-TC-01, pp. 25-27 and 13-TC-02, pp. 32, 34.

is analogous to, and the basis for, the requirement of Part VI.D.8.h of the 2012 Permit.⁶⁵² Just as in the 2001 Permit, a SWPPP prepared in accordance with the requirements of the CGP can be accepted by the Permittee as meeting the requirement for an ESCP.⁶⁵³

The Provision is Necessary to Implement Federal Law

Federal regulations at 40 C.F.R. section 122.26(d)(2)(iv)(D) require that Permittees develop and implement a program to reduce pollutants in stormwater runoff from construction sites to MS4s.⁶⁵⁴ More specifically, 40 C.F.R. section 122.26(d)(2)(iv)(D)(1) requires that Permittees have “procedures for site planning which incorporate consideration of potential water quality impacts,” and subpart (D)(3) requires that Permittees have “procedures for identifying priorities for inspecting sites and enforcing control measures...”⁶⁵⁵ These federal requirements are the basis for Part IV.D.8.h of the 2012 Permit.

The U.S. EPA MS4 Permit Improvement Guide states, “[p]ermits must require that MS4 permittees ensure that construction site operators select and implement appropriate erosion and sediment control measures to reduce or eliminate the impacts to receiving waters. The permit can require that permittees develop their own standards and specifications, but often it is preferable to require the permittees to utilize existing guidance that is approved by the permitting authority.”⁶⁵⁶ A permit provision to develop procedures to review and approve relevant construction plan documents is necessary to achieve this requirement. The U.S. EPA MS4 Permit Improvement Guide further states, “[t]he permit must require that the permittee establish review procedures for construction site plans to determine potential water quality impacts and ensure the proposed controls are adequate. These procedures must include the review of individual pre-construction site plans...” and “[a] formalized review procedure ensures consistent review of plans by specifying the requirements for plans being submitted, the schedule for review, and general conditions for approval.”⁶⁵⁷ U.S. EPA concludes with “plan reviewers must be trained and must document their review. For example, this can be done by using a checklist or similar process.”⁶⁵⁸ U.S. EPA included an example permit provision that includes similar provisions to those being challenged here, which requires in part:

“The permittee must continue to implement site plan review procedures that meet the following minimum requirements:

a. The permittee must not approve any [*insert name of local erosion and sediment control/stormwater plan*] unless it contains appropriate site-specific construction site control measures that meet the minimum requirements in Part 4.1.1 of this permit.

...

⁶⁵² 2001 Permit, Part 4.E.2.a, pp. 50-51.

⁶⁵³ See 2001 Permit, Part 4.E.2, pp. 50, 52 and 2012 Permit, Part VI.D.8.h.ii.(2), p. 119 (2015 AR, SB-AR-013412).

⁶⁵⁴ 40 C.F.R. § 122.26(d)(2)(iv)(D).

⁶⁵⁵ *Id.*, subd. (d)(2)(iv)(D)(1).

⁶⁵⁶ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Chapter 4, p. 37 (2012 AR, p. RB-AR53491).

⁶⁵⁷ *Id.*, at p. 42 (2012 AR, p. RB-AR53496).

⁶⁵⁸ *Id.*, at p. 43 (2012 AR, p. RB-AR53497).

- d. The permittee must use qualified individuals, knowledgeable in the technical review of *[insert name of local erosion and sediment control/stormwater plan]* to conduct such reviews.
- e. The permittee must document its review of each *[insert name of local erosion and sediment control/stormwater plan]* using a checklist or similar process.”⁶⁵⁹

This requirement is also included in U.S. EPA issued MS4 permits such as for the Boise/Garden City Area and the Middle Rio Grande.⁶⁶⁰

Therefore, the provision to develop procedures, including a checklist, is necessary to implement federal requirements.

3. Implementation of BMP Technical Standards (Parts VI.D.8.i.(i), VI.D.8.i.(ii), VI.D.8.i.(iv), and VI.D.8.i.(v))

Part VI.D.8.i of the 2012 Permit requires each Permittee to implement appropriate technical standards for the selection, installation, and maintenance of construction BMPs for all construction sites to ensure appropriate BMPs are selected to prevent illicit discharges and reduce pollutants in stormwater runoff from construction sites. These technical standards are required to be readily available to the development community.⁶⁶¹ Claimants allege that the 2001 Permit did not include the requirements listed in Parts VI.D.8.i.(i), VI.D.8.i.(ii), VI.D.8.i.(iv), and VI.D.8.i.(v) of the 2012 Permit and, thus, these requirements constitute a new program or higher level of service. Claimants also allege that these requirements are not mandated by federal law.

The Provisions are Not New Programs or Higher Levels of Service

Part 4.E.1 of the 2001 Permit required Permittees to implement a program to control runoff from construction activity at all construction sites within their jurisdictions. Subparts 4.E.1.a through d of the 2001 Permit required Permittees to ensure the implementation of adequate/effective BMPs to control erosion, control discharge of sediment, and prevent release of construction related material, wastes, spills, and non-stormwater from the site.⁶⁶² The requirements of Part 4.E.1 of the 2001 Permit are the basis for the requirements of Part VI.D.8.i of the 2012 Permit.

The Provisions are Necessary to Implement Federal Law

Federal regulations at 40 C.F.R. section 122.26(d)(2)(iv)(D)(2) requires that Permittees have established requirements for nonstructural and structural BMPs to be implemented at construction sites.⁶⁶³ Additionally, 40 C.F.R. section 122.26(d)(2)(iv)(D)(4) requires that Permittees have

⁶⁵⁹ *Id.*, at pp. 41-42 (2012 AR, pp. RB-AR53495 – 496).

⁶⁶⁰ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.1.c.iv, p. 9; U.S. EPA, NPDES Permit No. NMR04A000, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to the Middle Rio Grande Watershed (Dec. 22, 2014), Part I.D.5.a, p. 25.

⁶⁶¹ 2012 Permit, Part VI.D.8.i, pp. 120-123 (2015 AR, pp. SB-AR-013413 - 416).

⁶⁶² 2001 Permit, Part 4.E.1.a through d, p. 50.

⁶⁶³ 40 C.F.R. § 122.26(d)(2)(iv)(D)(2).

appropriate educational and training measures for construction site operators.⁶⁶⁴ Part VI.D.8.i of the 2012 Permit is necessary to meet these federal requirements, by ensuring that Permittees have technical standards for BMPs and that they make these technical standards readily available to the development community as educational and training measures.

The requirements of Part VI.D.8.i are consistent with those of U.S. EPA-issued permits such as the MS4 permit for the Boise/Garden City Area, which requires that permittees have manuals describing construction stormwater management controls and specifications, including requirements for the proper installation and maintenance of erosion controls, sediment controls, and material containment/pollution prevention controls during all phases of construction activity. The manuals must also include all acceptable control practices, selection and sizing criteria, illustrations, and design examples, as well as recommended operation and maintenance of each practice.⁶⁶⁵

The Provisions are Not Unique to Local Government

The requirement to implement appropriate technical standards for the selection, installation, and maintenance of construction BMPs is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities in order to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required to have as an element of its Storm Water Management Plan (SWMP) a description of how BMPs will be developed, constructed and maintained and must submit updates to its “Storm Water Treatment BMP Technology Report.”⁶⁶⁶ The above demonstrates that Claimants are not being treated differently than non-local government entities.

Other Mandates Exceptions Apply

Claimants do not challenge one subpart of Part VI.D.8.i, namely subpart i.(iii). Part VI.D.8.i.(iii) of the 2012 Permit provides Permittees the flexibility to use existing BMP manuals developed by their own member agency, the California Association of Stormwater Quality Agencies (CASQA) or Caltrans to meet the requirements of Parts VI.D.8.i.(i)-(ii) and (v) to implement technical standards for construction site BMPs.⁶⁶⁷ These manuals include detailed installation designs (or “cut sheets”) and maintenance expectations.⁶⁶⁸ As such, the cost associated with implementation of Part VI.D.8.i is *de minimus*.

⁶⁶⁴ *Id.*, subd. (d)(2)(iv)(D)(4).

⁶⁶⁵ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), p. 9.

⁶⁶⁶ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.e, pp. 40-42; see also Caltrans, Treatment BMP Technology Report (2010 Edition), Appendix C, which presents technical standards for BMPs approved for installation on Caltrans facilities.

⁶⁶⁷ 2012 Permit, Part VI.D.8.i.iii, p. 120 (2015 AR, p. SB-AR-013413).

⁶⁶⁸ See, e.g., Caltrans, Construction Site Best Management Practices (BMP) Manual (May 2017), “Temporary Silt Fence,” Section 4, SC-1, pp. 3, 5-6; Caltrans, Treatment BMP Technology Report (2010 Edition), Appendices B and C.

4. Construction Site Inspection (Part VI.D.8.j)

Part VI.D.8.j of the 2012 Permit requires each Permittee to inspect construction sites to ensure appropriate BMPs are implemented to prevent illicit discharges and reduce pollutants in stormwater runoff from construction sites. As part of the inspection, the Permittee is required to verify coverage under the CGP for projects that disturb 1 acre or more of land, review the ESCP/SWPPP and inspect the BMPs to ensure they have been selected and implemented properly, observe and record illicit discharges and illicit connections, and develop a written or electronic inspection report generated from an inspection checklist used in the field. Permittees are required to keep track of inspections to ensure they meet the required frequencies.⁶⁶⁹

The Provision is Not a New Program or Higher Level of Service

Part 4.E.2.b of the 2001 Permit required Permittees to inspect all construction sites, including reviewing the Local SWPPP for compliance with local codes, ordinances, and permits and assess the adequacy of BMP implementation, and the 2001 Permit Monitoring and Reporting Program, Attachment U-4 required Permittees to report on their inspection procedures and results (i.e., number of inspections and outcomes).⁶⁷⁰ Part VI.D.8.j of the 2012 Permit essentially sets forth the same requirement, but requires an increased frequency of inspections (from 2-4 more inspections per site, depending on the length of the construction period) to ensure that illicit discharges are prevented and pollutants in stormwater runoff are controlled at each stage of construction.

The Provision is Necessary to Implement Federal Law

Federal regulations at 40 C.F.R. section 122.26(d)(2)(iv)(D)(3) require Permittees to implement procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.⁶⁷¹ Additionally, 40 C.F.R. sections 122.26(d)(2)(i)(A)-(C), (E)-(F) require Permittees to have adequate legal authority to control pollutants to the MS4 from discharges associated with industrial activity, including construction activity,⁶⁷² prohibit illicit discharges, control discharge of spills, dumping or disposal of material other than stormwater, require compliance with ordinances, permits, contracts or orders, and carry out all inspection, surveillance and monitoring necessary to determine compliance and noncompliance with permit conditions. These provisions require inspection of construction sites and are the basis for Part IV.D.8.j of the 2012 Permit.

Further, U.S. EPA's MS4 Permit Improvement Guide provides a draft permit provision that is identical to Part VI.D.8.j along with a discussion of the necessity of the permit provision to meet federal requirements.⁶⁷³

⁶⁶⁹ 2012 Permit, Part VI.D.8.j, pp. 123-125 (2015 AR, pp. SB-AR-013416 - 418).

⁶⁷⁰ 2001 Permit, Part 4.E.2.b, p. 51 and Attachment U-4, pp. 22-23.

⁶⁷¹ 40 C.F.R. § 122.26(d)(2)(iv)(D)(3).

⁶⁷² *Id.*, subd. (b)(14)(x) (defining construction activity as a category of "industrial activity").

⁶⁷³ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Chapter 4, pp. 43-45 (2012 AR, pp. RB-AR53497-499).

Provisions for inspection of construction sites are also included in U.S. EPA-issued MS4 permits such as for the Boise/Garden City Area and the Middle Rio Grande.⁶⁷⁴

As such, Part VI.D.8.j of the 2012 Permit is necessary to meet federal requirements.

The Provision Is Not Unique to Local Government

The requirement to inspect construction sites to ensure appropriate BMPs are implemented to prevent illicit discharges and reduce pollutants in stormwater runoff is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities in order to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required to have an inspection program as an element of its SWMP “to ensure ... that facilities are constructed, operated, and maintained in accordance with this Order and the SWMP. The program shall include training for inspection personnel, documentation of field activities, a reporting system that can be used to track effectiveness of control measures, enforcement procedures (or referral for enforcement) for non-compliance, procedures for taking corrective action, and responsibilities and responsible personnel of all affected functional offices and branches. The inspection program shall also include standard operating procedures for documenting inspection findings...”⁶⁷⁵

The 2012 Permit Fact Sheet also indicates that requirements of Part VI.D.8.j.ii(1) are consistent with the State Water Board’s CGP.⁶⁷⁶ Specifically, non-local government entities enrolled under the CGP are required to have a Qualified SWPPP Practitioner (QSP) conduct visual inspections of all BMPs implemented at the site to ensure their effectiveness.⁶⁷⁷

This demonstrates that Claimants are not being treated differently than non-local government entities.

5. Permittee Staff Training (Part VI.D.8.I)

Part VI.D.8.I of the 2012 Permit requires each Permittee to ensure that all staff, inspectors, and third-party plan reviewers, permitting staff and inspectors whose primary duties are related to implementing this program are adequately trained in order to ensure that the Development Construction Program is effectively implemented.⁶⁷⁸ Claimants allege that the 2001 Permit did not

⁶⁷⁴ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), pp. 9-10; U.S. EPA, NPDES Permit No. NMR04A000, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to the Middle Rio Grande Watershed (Dec. 22, 2014), Part I, pp. 25-26.

⁶⁷⁵ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.b.5), pp. 22-23.

⁶⁷⁶ 2012 Permit, Attachment F (Fact Sheet), p. F-55 (2015 AR, p. SB-AR013627).

⁶⁷⁷ See, for example, State Water Board, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit for Storm Water Discharges Associated With Construction And Land Disturbance Activities, Attachment D – Risk Level 2 Requirements, Section G, pp. 6-7 and Attachment E – Risk Level 3 Requirements, Section G, pp. 6-8.

⁶⁷⁸ 2012 Permit, Part VI.D.8.I, p. 125 (2015 AR, p. SB-AR013418).

require the specificity of training that Part VI.D.8.I of the 2012 Permit requires or that, if outside parties conducted inspections or review plans, each permittee was required to ensure that such staff was trained under the same requirements.⁶⁷⁹

The Provision is Not a New Program or Higher Level of Service

Part 4.E.5 of the 2001 Permit required each Permittee to train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the stormwater management program.⁶⁸⁰ The clear objective of this requirement was to ensure that the staff involved in carrying out all the requirements of the Development Construction Program had adequate knowledge to do so. This requirement is this basis for Part VI.D.8.I of the 2012 Permit. The requirement of the 2012 Permit simply recognizes that many Permittees choose to contract out plan review and site inspections and requires that the same training that has been required of employees since the 2001 Permit is also required when contractors act in place of employees. It would be disingenuous to think that a requirement applied to employees would not equally apply to contractors who are performing the work that employees would otherwise be performing. Therefore, Part VI.D.8.I of the 2012 Permit is not a new program or higher level of service.

The Provision is Necessary to Implement Federal Law

Federal regulations at 40 C.F.R. section 122.26(d)(2)(iv)(D) require that Permittees develop and implement a program to implement to reduce pollutants in stormwater runoff from construction sites to MS4s.⁶⁸¹ More specifically, 40 C.F.R. section 122.26(d)(2)(iv)(D)(3) requires that Permittees have “procedures for identifying priorities for inspecting sites and enforcing control measures...”⁶⁸² An important element of such procedures is training for the individuals tasked with implementing the program.

The U.S. EPA MS4 Permit Improvement Guide provides draft permit provisions that closely resemble the requirements of Part VI.D.8.I, including training for staff as well as third-party inspectors and plan reviewers.⁶⁸³

This requirement is also included in U.S. EPA issued MS4 permits such as for the Boise/Garden City Area.⁶⁸⁴ As such, Part VI.D.8.I of the 2012 Permit is necessary to meet federal requirements.

This Provision Is Not Unique to Local Government

The requirement to ensure that all staff, inspectors, and third-party plan reviewers, permitting staff and inspectors whose primary duties are related to implementing the Construction Development

⁶⁷⁹ Test Claim 13-TC-01, p. 26 and 13-TC-02, p. 32.

⁶⁸⁰ 2001 Permit, Part 4.E.5, pp. 52-53.

⁶⁸¹ 40 C.F.R. § 122.26(d)(2)(iv)(D).

⁶⁸² *Id.*, subd. (d)(2)(iv)(D)(1).

⁶⁸³ U.S. EPA. *MS4 Permit Improvement Guide* (2010), Chapter 4, p. 46 (2012 AR, p. RB-AR53500).

⁶⁸⁴ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.1.g, pp. 12-13.

Program are adequately trained is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities in order to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required to have a training program for Caltrans employees and construction contractors as an element of its SWMP.⁶⁸⁵ Additionally, non-local government entities enrolled under the CGP are required to “ensure that all persons responsible for implementing requirements of this General Permit shall be appropriately trained...training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized government agencies or professional organizations.”⁶⁸⁶ The above demonstrates that Claimants are not being treated differently than non-local government entities.

For all these reasons, and for the additional reasons discussed in Section IV above, the Commission should find that Parts VI.D.8.g, VI.D.8.h, VI.D.8.i.i, VI.D.8.i.ii, VI.D.8.i.iv, VI.D.8.i.v, VI.D.8.j, and VI.D.8.l of the 2012 Permit are not state mandates subject to subvention.

G. Public Agency Activities Program

Parts VI.D.4.c.iii, VI.D.4.c.vi, VI.D.4.c.x(2), VI.D.9.c, VI.D.9.d.i, VI.D.9.d.ii, VI.D.9.d.iv, VI.D.9.d.v, VI.D.9.g.ii, VI.D.9.h.vii, and VI.D.9.k.ii of the 2012 Permit require Claimants to develop an inventory of public facilities that are potential sources of stormwater pollution; identify, evaluate, and consider retrofitting opportunities in existing development; implement an Integrated Pest Management Program; implement trash excluders or equivalent BMPs in high priority “Priority A” areas; and train employees and contractors on proposer pesticide use.⁶⁸⁷

As discussed in Section IV.B.3.ii, above, Parts VI.D.4 and VI.D.9 of the 2012 Permit, including all their subparts, are provisions that Permittees can customize in an approved WMP or EWMP.⁶⁸⁸ All Claimants elected to develop, and are now implementing, an approved WMP or EWMP. Therefore, regardless of the specificity, the choice to implement the specific requirements of Parts VI.D.4 and VI.D.9, rather than alternative activities consistent with federal regulations was the Claimants’ and is, therefore, not a state mandate.

1. Public Facility Inventory (Parts VI.D.4.c.iii and VI.D.9.c)

Parts VI.D.4.c.iii and VI.D.9.c require that each Permittee maintain an updated inventory of all Permittee-owned or operated (i.e., public) facilities within its jurisdiction that are potential sources of stormwater pollution. The requirement also outlines the types of sources to be tracked and the minimum fields of information to be used in the inventory. Additionally, Permittees must update

⁶⁸⁵ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.k, p. 49.

⁶⁸⁶ State Water Board, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit for Storm Water Discharges Associated With Construction And Land Disturbance Activities, Part VII, pp. 32-33. Permittees are required to provide documentation of all training in their Annual Reports.

⁶⁸⁷ 2012 Permit, Part VI.D.4.c, pp. 75-84 (2015 AR, pp. SB-AR-013368 - 377) and Part VI.D.9, pp. 125-140 (2015 AR, pp. SB-AR-013418 – 433).

⁶⁸⁸ *Id.*, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-013341) and Part VI.C.5.b.iv.(1), p. 63 (2015 AR, p. SB-AR-013356).

the inventory at least once during the 5-year term of the permit with information obtained through field activities or other readily available inter- and intra-agency informational databases.⁶⁸⁹

The Provisions are Not New Programs or Higher Levels of Service

The 2001 Permit, as part of the Industrial/Commercial Facilities Program, included a provision that required each Permittee to “maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of storm water pollution.”⁶⁹⁰ The types of facilities defined as “critical sources” include: restaurants; automotive service facilities; retail gasoline outlets and automotive dealerships; U.S. EPA Phase I industrial facilities; municipal landfills; hazardous treatment, disposal, and recovery facilities; and industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA).⁶⁹¹ The provision also required that this inventory include minimum fields of information and that the Permittee update the inventory annually.

While this provision was contained within the Industrial/Commercial Facilities Program in the 2001 Permit, the 2012 Permit’s provision to develop an inventory of public facilities that are potential sources of stormwater pollution simply clarifies that there are also “critical sources” that are owned by Permittees that should be tracked consistent with the tracking of critical commercial and industrial sources. Such tracking is necessary in order to ensure that other provisions of the permit are implemented, and to enable the Permittee to report its stormwater control activities at these facilities in its annual report as required.

The connection to the 2001 Permit provisions is supported by the categories of facilities required to be tracked under the contested provisions. Among the twenty-four (24) categories of facilities are categories previously tracked under the 2001 Permit’s Industrial/Commercial Facilities Program inventory for critical sources.⁶⁹² Note that for industrial facilities, the 2001 Permit requirement clearly included both public and private facilities as evidenced by the inclusion of municipal landfills. Categories in Part VI.D.9.c that were previously tracked under the 2001 Permit include hazardous waste treatment, disposal and recovery facilities (identified as #6, #7, #8, #20 in Part VI.D.9.c.i), municipal landfills (identified as #9), vehicle service facilities (identified as #4, #22), and retail gasoline outlets (identified as #5)⁶⁹³ as well as several facility categories that have facility-specific requirements under the 2001 Permit’s Public Agency Activities Program, including vehicle maintenance and material storage facilities and corporate yards (identified as #2, #4, #5, #10, #11, #18, #22), landscape and recreational facilities (identified as #4, #15-17, #19), including pesticide storage areas (#11), and parking lots (identified as #14).⁶⁹⁴ Further, under the 2001 Permit, Permittees were required to report information such as whether all Permittee-owned parking lots were swept at the required frequency and whether all municipal activity considered

⁶⁸⁹ *Id.*, Part VI.D.4.c.iii, pp. 76-77 (2015 AR, pp. SB-AR-013369 – 370) and Part VI.D.9.c, pp. 126-128 (2015 AR, pp. SB-AR-013419 - 421).

⁶⁹⁰ 2001 Permit, Part 4.C.1, pp. 35-36.

⁶⁹¹ *Id.*, Attachment B, p. B-1 to B-2.

⁶⁹² Note that Part VI.D.4.c.iii.(1) of the 2012 Permit identifies a more limited set of LACFCD-owned facilities that must be inventoried as compared to Part VI.D.9.c.i. (2015 AR, pp. SB-AR-013369, 013419 - 420).

⁶⁹³ 2001 Permit, Part 4.C.1.a, pp. 35-36.

⁶⁹⁴ *Id.*, Part 4.F.3, 4.F.4.i, 4.F.7,

an industrial activity had been separately permitted under the IGP.⁶⁹⁵ Without an inventory of Permittee-owned facilities, it would be difficult to report this information as required.

The Provisions are Necessary to Implement Federal Law

Maintaining an inventory of Permittee-owned or operated facilities that are potential sources of stormwater pollution is a requisite first step to reduce pollutants in stormwater discharges and to prevent illicit discharges that may originate from public facilities and public agency activities. Federal regulations at 40 C.F.R. section 122.26(d)(2)(iv) require that Permittees have a management program that includes a comprehensive planning process and management practices and control techniques to reduce pollutants in stormwater and prevent illicit discharges. For a Permittee to ignore its own facilities that are potential sources of pollutants in a comprehensive planning process and management program would be illogical and irresponsible.

This interpretation is in line with U.S. EPA's MS4 Permit Improvement Guide, which emphasizes the need for permittees to evaluate and assess *their own facilities* in pollution prevention and good housekeeping programs to meet federal stormwater regulations at 40 C.F.R. section 122.26(d)(2)(iv)(A). U.S. EPA states, "[t]he first step for the permittee is to evaluate and assess the areas and municipal facilities that it controls to determine which activities may currently have a negative impact on water quality and to find solutions for these activities."⁶⁹⁶ U.S. EPA's MS4 Permit Improvement Guide provides a draft permit provision for the development of a "Municipal Facility and Stormwater Control Inventory," which was the basis for the contested provision.⁶⁹⁷ This example provision directs permittees to "continue to update and maintain an inventory of municipally-owned or operated facilities and stormwater controls;" provide a list of the types of facilities that permittees must include in the inventory; and map the locations of facilities. Additionally, U.S. EPA has included a similar provision in its Massachusetts General MS4 Permit; the provision requires that "the permittee shall develop an inventory of all permittee owned facilities within the categories below. The permittee shall review this inventory annually and update as necessary."⁶⁹⁸ The inclusion of a similar provision in the U.S. EPA MS4 Permit Improvement Guide and a U.S. EPA-issued MS4 permit supports the conclusion that the provision is necessary to meet federal requirements.

⁶⁹⁵ *Id.*, Attachment U-4, pp. 24-33.

⁶⁹⁶ U.S. EPA. *MS4 Improvement Guide* (2010), p. 67 (2012 AR, p. RB-AR53521).

⁶⁹⁷ *Id.*, at pp. 68-69 (2012 AR, pp. RB-AR53522 - 523). The only source included in the 2012 Permit, but not included in the U.S. EPA draft permit provision, is animal control facilities. However, U.S. EPA states that "Permit writers should tailor the facilities listed in the assessment as best they can to include the facilities most likely to be owned or operated by the permittee." Given that bacteria is a pollutant of concern as discussed in the 2012 Permit, Attachment F (Fact Sheet), Section II.B (2015 AR, p. SB-AR-013579), and Permittees own many animal control facilities, the Los Angeles Board included these in the list of facilities to inventory. (Note that the draft permit provision in the MS4 Improvement Guide includes "landscape maintenance on municipal property," which would include at public parks and public marinas as identified in the 2012 Permit.)

⁶⁹⁸ U.S. EPA, General Permits For Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) In Massachusetts, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to MS4s located in the Commonwealth of Massachusetts, NPDES Permits No. MAR041000, MAR042000, and MAR043000 (Apr. 4, 2016), Part 2.3.7.a.ii, p. 48.

Other Mandates Exceptions Apply

As previously discussed, many Permittee-owned facilities were previously tracked under the 2001 Permit's critical sources inventory requirement (Part 4.C.1), or had to be internally tracked to implement and report on public agency activities under the 2001 Permit. Further, to implement the provision, Permittees do not need to procure any new technology, since an inventory can be created and maintained using conventional technology. Finally, the information to be maintained in the inventory is readily available, since the tracked facilities are all Permittee-owned. For these reasons, even if the Commission concludes that some aspect of these provisions imposes requirements that exceed a federal mandate, the costs to implement these provisions is *de minimis* and therefore not entitled to subvention.

In addition, regarding the provision in Part VI.D.4.c applicable to the LACFCD only, the LACFCD proposed to the Los Angeles Water its own section of permit provisions in a meeting with the Board on April 25, 2012.⁶⁹⁹ In this meeting, the LACFCD presented its written proposal for the requirements in Part VI.D of the 2012 Permit that would apply to it. The Board accepted the LACFCD written proposal in large part, and describes in the 2012 Permit Fact Sheet the rationale for a separate "Minimum Control Measure" section to set forth the requirements applicable to the LACFCD only.⁷⁰⁰ In the case of Part VI.D.4.c.(iii), the LACFCD proposed subparts (1) and (3), which the Board accepted.⁷⁰¹ The LACFCD did not propose the list of minimum fields of information required in subpart (2). Because the LACFCD proposed the requirements they are challenging now, which the Board included in the 2012 Permit at their request, the LACFCD is surely not entitled to subvention for the costs to implement the provisions they proposed.

2. Inventory of Retrofitting Opportunities (Part VI.D.9.d.i); Screening of Existing Areas of Development (Part VI.D.9.d.ii); Consideration of Screening Evaluation for Permit Programs (Part VI.D.9.d.iv); and Cooperation with Private Landowners (Part VI.D.9.d.v)

Part VI.D.9.d.i requires Permittees to develop an inventory of retrofitting opportunities in existing development.⁷⁰²

Part VI.D.9.d.ii requires Permittees to screen existing areas of development to identify candidate areas for retrofitting using watershed models or other screening level tools.⁷⁰³

Part VI.D.9.d.iv requires Permittees to consider the results of the evaluation in Part VI.D.9.ii in its stormwater management program, New Development and Redevelopment program and specifically for off-site mitigation, and in coordination with flood control projects.⁷⁰⁴

⁶⁹⁹ See April 25, 2012 meeting sign-in sheet, agenda, and written LACFCD proposal for permit provisions (2012 AR, pp. RB-AR3063 – 84).

⁷⁰⁰ 2012 Permit, Attachment F (Fact Sheet), Part VI.C.10, p. F-86 (2015 AR, SB-AR-013658).

⁷⁰¹ Compare Part B.2.b of the LACFCD proposal to Part VI.D.4.c(iii) of the 2012 Permit (2012 AR, pp. RB-AR3067 - 69; 2015 AR, pp. SB-AR-013369 - 370).

⁷⁰² 2012 Permit, Part VI.D.9.d.i, p. 128 (2015 AR, p. SB-AR-013421).

⁷⁰³ *Ibid.*

⁷⁰⁴ *Id.*, Part VI.D.9.d.iv, pp. 128-129 (2015 AR, pp. SB-AR-013421 - 422).

Part VI.D.9.d.v requires Permittees to cooperate with private landowners to encourage site specific retrofitting projects.⁷⁰⁵

The Provisions are Not New Programs or Higher Levels of Service

The 2001 Permit's Development Planning Program had express objectives to "[m]aximize the percentage of pervious surfaces to allow percolation of storm water into the ground," "[m]inimize the quantity of storm water directed to impervious surfaces and the MS4," and "[p]rovide for appropriate permanent measures to reduce storm water pollutant loads ... from the development site."⁷⁰⁶ While these provisions were limited to new development and redevelopment projects in the 2001 Permit, the contested provisions recognize that these same objectives should apply to existing development in the largely built-out Los Angeles Region. These provisions are also in line with the 2001 Permit's Storm Water Quality Management Program (SQMP) provisions, which required that Permittees "at a minimum, comply with the applicable storm water program requirements of 40 C.F.R. 122.26(d)(2). The SQMP and its components shall be implemented to reduce the discharges of pollutants in storm water to the MEP."⁷⁰⁷

The Provisions are Necessary to Implement Federal Law

As noted in U.S. EPA's MS4 Permit Improvement Guide, existing development contributes significant amounts of pollutants to the MS4.⁷⁰⁸ Including provisions to address existing development is, therefore, necessary as part of the management program required by 40 C.F.R. section 122.26(d)(2)(iv), including as part of a "comprehensive planning process," and "description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas."

The contested provision encourages, but does not require itself, the reduction of pollutants from existing development. It simply requires that Permittees identify potential opportunities for retrofit and cooperate with private landowners consistent with the federal requirement for "a comprehensive planning process which involves public participation." Given that much of the land area under the Permittees' jurisdiction is built-out, this 2012 Permit requirement is necessary to meaningfully control pollutants from commercial and residential areas.

This is supported by U.S. EPA in their MS4 Permit Improvement Guide, which includes an example permit provision that requires permittees to develop a plan to retrofit existing developed sites that are impacting water quality. This plan must emphasize controls that infiltrate, evapotranspire, or harvest and use stormwater discharges and include an "inventory of potential retrofit locations" and an "evaluation and ranking of the inventoried locations to prioritize retrofitting."⁷⁰⁹

Additionally, in the MS4 Permit Improvement Guide, U.S. EPA provides strongly worded rationale emphasizing the need for retrofit provisions in MS4 permits:

⁷⁰⁵ *Id.*, Part VI.D.9.d.v, p. 129 (2015 AR, p. SB-AR-013422).

⁷⁰⁶ 2001 Permit, Part 4.D, p. 47.

⁷⁰⁷ *Id.*, Part 3.A.2, p. 26.

⁷⁰⁸ U.S. EPA. *MS4 Improvement Guide* (2010), p. 65 (2012 AR, p. RB-AR53520).

⁷⁰⁹ *Id.*, at pp. 64-65 (2012 AR, pp. RB-AR53518 - 519)

It is clear that we cannot protect the nation's waters without also addressing degradation caused by stormwater discharges from existing developed sites. For that reason stormwater programs must include substantive retrofit provisions.

It is possible and reasonable to significantly improve water quality in many urban receiving waters. This requires more than just a new development and redeveloped sites program, however, which at best can only hold the line. To actually improve the quality of receiving waters it is necessary to mitigate discharges from existing developed sites, which generally means implementation of measures to bring about the retrofit the [sic] stormwater control measures at existing sites to retain most stormwater on site.

In addition, research indicates that most streambank restoration projects that actively stabilize eroding channels should not be implemented until after hydrologic retrofits have been completed that restore the hydrologic regime not concurrently with the implementation of the retrofits.

Municipal projects, such as traffic calming sites could also include stormwater retrofit components, such as curb bump outs that include bioretention features, rain gardens, and curb cuts.

Information on retrofit options and the development of a retrofit plan can be found in the Center for Watershed Protection's guidance on Urban Stormwater Retrofit Practices (available at www.cwp.org as Manual No. 3 under the Urban Subwatershed Restoration Manual Series).⁷¹⁰

U.S. EPA has also included similar requirements in MS4 permits that it has issued. The Massachusetts General MS4 Permit requires permittees to identify permittee-owned properties that could be retrofitted to reduce pollutants in stormwater discharges. That permit also lists the factors that permittees must consider when identifying these retrofit opportunities.⁷¹¹

All of the above supports the conclusion that Parts VI.D.9.d.i, VI.D.9.d.ii, VI.D.9.d.iv, and VI.D.9.d.v are necessary to meet federal requirements.

Other Mandates Exceptions Apply

Because Permittees can implement the provisions through an inventory and screening-level analyses with conventional tools and technology and may choose the criteria for evaluating and ranking areas, the costs of implementing the contested provisions are *de minimus*. Additionally, Part VI.D.9.d.iv chiefly requires Permittees to consider the results of the retrofit inventory and the corresponding analyses as they implement other requirements of the 2012 Permit such as Part VI.D.7.c.iii.(4)-(5), which provides that Permittees may allow developers to implement offsite mitigation in some cases. Part VI.D.7.c.iii.(5) in particular requires each Permittee to develop a prioritized list of offsite mitigation, groundwater replenishment and/or retrofit projects.

⁷¹⁰ *Id.*, at p. 65 (2012 AR, p. RB-AR53519)

⁷¹¹ U.S. EPA, General Permits For Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) In Massachusetts, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to MS4s located in the Commonwealth of Massachusetts, NPDES Permits No. MAR041000, MAR042000, and MAR043000 (Apr. 4, 2016), Part 2.3.6.d, p. 47.

3. Implementation of an Integrated Pest Management Program (Parts VI.D.4.c.vi and VI.D.9.g.ii)

Parts VI.D.4.c.vi and VI.D.9.g.ii require Permittees to implement an Integrated Pest Management (IPM) program. These provisions require that the IPM program include the following requirements or activities:

- Pesticides are used only if monitoring indicates they are needed, and pesticides are applied according to applicable permits and established guidelines;
- Treatments are made with the goal of removing only the target organism;
- Pest controls are selected and applied in a manner that minimizes risks to human health, beneficial non-target organisms, and the environment;
- The use of pesticides, including organophosphates and pyrethroids, does not threaten water quality;
- Partner with other agencies and organizations to encourage the use of IPM;
- Adopt and verifiably implement policies, procedures, and/or ordinances requiring the minimization of pesticide use and encouraging the use of IPM techniques (including beneficial insects) for public agency facilities and activities;
- Policies, procedures, and ordinances shall include commitments and a schedule to reduce the use of pesticides that cause impairment of surface waters by implementing the following procedures: prepare and annually update an inventory of pesticides used by all internal departments, divisions, and other operational units; quantify pesticide use by staff and hired contractors; and demonstrate implementation of IPM alternatives where feasible to reduce pesticide use.⁷¹²

The Provisions are Not New Programs or Higher Levels of Service

Parts VI.D.4.c.vi and VI.D.9.g.ii are a refinement of the pesticide provisions included in the 2001 Permit and therefore, are not a new program or higher level of service. Specifically, Part 4.F.4 of the 2001 Permit required each Permittee to implement a set of requirements related to landscape and recreational facilities management that included several pesticide-related requirements such as a requirement to “[i]mplement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs.”⁷¹³ This reflects the principle of IPM to use biological control, habitat manipulation, and use of resistant varieties to prevent pests.⁷¹⁴

The requirements of the contested provision are also elaborations of the 2001 Permit’s general requirement to “reduce water, fertilizer, and pesticide needs” and ground the permit in the well-established IPM approach to pest control.⁷¹⁵ Examples include the IPM requirements that “[p]esticides are used only if monitoring indicates that they are needed;” “[t]reatments are made with the goal of removing only the target organism;” and “pest controls are selected and applied in a manner that minimizes risks to human health, beneficial non-target organisms, and the

⁷¹² 2012 Permit, Part VI.D.4.c.vi, pp. 79-80 (2015 AR, pp. SB-AR-013372 - 373) and Part VI.D.9.g.ii, pp. 132-133 (2015 AR, pp. SB-AR-013425 - 426).

⁷¹³ 2001 Permit, Part 4.F.4.f, p. 55.

⁷¹⁴ 2012 Permit, Attachment A, p. A-10 (2015 AR, p. SB-AR-013460).

⁷¹⁵ What is Integrated Pest Management (IPM)? <http://www2.ipm.ucanr.edu/WhatIsIPM/> (accessed March 5, 2018).

environment.” As such, the contested provision does not constitute a new program or higher level of service, but simply reflects the prevailing approach to pesticide management.

The Provisions are Necessary to Implement Federal Law

Integrated Pest Management (IPM) has a long history of being the established and preferred approach for pest control, including being mentioned and promoted by the Nixon⁷¹⁶ and Carter⁷¹⁷ Administrations and funding of the University of California to establish a Statewide IPM Program in 1979.⁷¹⁸ The Statewide IPM Program gives an expanded definition of IPM that describes its relation to pesticide application and its environmental benefits.

IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.⁷¹⁹

This definition is relied upon in Appendix A and Parts VI.D.4.c.vi.(2) and VI.D.9.g.ii of the 2012 Permit.⁷²⁰

Such an approach, or an effective IPM alternative, is consistent with federal stormwater regulations, which require Permittees to have as part of their management programs a description of structural and source control measures that includes:

A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.⁷²¹

In its MS4 Permit Improvement Guide, U.S. EPA cites the federal stormwater regulations outlined in 40 C.F.R. section 122.26(d)(2)(iv)(A) and provides an example permit provision for landscape maintenance that includes IPM requirements including requirements to implement “[i]ntegrated

⁷¹⁶ Richard M. Nixon. Special Message to the Congress Outlining the 1972 Environmental Program, February 8, 1972. <http://www.presidency.ucsb.edu/ws/print.php?pid=3731> (accessed March 5, 2018).

⁷¹⁷ Jimmy Carter. Memorandum From the President on Integrated Pest Management, August 2, 1979. <http://www.presidency.ucsb.edu/ws/index.php?pid=32691> (accessed March 5, 2018).

⁷¹⁸ History of the UC Statewide IPM Program. <http://ipm.ucanr.edu/IPMPROJECT/HISTORY/index.html> (accessed March 5, 2018).

⁷¹⁹ What is Integrated Pest Management (IPM)? <http://www2.ipm.ucanr.edu/WhatIsIPM/> (accessed March 5, 2018).

⁷²⁰ 2012 Permit, Part VI.D.4.c.vi.(2), p. 79 (2015 AR, p. SB-AR-013372), Part VI.D.9.g.ii, p. 132-133 (2015 AR, pp. SB-AR-013425 - 426), and Appendix A, p. A-10 (2015 AR, p. SB-AR-013460).

⁷²¹ 40 C.F.R. § 122.26(d)(2)(iv)(A)(6).

pest management measures that rely on non-chemical solutions” and “limiting or replacing pesticide use.”⁷²²

The above support the Board’s determination that the contested IPM provision is necessary to meet federal requirements.

The Provisions are Not Unique to Local Government

The requirement to implement an IPM program is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities to effectively reduce and or prevent pollutants from reaching waterbodies. For example, Caltrans is required to incorporate integrated pest management into its maintenance program activities and facilities operations.⁷²³

Further, the Food Quality Protection Act of 1996 (FQPA), which amended the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), provides an example of federal law that directs federal agencies to use and promote IPM. The FQPA describes IPM and directs federal agencies to use and promote IPM techniques:

“The Secretary of Agriculture, in cooperation with the Administrator, shall implement research, demonstration, and education programs to support adoption of Integrated Pest Management. Integrated Pest Management is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. The Secretary of Agriculture and the Administrator shall make information on Integrated Pest Management widely available to pesticide users, including Federal agencies. Federal agencies shall use Integrated Pest Management techniques in carrying out pest management activities and shall promote Integrated Pest Management through procurement and regulatory policies, and other activities.”⁷²⁴

The above demonstrates that Claimants are not being treated differently than non-local government entities.

Other Mandates Exceptions Apply

Regarding the provision in Part VI.D.4.c applicable to the LACFCD only, the LACFCD proposed to the Los Angeles Water Board its own section of permit provisions in a meeting with the Board on April 25, 2012.⁷²⁵ In this meeting, the LACFCD presented its written proposal for the requirements in Part VI.D of the 2012 Permit that would apply to it. The Board accepted the LACFCD written proposal in large part, and describes in the 2012 Permit Fact Sheet the rationale for a separate “Minimum Control Measure” section to set forth the requirements applicable to the

⁷²² U.S. EPA. *MS4 Improvement Guide* (2010), pp. 82-83 (2012 AR, pp. RB-AR53536 - 537).

⁷²³ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.h.3.b, pp. 44-46.

⁷²⁴ FIFRA, 7 U.S.C. § 136r-1.

⁷²⁵ See April 25, 2012 meeting sign-in sheet, agenda, and initial proposal for separate permit provisions submitted by LACFCD (2012 AR, pp. RB-AR3063 – 84).

LACFCD only.⁷²⁶ In the case of Part VI.D.4.c.(vi), the LACFCD proposed that it implement these requirements and the Board accepted the LACFCD's proposal.⁷²⁷ Because the LACFCD proposed the requirements they are challenging now, which the Board included in the 2012 Permit at their request, the LACFCD is surely not entitled to subvention for the costs to implement the provisions they proposed.

4. Installation of Trash Excluders or Equivalent (Part VI.D.9.h.vii)

Part VI.D.9.h.vii requires Permittees to install trash excluders, or equivalent devices, on or in catch basins or outfalls to prevent the discharge of trash to the MS4 or receiving water. This requirement only applies to areas not subject to a trash TMDL and identified as a "Priority A" area; and does not apply to sites where the application of such BMP(s) alone will cause flooding. Alternatively, Permittees may implement alternative or enhanced BMPs that provide substantially equivalent removal of trash.⁷²⁸

The Provision is Not a New Program or Higher Level of Service

The 2001 Permit included a requirement for BMP implementation that states, "Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution control. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the MEP."⁷²⁹

Although the contested provision is specific to trash, it is still an elaboration of this 2001 Permit requirement for BMP implementation and is not a new program or higher level of service. The specificity of this provision in the 2012 Permit is reasonable given the known impairments of receiving waters due to trash and the identification of MS4 permittees as a source of trash discharged to receiving waters.⁷³⁰ Since trash is a known pollutant, Permittees should have already been implementing BMPs to reduce trash in stormwater discharges under the 2001 Permit.

The Provision is Necessary to Implement Federal Law

Federal regulations identify the need to develop, implement, and enforce controls to reduce the discharge of pollutants from MS4s.⁷³¹ They further specify that Permittees must include in their management program, maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from MS4s.⁷³² Trash is a floatable

⁷²⁶ 2012 Permit, Attachment F (Fact Sheet), p. 86 (2015 AR, SB-AR-013658).

⁷²⁷ See April 25, 2012 meeting sign-in sheet, agenda, and initial proposal for separate permit provisions submitted by LACFCD (2012 AR, pp. RB-AR3070 – 71). The only difference between LACFCD's proposal and Part VI.D.4.c(vi) of the 2012 Permit is the addition of Part VI.D.4.c(vi)(2)(g)(iii), which requires that the LACFCD "demonstrate implementation of IPM alternatives where feasible to reduce pesticide use." Details of such demonstration are left to the discretion of the LACFCD. (Compare 2012 AR, pp. RB-AR3070 - 71 with 2015 AR, p. SB-AR-013372).

⁷²⁸ 2012 Permit, Part VI.D.9.h.viii, p. 136 (2015 AR, p. SB-AR-013429).

⁷²⁹ 2001 Permit, Part 3.B, p. 26.

⁷³⁰ 2012 Permit, Part II.A, p. 13 (2015 AR, p. SB-AR-013306).

⁷³¹ 40 C.F.R. § 122.26(d)(2)(iv).

⁷³² *Id.*, subd. (d)(2)(iv)(A)(1).

pollutant. The contested provision is consistent with these regulations in that it requires Permittees to implement controls to reduce the discharge of trash from MS4s.

U.S. EPA's Stormwater Menu of BMPs fact sheet on Trash and Debris Management emphasizes structural controls that collect and remove trash before entering nearby waterways.⁷³³ In particular, the fact sheet highlights the use of "physical filtering structures" such as trash racks, mesh nets, bar screen, and trash booms, which concentrate floating debris and trash and prevent it from traveling downstream. These physical filtering structures are trash excluders, or are viable equivalents to trash excluders, under the contested permit provision.

These reasons support the conclusion that the contested provision is necessary to meet federal requirements.

The Provision Is Not Unique to Local Government

The requirement to install trash excluders or equivalent devices is not unique to local government. This requirement is also imposed by the State on non-local government entities discharging stormwater to effectively prevent trash from reaching waterbodies. The statewide water quality control plans for ocean waters and inland surface waters in California require both local government and non-local government entities that are covered under a NPDES stormwater permit to prohibit the discharge of trash by installing full capture systems for excluding trash from stormwater discharges or equivalent devices.⁷³⁴ These non-local government entities include industrial facilities, construction sites, Caltrans, and other public entities such as military bases and public educational institutions.

The NPDES permit issued by the State Water Board for stormwater discharges by Caltrans states that Caltrans is required to install, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchments that service significant trash generating areas.⁷³⁵ This requirement is equivalent to the requirement in the 2012 Permit to install trash excluders or equivalent devices on or in catch basins or outfalls in areas defined as Priority A.

The above demonstrates that Claimants are not being treated differently than non-local government entities.

Other Mandates Exceptions Apply

Despite the Claimants' emphasis on trash excluders, Part VI.D.9.h.(vii) does not require or impose the installation of these particular devices. Instead, the contested provision provides significant flexibility for Permittees to choose structural controls and/or non-structural BMPs that are not trash excluders to comply with the requirement. If selecting an option other than trash excluders,

⁷³³ U.S. EPA. *Trash and Debris Management, Public Education and Outreach on Stormwater Impacts: Education for Homeowners*.

⁷³⁴ State Water Board, Appendix D: Final Amendment to Water Quality Control Plan for Ocean Waters of California to Control Trash, Chapter III.L.2.a-c, pp. D-2 to D-4; State Water Board, Appendix E: Final Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Chapter IV.A.3.a-c, pp. E-2 to E-4.

⁷³⁵ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.h.3.b, pp. 44-46.

Permittees must demonstrate equivalency with the performance of trash excluders. However, this is a reasonable expectation, since trash excluders are an established BMP to effectively control discharges of trash and debris.

5. Pesticide Training for Employees and Contractors (Parts VI.D.4.c.x.(2) and VI.D.9.k.ii)

Parts VI.D.4.c.x.(2) and VI.D.9.k.ii require Permittees to train their employees and contractors who use or have the potential to use pesticides or fertilizers in the potential for pesticide-related surface water toxicity; the proper use, handling, and disposal of pesticides; the least toxic methods of pest prevention and control, including IPM; and the reduction of pesticide use.⁷³⁶

The Provisions are Not New Programs or Higher Levels of Service

The 2001 Permit contained requirements to implement landscaping and recreational facilities protocols and ensure proper application of pesticides. Specific requirements, included:

- A requirement to implement a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;
- A requirement to ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;
- A requirement to ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;
- A requirement to implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs; and
- A requirement to store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment.⁷³⁷

The training of employees and contractors in proper pesticide use is a necessary requirement to ensure compliance with these requirements and thus only clarifies expectations under the 2001 Permit. Further, under the 2001 Permit, Permittees were responsible for coordinating among its internal departments and agencies to facilitate the implementation of the 2001 Permit's requirements.⁷³⁸ Training is an important component of such coordination. As such, the contested provisions are not a new program or higher level of service.

The Provisions are Necessary to Implement Federal Law

Federal regulations identify the need for a program to reduce pollutants in discharges from MS4s associated with the application of pesticides, herbicides and fertilizer.⁷³⁹ Training programs for the application of pesticides are necessary to comply with these regulations.

⁷³⁶ 2012 Permit, Part VI.D.4.c.x.(2), p. 84 (2015 AR, p. SB-AR-013 377) and Part VI.D.9.k.ii, p. 139 (2015 AR, p. SB-AR-013432).

⁷³⁷ 2001 Permit, Part 4.F.4, p. 55.

⁷³⁸ *Id.*, Parts 3.D.8, 3.E.2, and 3.E.4, p. 27.

⁷³⁹ 40 C.F.R. § 122.26(d)(2)(iv)(A)(6).

Later federal regulations for small MS4s, which are generally held to a less stringent standard, explicitly outline the requirement for permits to include training provisions:

“The permit must identify the minimum elements and require the development and implementation of an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the State, Tribe, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.”⁷⁴⁰

U.S. EPA’s MS4 Permit Improvement Guide supports the conclusion that the contested provision is necessary to meet federal requirements. U.S. EPA states, “[f]ederal stormwater regulations (see 40 C.F.R. 122.34(b)(6) and 40 C.F.R. 122.26(d)(2)(iv)(A)) require the operator of a regulated MS4 community to develop a program to... [t]rain employees on how to incorporate pollution prevention/good housekeeping techniques into municipal operations.”⁷⁴¹ The Guide includes an example permit provisions that state, “[p]ermitees must develop an annual training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices in the preceding Parts” and “[t]he permittee must provide oversight of contractor activities to ensure that contractors are using appropriate control measures and [standard operating procedures].”⁷⁴²

The Provisions are Not Unique to Local Government

The requirement to train municipal employees and contractors in proper pesticide use is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities to effectively reduce pollutants from reaching waterbodies. For example, Caltrans is required to “ensure that all employees or contractors who, within the scope of their duties, prescribe or apply herbicides, pesticides, or fertilizers (including over-the-counter products) are appropriately trained and licensed to comply with these provisions.”⁷⁴³

The above demonstrates that Claimants are not being treated differently than non-local government entities.

Other Mandates Exceptions Apply

Regarding the provision in Part VI.D.4.c applicable to the LACFCD only, the LACFCD proposed to the Los Angeles Water Board its own section of permit provisions in a meeting with the Board on April 25, 2012.⁷⁴⁴ In this meeting, the LACFCD presented its written proposal for the

⁷⁴⁰ *Id.*, § 122.34(b)(6)(i).

⁷⁴¹ U.S. EPA. *MS4 Improvement Guide* (2010), p. 83 (2012 AR, p. RB-AR53537).

⁷⁴² *Id.*, at p. 84 (2012 AR, p. RB-AR53538).

⁷⁴³ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.h.3.b.v, p. 45.

⁷⁴⁴ See April 25, 2012 meeting sign-in sheet, agenda, and initial proposal for separate permit provisions submitted by LACFCD (2012 AR, pp. RB-AR3063 – 84).

requirements in Part VI.D of the 2012 Permit that would apply to it. The Board accepted the LACFCD written proposal in large part, and describes in the 2012 Permit Fact Sheet the rationale for a separate “Minimum Control Measure” section to set forth the requirements applicable to the LACFCD only.⁷⁴⁵ In the case of Part VI.D.4.c.(x)(2), the LACFCD proposed that it implement these requirements and the Board accepted the LACFCD proposal.⁷⁴⁶ Because the LACFCD proposed the requirements they are challenging now, which the Board included in the 2012 Permit at their request, the LACFCD is surely not entitled to subvention for the costs to implement the provisions they proposed.

For all these reasons, and for the additional reasons discussed in Section IV above, the Commission should find that Parts VI.D.4.c.iii, VI.D.4.c.vi, VI.D.4.c.x(2), VI.D.9.c, VI.D.9.d.i, VI.D.9.d.ii, VI.D.9.d.iv, VI.D.9.d.v, VI.D.9.g.ii, VI.D.9.h.vii, and VI.D.9.k.ii of the 2012 Permit are not state mandates subject to subvention.

H. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program

Parts VI.D.4.d.v.(2), VI.D.4.d.v.(3), VI.D.4.d.v.(4), VI.D.4.d.vi.(1)(a), VI.D.4.d.vi.(1)(c), VI.D.4.d.vi.(1)(d), VI.D.10.d.iii, VI.D.10.d.iv, VI.D.10.d.v, VI.D.10.e.i.(1), VI.D.10.e.i.(3), and VI.D.10.e.i.(4) of the 2012 Permit require Permittees to include information regarding dumping prohibitions and public reporting of illicit discharges on signage adjacent to open channels; develop and maintain written procedures that document how complaint calls are received, documented and tracked; maintain documentation of complaint calls and record the location of the reported spill or Illicit Connection and Illicit Discharges (IC/ID) and the actions undertaken; implement a spill response plan for all spills that may discharge into its MS4; coordinate with spill response teams; respond to spills for containment within 4 hours of becoming aware of the spill; and report spills that may endanger health or the environment to the appropriate public health agencies and the Office of Emergency Services (OES).⁷⁴⁷ These provisions are addressed in two subgroups, listed below.

Section 402(p)(3)(B)(ii) requires MS4 permits to “effectively prohibit non-stormwater discharges into the storm sewers.” Federal regulations define “illicit discharge” as “any discharge to a municipal separate storm sewer that is not composed entirely of stormwater” except discharges resulting from fire fighting activities and discharges from NPDES permitted sources.⁷⁴⁸ “Illicit discharge” is the mostly closely applicable definition of “non-stormwater” contained in the CWA and the terms are often used interchangeably.

The objective of a Permittee’s IC/ID elimination program is to detect illicit connections and illicit discharges to the MS4 and to promptly remove such discharges and connections. Federal

⁷⁴⁵ 2012 Permit, Attachment F (Fact Sheet), p. 86 (2015 AR, SB-AR-013658).

⁷⁴⁶ See April 25, 2012 meeting sign-in sheet, agenda, and initial proposal for separate permit provisions submitted by LACFCD (2012 AR, pp. RB-AR3076 – 77). Note that while the LACFCD proposed to strike the reference to “and contractors” in Part VI.D.4.c(x)(2) as shown in Part B.2.i.ii of its proposal (2012 AR, p. RB-AR3076), it proposed to add a provision that it would “require appropriate training of contractor employees in targeted positions as described above” (2012 AR, p. RB-AR3077). The Los Angeles Water Board accepted the proposed additional provision and clarified in Part VI.D.4.c.(x)(2) that “[o]utside contractors can self-certify...” (2015 AR, p. SB-AR-013377). The requirement, therefore, is the same as the LACFCD proposal.

⁷⁴⁷ 2012 Permit, Part VI.D.4.d, pp. 84 – 89 (2015 AR, pp. SB-AR-013377 – 382); 2012 Permit, Part VI.D.10, pp. 140 - 144 (2015 AR, pp. SB-AR-013433 - 437).

⁷⁴⁸ 40 C.F.R. § 122.26(b)(2).

regulations require that Permittees must have “a program, including a schedule, to detect and remove (or require the discharger to the [MS4] to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”⁷⁴⁹ This program must include “a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the [MS4]” for “all types of illicit discharges.”⁷⁵⁰

As discussed in Section IV.B.3.ii, above, Parts VI.D.4.d and VI.D.10 of the 2012 Permit, including all their subparts, are provisions that Permittees can customize in an approved WMP or EWMP.⁷⁵¹ All Claimants elected to develop, and are now implementing, an approved WMP or EWMP. Therefore, regardless of the specificity, the choice to implement the specific requirements of Parts VI.D.4.d and VI.D.10, rather than alternative activities consistent with federal regulations was the Claimants’ and is, therefore, not a state mandate.

Additionally, regarding Parts VI.D.4.d(v)(2), VI.D.4.d(v)(3), VI.D.4.d(v)(4) and VI.D.4.d(vi)(1), which are applicable to the LACFCD only, the requirements included in these provisions were proposed by the LACFCD to the Los Angeles Water Board during development of the 2012 Permit. Specifically, in meetings with the Board and in its written comments on the draft tentative 2012 Permit, the LACFCD requested to either have its own separate permit, or for the Board to include a separate section in the 2012 Permit that clearly describes the requirements applicable to the LACFCD only, particularly related to the provisions of Part VI.D of the 2012 Permit.⁷⁵² The LACFCD provided a written proposal of requirements under Part VI.D of the 2012 Permit that would be applied to the LACFCD in Exhibit W to its July 23, 2012 comments on the Draft Tentative Permit.⁷⁵³ As requested, the Board included a section specific to the LACFCD under Part VI.D of the 2012 Permit. The Board accepted the requirements proposed by the LACFCD in large part, and describes in the 2012 Permit Fact Sheet the rationale for a separate “Minimum Control Measure” section under Part VI.D to set forth the requirements applicable to the LACFCD only.⁷⁵⁴ In the case of Part VI.D.4.d(v)-(vi), the LACFCD proposed that it implement these requirements and the Board accepted the LACFCD proposal.⁷⁵⁵ Because the LACFCD proposed the requirements they are challenging now, which the Board included in the 2012 Permit at their

⁷⁴⁹ *Id.*, subd. (d)(2)(iv)(B).

⁷⁵⁰ *Id.*, subd. (d)(2)(iv)(B)(1).

⁷⁵¹ 2012 Permit, Part VI.C.1.b, p. 48 (2015 AR, p. SB-AR-013341) and Part VI.C.5.b.iv.(1), p. 63 (2015 AR, p. SB-AR-013356).

⁷⁵² Los Angeles County Flood Control District Comments Draft Tentative Order No. R4-2012-XXXX, NPDES No. CAS004001, p. 4 (2012 AR, p. RB-AR12460); see also April 25, 2012 meeting sign-in sheet, agenda, and initial proposal for separate permit provisions submitted by LACFCD (2012 AR, pp. RB-AR3063 - 84).

⁷⁵³ See Attachment W to Los Angeles County Flood Control District – Comments on the Draft National Pollutant Discharge Elimination System Permit for Municipal Separate Storm Sewer Systems within the County of Los Angeles letter dated July 23, 2012 (2012 AR, pp. RB-AR13653 – 673).

⁷⁵⁴ 2012 Permit, Attachment F (Fact Sheet), pp. F-18, F-86 (2015 AR, pp. SB-AR-013590, 658).

⁷⁵⁵ See Attachment W to Los Angeles County Flood Control District – Comments on the Draft National Pollutant Discharge Elimination System Permit for Municipal Separate Storm Sewer Systems within the County of Los Angeles letter dated July 23, 2012 (2012 AR, pp. RB-AR13671-13672). The only difference between the LACFCD proposal and the 2012 Permit is in Part VI.D.4.d(v)(4), where the 2012 Permit requires that the LACFCD document internet submissions regarding public reports of non-stormwater discharges and spills in addition to complaint calls. This is consistent with its proposal in Part B.3.f.i, in which it references maintaining the 888-CLEAN-LA hotline *internet site* (emphasis added). Compare Part VI.D.4.d(v)(4) of the 2012 Permit to Part B.3.f.iv of the LACFCD proposal (2015 AR, p. SB-AR-013381; 2012 AR, p. RB-AR13671).

request, the LACFCD is surely not entitled to subvention for the costs to implement the provisions they proposed.

1. Public Reporting of Non-Stormwater Discharges and Spills

Parts VI.D.4.d.v and VI.D.10.d of the 2012 Permit include requirements for Public Reporting of Non-Stormwater Discharges and Spills, including information requirements for signage adjacent to open channels, development of written procedures for receiving, documenting and tracking complaint calls, and for maintaining documentation about reported illicit discharges and spills and actions taken in response. These requirements are intended to ensure that reliable and consistent practices are deployed to address IC/ID.⁷⁵⁶

The requirements included in Part VI.D.4.d.v (applicable to LACFCD only) are identical to the provisions required for the other Permittees in Part VI.D.10.d.⁷⁵⁷ Claimants are challenging three specific provisions within the Public Reporting of Non-Stormwater Discharges and Spills. Each pair of requirements is addressed separately, below.

i. Information to include on signage adjacent to open channels (Parts VI.D.4.d.v.(2) and VI.D.10.d.iii)

Part VI.D.4.d.v.(2) requires the LACFCD to “include information regarding public reporting of illicit discharges or improper disposal on the signage adjacent to open channels as required in Part VI.D.9.h.vi.(4).”⁷⁵⁸

Part VI.D.10.d.iii requires each Permittee to “ensure that signage adjacent to open channels, as required in Part VI.D.9.h.vi.(4), include information regarding dumping prohibitions and public reporting of illicit discharges.”⁷⁵⁹

The Provisions are Not New Programs or Higher Levels of Service

Parts VI.D.4.d.v.(2) and VI.D.10.d.iii of the 2012 Permit are not new programs and do not require a higher level of service because Part 4.B.1(a) of the 2001 Permit required each Permittee to post signs with prohibitive language discouraging illegal dumping at designated public access points to creeks and channels no later than February 2, 2004. The signage needed to be legible and maintained as necessary during the term of the permit; therefore, these requirements are a continuation of previous requirements.⁷⁶⁰

The Provisions are Necessary to Implement Federal Law

The U.S. EPA Guidance Manual for Implementing Municipal Storm Water Management Programs states, “Applicants must develop and implement an effective program to prohibit illicit and/or

⁷⁵⁶ 2012 Permit, Attachment F (Fact Sheet), Part VI.C.9.d, p. F-85 (2015 AR, p. SB-AR-013657).

⁷⁵⁷ *Id.*, Attachment F (Fact Sheet), Part VI.C.10, p. F-86 (2015 AR, p. SB-AR-013658).

⁷⁵⁸ 2012 Permit, Part VI.D.4.d.v.(2), p. 88 (2015 AR, p. SB-AR-013381).

⁷⁵⁹ *Id.*, Part VI.D.10.d.iii, p. 142 (2015 AR, p. SB-AR-013436).

⁷⁶⁰ 2001 Permit, Part 4.B.1.(a), p. 32.

inappropriate discharges from entering MS4s.”⁷⁶¹ Requiring signage that includes information regarding dumping prohibitions and public reporting of illicit discharges facilitates the achievement of that objective by preventing illicit discharges from occurring and providing information on how the public can report illicit discharges and illegal dumping. Federal regulations at 40 C.F.R. section 122.26(d)(2)(iv)(B)(5), in part, requires a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from MS4s, and 40 C.F.R. section 122.26(d)(2)(iv)(B)(6) requires, in part, “public information activities ... to facilitate the proper management and disposal of used oil and toxic materials.” The 2012 Permit provisions promote increased public awareness of what constitutes an illicit discharge by clearly stating dumping is an illicit discharge and provides the public with information on how to report illicit discharges. Raising public awareness increases the likelihood that the public will not illegally dispose of wastes into the MS4 and that the public will report incidents of dumping and other illicit discharges when they are observed.

In addition, U.S. EPA’s MS4 Permit Improvement Guide provides example MS4 permit language requiring a MS4 permittee to implement a program for Public Reporting of Non-Stormwater Discharges and Spills.⁷⁶² The example permit provision 3.6.1 states in part, “The permittee must promote, publicize, and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s through a central contact point, including phone numbers for complaints and spill reporting, and publicize to both internal permittee staff and the public.”⁷⁶³ Including reporting information on signage posted adjacent to open channels facilitates reporting of illicit discharges by the public.

Other Mandates Exceptions Apply

Parts VI.D.4.c.vii.(4) and VI.D.9.h.vi.(4) require the Permittees to provide signage at catch basin inlets and open channels regarding illegal dumping, including “post[ing] signs, referencing local code(s) that prohibit littering and illegal dumping, at designated public access points to open channels...”⁷⁶⁴ The requirements of these two sections are essentially equivalent to Parts VI.D.4.d.v.(2) and VI.D.10.d.iii; therefore, any additional costs to comply with Parts VI.D.4.d.v.(2) and VI.D.10.d.iii are *de minimus* and not entitled to subvention.

ii. Develop and maintain written procedures that document complaint calls (Parts VI.D.4.d.v.(3) and VI.D.10.d.iv)

Part VI.D.4.d.v.(3) requires the LACFCD to “develop and maintain written procedures that document how complaint calls and internet submissions are received, documented, and tracked to ensure that all complaints are adequately addressed. The procedures shall be evaluated annually to determine whether changes or updates are needed to ensure that the procedures accurately document the methods employed by the LACFCD. Any identified changes shall be made to the procedures subsequent to the annual evaluation.”⁷⁶⁵

⁷⁶¹ U.S. EPA. *Guidance Manual for Implementing Municipal Storm Water Management Programs*. August 17, 1994. Chapter 4, p. 4-3 (2001 AR, p. R0014141).

⁷⁶² U.S. EPA. *MS4 Improvement Guide* (2010), Chapter 3.6 (2012 AR, p. RB-AR53488).

⁷⁶³ *Ibid.*

⁷⁶⁴ 2012 Permit, Parts VI.D.4.c.vii.(4) and VI.D.9.h.vi.(4), pp. 81 and 135 (2015 AR, p. SB-AR-013374, 428).

⁷⁶⁵ 2012 Permit, Part VI.D.4.v.(3), p. 88 (2015 AR, p. SB-AR-013381).

Part VI.D.10.d.iv requires each Permittee to “develop and maintain written procedures that document how complaint calls are received, documented, and tracked to ensure that all complaints are adequately addressed. The procedures shall be evaluated to determine whether changes or updates are needed to ensure that the procedures accurately document the methods employed by the Permittee. Any identified changes shall be made to the procedures subsequent to the evaluation.”⁷⁶⁶

The Provisions are Not New Programs or Higher Levels of Service

Parts VI.D.4.d.v.(3) and VI.D.10.d.iv of the 2012 Permit are not new programs and do not require a higher level of service because these requirements are consistent with the 2001 Permit. Part 4.G (Illicit Connections and Illicit Discharges Elimination Program) of the 2001 Permit required Permittees to eliminate all illicit connections and illicit discharges to the MS4. The Permittees were required to document, track and report all cases of IC/ID.⁷⁶⁷ Part 4.G.1.(a) of the 2001 Permit states that each Permittee must develop an “Implementation Program” that specifies how each Permittee is implementing revisions to the IC/ID program. The Implementation Program must be documented and available for review and approval by the Los Angeles Water Board Executive Officer, upon request.⁷⁶⁸ Therefore, the requirements in Parts VI.D.4.d.v.(3) and VI.D.10.d.iv of the 2012 Permit are not new, they just continue those contained in the 2001 Permit.

The Provisions are Necessary to Implement Federal Law

U.S. EPA’s MS4 Permit Improvement Guide provides a draft permit provision requiring a MS4 permittee to implement a program for Public Reporting of Non-Stormwater Discharges and Spills.⁷⁶⁹ U.S. EPA states:

An effective IDDE [Illicit Discharge Detection Elimination] program is more than just a program to respond to complaints about illicit discharges or spills. Permittees must proactively seek out illicit discharges, or activities that could result in discharges, such as illegal connections to the storm sewer system, improper disposal of wastes, or dumping of used motor oil or other chemicals.

In order to trace the origin of a suspected illicit discharge or connection, the permittee must have an updated map of the storm drain system and a formal plan of how to locate illicit discharges and how to respond to them once they are located or reported. The permittee must provide a mechanism for public reporting of illicit discharges and spills, as well as an effective way for staff to be alerted to such reports. Regular field screening of outfalls for non-stormwater discharges needs to occur in areas determined to have a higher likelihood for illicit discharges and illegal connections. Proper investigation and enforcement procedures must be in place to eliminate the sources of the discharges, as well. Finally, in order for the permittee to adequately detect and eliminate sources of illicit discharges, both field

⁷⁶⁶ *Id.*, Part VI.D.10.d.iv, p. 142 (2015 AR, p. SB-AR-013435).

⁷⁶⁷ 2001 Permit, Part 4.G, p. 59.

⁷⁶⁸ *Ibid.*

⁷⁶⁹ U.S. EPA. *MS4 Improvement Guide* (2010), Chapter 3.6 (2012 AR, p. RB-AR53488).

and office staff must be properly trained to recognize and report the discharges to the appropriate parties.⁷⁷⁰

Draft permit provision 3.6.2 states, “The permittee must develop a written spill/dumping response procedure, and a flow chart or phone tree, or similar list for internal use, that shows the procedures for responding to public notices of illicit discharges, the various responsible agencies and their contacts, and who would be involved in illicit discharge incidence response, even if it is a different entity other than the permittee.”⁷⁷¹

U.S. EPA’s MS4 permit for the Boise/Garden City Area requires the following to prevent and respond to spills to the MS4: “Throughout the Permit term, the Permittees must coordinate appropriate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times. The Permittees must respond to, contain and clean up all sewage and other spills that may discharge into the MS4 from any source (including private laterals and failing septic systems).”⁷⁷² To achieve the objective within this U.S. EPA-issued permit, appropriate documentation, tracking, and reporting of all discovered illicit discharges and illicit connections must occur. Parts VI.D.4.d.v.(3) and VI.D.10.d.iv of the 2012 Permit are consistent with the aforementioned U.S. EPA guidance and U.S. EPA-issued MS4 permits.

The above demonstrates these provisions are required to implement federal law.

iii. Maintain documentation of complaint calls (Parts VI.D.4.d.v.(4) and VI.D.10.d.v)

Part VI.D.4.d.v.(4) requires the LACFCD to “maintain documentation of the complaint calls and internet submissions and record the location of the reported spill or IC/ ID and the actions undertaken, including referrals to other agencies, in response to all IC/ID complaints.”⁷⁷³

Part VI.D.10.d.v requires each Permittee to “maintain documentation of the complaint calls and record the location of the reported spill or IC/ ID and the actions undertaken in response to all IC/ID complaints, including referrals to other agencies.”⁷⁷⁴

The Provisions are Not New Programs or Higher Levels of Service

Parts VI.D.4.d.v.(4) and VI.D.10.d.v of the 2012 Permit are not new programs and do not require a higher level of service because these requirements are consistent with those in the 2001 Permit. As stated above, Part 4.G of the 2001 Permit required Permittees to document, track and report all illicit connections and illicit discharges to the MS4.⁷⁷⁵ Therefore, Parts VI.D.4.d.v.(4) and

⁷⁷⁰ U.S. EPA. *MS4 Improvement Guide* (2010), Chapter 3 (2012 AR, p. RB-AR53478).

⁷⁷¹ *Id.*, Chapter 3.6 (2012 AR, pp. RB-AR53488 – 489).

⁷⁷² U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.5.(f), p. 29.

⁷⁷³ 2012 Permit, Part VI.D.4.d.v.(4), p. 88 (2015 AR, p. SB-AR-013381).

⁷⁷⁴ *Id.*, Part VI.D.10.d.v, p. 143 (2015 AR, p. SB-AR-013436).

⁷⁷⁵ 2001 Permit, Part 4.G, p. 59.

VI.D.10.d.v of the 2012 Permit are not new requirements. In addition, Part 4.G.1.(b) of the 2001 required all Permittees to map all illicit connections and illicit discharges to their MS4, with the objective of identifying and eliminating illicit connections and illicit discharges.⁷⁷⁶ Therefore, Parts VI.D.4.d.v.(4) and VI.D.10.d.v of the 2012 Permit that require Permittees to “record the location of the reported spill or IC/ID” are also not new requirements or a higher levels of service. These requirements simply continue the requirements of the 2001 Permit.

The Provisions are Necessary to Implement Federal Law

Federal law specifies that the “Administrator shall prescribe conditions for [NPDES] permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.”⁷⁷⁷ The requirement that Permittees maintain documentation of complaint calls and record the location and actions taken of the reported spill or IC/ID is a condition imposed for data and information collection. The Los Angeles Water Board has determined that this is necessary to ensure compliance with the regulatory requirements to detect and remove illicit discharges, in furtherance of the CWA’s requirement that MS4 permittees effectively prohibit non-stormwater discharges from the MS4.⁷⁷⁸

U.S. EPA’s MS4 permit for the Boise/Garden City Area requires the following for permittees to document complaints they receive: “The Permittees must maintain a record documenting all complaints or reports of illicit discharges and responses taken by the Permittees.”⁷⁷⁹ Parts VI.D.4.d.v.(4) and VI.D.10.d.v of the 2012 Permit are consistent with this permit provision.

The above demonstrates that these provisions are required to implement federal law.

2. Illicit Discharge and Spill Response Plan (Parts VI.D.4.d.vi.(1)(a), VI.D.4.d.vi.(1)(c), VI.D.4.d.vi.(1)(d), VI.D.10.e.i.(1), VI.D.10.e.(3), and VI.D.10.e.(4))

Part VI.D.4.d.vi includes requirements for the LACFCD to implement an Illicit Discharge and Spill Response Plan and Part VI.D.10.e.i includes requirements for the other Permittees to implement a Spill Response Plan. Permittees must develop a spill response plan that includes an investigation procedure similar to, or in conjunction with, the investigation procedures developed for illicit discharges. Often, a different entity may be responsible for spill response in a community (e.g., fire department), therefore, it is imperative that adequate communication exists between MS4 staff and spill response teams to ensure that spills are documented and investigated in a timely manner.⁷⁸⁰ The requirements included in Part VI.D.4.d.vi are the same as those required for the other Permittees in Part VI.D.10.e.⁷⁸¹ The LACFCD is challenging Part VI.D.4.d.vi Illicit

⁷⁷⁶ *Id.*, at p. 60.

⁷⁷⁷ CWA § 402(a)(2).

⁷⁷⁸ 40 C.F.R. § 122.26(d)(2)(iv)(B); see also CWA § 402(p)(3)(B)(ii).

⁷⁷⁹ U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012), Part II.B.5.(b)(iii), p. 27.

⁷⁸⁰ 2012 Permit, Attachment F (Fact Sheet), p. F-85 (2015 AR, p. SB-AR-013657).

⁷⁸¹ *Id.*, Attachment F (Fact Sheet), p. F-86 (2015 AR, p. SB-AR-013658).

Discharge and Spill Response Plan and the other Claimants are challenging Part VI.D.10.e Spill Response Plan.

Part VI.D.4.d.vi.(1) requires the LACFCD to “implement an ID and spill response plan for all spills that may discharge into its system. The ID and spill response plan shall clearly identify agencies responsible for ID and spill response and cleanup, contact information, and shall contain at a minimum the following requirements:

- (a) Coordination with spill response teams throughout all appropriate departments, programs and agencies so that maximum water quality protection is provided...
- (c) Response to ID [illicit discharges] and spills within 4 hours of becoming aware of the ID or spill, except where such IDs or spills occur on private property, in which case the response should be within 2 hours of gaining legal access to the property.
- (d) IDs or spills that may endanger health or the environment shall be reported to appropriate public health agencies and the Office of Emergency Services (OES).⁷⁸²

Part VI.D.10.e.i requires each Permittee to “implement a spill response plan for all sewage and other spills that may discharge into its MS4. The spill response plan shall clearly identify agencies responsible for spill response and cleanup, telephone numbers and e-mail address for contacts, and shall contain at a minimum the following requirements:

- (1) Coordination with spill response teams throughout all appropriate departments, programs and agencies so that maximum water quality protection is provided...
- (3) Response to spills for containment within 4 hours of becoming aware of the spill, except where such spills occur on private property, in which case the response should be within 2 hours of gaining legal access to the property.
- (4) Spills that may endanger health or the environment shall be reported to appropriate public health agencies and the Office of Emergency Services (OES).⁷⁸³

The Provisions are Not New Programs or Higher Levels of Service

The requirement for Permittees to implement a spill response plan is not a new requirement. Part 4.F.1.(a) of the 2001 Permit required each Permittee to implement a response plan for sanitary sewer overflows, which included investigation of any complaints received, immediate response to overflows for containment, and notification to appropriate sewer and public health agencies.⁷⁸⁴ The Permittees were required to investigate any complaints of illicit discharges they received, not limited to only sanitary sewer overflows. In addition, Part 4.G.1.(a) of the 2001 Permit required each Permittee to develop an implementation program specifying how it was implementing its

⁷⁸² *Id.*, Part VI.D.4.d.vi.(1), p. 88 (2015 AR, p. SB-AR-013381).

⁷⁸³ *Id.*, Part VI.D.10.e.i, p. 143 (2015 AR, p. SB-AR-013436).

⁷⁸⁴ 2001 Permit, Part 4.F.1.(a), p. 53.

IC/ID elimination program. Spills are a type of illicit discharge.⁷⁸⁵ Part 4.G.3.(a) of the 2001 Permit required Permittees to abate, contain and clean up all illicit discharges, including hazardous substances.⁷⁸⁶ Regarding the spill response plan, the 2012 Permit Fact Sheet explains that “[t]he permittee must develop a spill response plan that includes *an investigation procedure similar to or in conjunction with the investigation procedures developed for illicit discharges in general*” (emphasis added).⁷⁸⁷ The requirements in Parts VI.D.4.d.vi and VI.D.10.e of the 2012 Permit are substantially the same as the provisions in the 2001 Permit; the requirements in the 2012 Permit just provide additional detail.

The Provisions are Necessary to Implement Federal Law

Section 402(p)(3)(B)(ii) of the Clean Water Act requires MS4 permits “to effectively prohibit non-stormwater discharges into the storm sewers.” Therefore, MS4 permittees are required to effectively prohibit the discharge of non-stormwater by implementing a comprehensive, proactive IC/ID elimination program to detect and eliminate illicit discharges and connections.⁷⁸⁸

The U.S. EPA MS4 Permit Improvement Guide provides the following example permit provision: “The permittee must develop a written spill/dumping response procedure, and a flow chart or phone tree, or similar list for internal use, that shows the procedures for responding to public notices of illicit discharges, the various responsible agencies and their contacts, and who would be involved in illicit discharge incidence response, even if it is a different entity other than the permittee.”⁷⁸⁹ It provides the following rationale for the requirement: “The permittee must develop a spill response SOP that includes an investigation procedure similar to or in conjunction with the investigation SOP developed for illicit discharges in general (see Section 3.5). Often, a different entity might be responsible for spill response in a community (i.e. fire department), therefore, it is imperative that adequate communication exists between stormwater and spill response staff to ensure that spills are documented and investigated in a timely manner.”⁷⁹⁰

Therefore, the requirements in Parts VI.D.4.d.vi and VI.D.10.e of the 2012 Permit, including requirements for coordination and timely response, that require Permittees to implement a comprehensive spill response plan are necessary to meet CWA requirements, including 40 C.F.R. section 122.26(d)(2)(iv)(B)(4), which requires that Permittees have procedures to prevent, contain, and respond to spills that may discharge into the MS4.

The Provisions are Not Unique to Local Government

The requirement for a spill response plan is not unique to local government. This requirement is a key provision in other permits issued to non-local government entities to prevent illicit discharges

⁷⁸⁵ See 40 C.F.R. § 122.26(d)(2)(iv)(B), subpart (4); 2012 Permit, Attachment F (Fact Sheet), pp. F-83 to F-84 (2015 AR, pp. SB-AR-013656 - 657).

⁷⁸⁶ 2001 Permit, Part 4.G.3.(a), p. 61.

⁷⁸⁷ 2012 Permit, Attachment F (Fact Sheet), pp. F-85 to F-86 (2015 AR, pp. SB-AR-013657 - 658).

⁷⁸⁸ 40 C.F.R. § 122.26, subds. (d)(1)(v)(B) and (d)(2)(iv)(B).

⁷⁸⁹ U.S. EPA. *MS4 Improvement Guide* (2010), Chapter 3.6 (2012 AR, pp. RB-AR53488 – 489).

⁷⁹⁰ *Id.*, at p. 35 (2012 AR, p. RB-AR53489).

of pollutants to waterbodies. For example, Caltrans is required to implement surveillance activities, including developing an "IC/ID and Illegal Dumping Response Plan."⁷⁹¹

Further, regarding reporting of illicit discharges or spills to appropriate public health agencies and the Office of Emergency Services (Parts VI.D.4.d.vi.(d) and VI.D.10.e.(i)(4)), this requirement is consistent with Water Code sections 13271 and 13272, which apply to the public at large.⁷⁹²

The above demonstrates that Claimants are not being treated differently than non-local government entities.

For all these reasons, and for the additional reasons discussed in Section IV above, the Commission should find that Parts VI.D.4.d.v.(2), VI.D.4.d.v.(3), VI.D.4.d.v.(4), VI.D.4.d.vi.(1)(a), VI.D.4.d.vi.(1)(c), VI.D.4.d.vi.(1)(d), VI.D.10.d.iii, VI.D.10.d.iv, VI.D.10.d.v, VI.D.10.e.i.(1), VI.D.10.e.i.(3), and VI.D.10.e.i.(4) of the 2012 Permit are not state mandates subject to subvention.

VI. CONCLUSION

The above response establishes that the challenged provisions are not state mandates because they do not impose new programs or higher levels of service on Claimants. For any challenged provision that the Commission nonetheless finds to be mandated by the state, the Commission should find that the provisions are instead mandated by federal law and/or that other exceptions apply, precluding a finding that subvention is required for any of the provisions challenged in the Test Claims.

The focus of consideration of the federal mandate exception in *Department of Finance* was the application of the MEP standard to two requirements in Order No. 01-182, where the Los Angeles Water Board had not explicitly found that the provisions met that standard.⁷⁹³ In reaching the conclusion that those two provisions did *not* meet MEP, the Court suggested that the result might have been different if the agency *had* found that permit conditions were necessary to satisfy the MEP standard, and specifically noted that deference to the agency would be appropriate.⁷⁹⁴ Here, the Los Angeles Water Board *did* find that the permit conditions of the MS4 Permit were necessary to satisfy the CWA standards and that the permit was based entirely on federal law. Those findings are entitled to deference.

Even if the Commission does not defer to the Los Angeles Water Board's findings, analogous provisions in U.S. EPA-issued permits or U.S. EPA permit guidance and model permit language independently demonstrate that the 2012 Permit's provisions were federally mandated.⁷⁹⁵ In addition, the 2012 Permit's provisions implement other independent federal standards, discussed above, that the Supreme Court did not evaluate. Furthermore, the Supreme Court's decision did not address a number of the other exceptions to mandates law present here, such as the absence

⁷⁹¹ State Water Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation, Part E.2.h.4.a-b, p. 47.

⁷⁹² Wat. Code, § 13271, 13272.

⁷⁹³ *Department of Finance v. Commission on State Mandates*, *supra*, 1 Cal.5th at p. 768.

⁷⁹⁴ *Ibid.*

⁷⁹⁵ *Id.*, at p. 772.

of a new program or higher level of service, the absence of requirements "unique" to local governments, the existence of fee authority, the opportunity for Permittees to propose and substitute other BMPs and control measures for many of the requirements in the 2012 Permit through voluntary participation in a WMP or EWMP, and situations where costs are *de minimis*.

For these reasons, the Commission should find that the 2012 Permit provisions do not impose state mandates requiring subvention and the Commission should deny the Test Claims in their entirety.

I certify and declare under penalty of perjury under the laws of the State of California that the foregoing facts are true and correct to the best of my personal knowledge, information, or belief. I further declare that all documents attached are true and correct copies of such documents as they exist in the Los Angeles Water Board's files, or were obtained from publicly available sources.

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Attachments

cc: Service List via CSM Dropbox

**ATTACHMENTS TO WATER BOARDS' COMMENTS ON
TEST CLAIMS 13-TC-01 AND 13-TC-02**

Attachment No.	Document
<i>Section A</i>	<i>Federal Statutes and Regulations</i>
A-1	Clean Water Act § 101 (33 U.S.C. § 1251)
A-2	Clean Water Act § 301 (33 U.S.C. § 1311)
A-3	Clean Water Act § 303 (33 U.S.C. § 1313)
A-4	Clean Water Act § 308 (33 U.S.C. § 1318)
A-5	Clean Water Act § 402 (33 U.S.C. § 1342)
A-6	Clean Water Act § 502 (33 U.S.C. § 1362)
A-7	Federal Insecticide, Fungicide and Rodenticide Act, 7 U.S.C. § 136r-1
A-8	40 C.F.R. § 122.2
A-9	40 C.F.R. § 122.6
A-10	40 C.F.R. § 122.21
A-11	40 C.F.R. § 122.22
A-12	40 C.F.R. § 122.26
A-13	40 C.F.R. § 122.34
A-14	40 C.F.R. § 122.41
A-15	40 C.F.R. § 122.42
A-16	40 C.F.R. § 122.44
A-17	40 C.F.R. § 122.48
A-18	40 C.F.R. § 123.25
A-19	40 C.F.R. § 123.44
A-20	40 C.F.R. § 130.2
A-21	40 C.F.R. § 130.6
A-22	40 C.F.R. § 130.7
A-23	81 Fed. Reg. 89320 (Dec. 9, 2016)
<i>Section B</i>	<i>State Constitutional Provisions, Statutes, and Regulations</i>
B-1	California Constitution, art III, § 3.5
B-2	California Constitution, art XIII B, § 6
B-3	California Constitution, art XIII C, § 1
B-4	California Constitution, art XIII D, § 6
B-5	Government Code § 17551
B-6	Government Code § 17553
B-7	Government Code § 17556
B-8	Government Code § 53750
B-9	Government Code § 53751
B-10	Water Code § 13263
B-11	Water Code § 13271
B-12	Water Code § 13272
B-13	Water Code § 13350
B-14	Water Code § 13370
B-15	Water Code § 13372
B-16	Water Code § 13374
B-17	Water Code § 13385
B-18	Water Code §§ 16100 - 16104
B-19	Health and Safety Code § 5471
B-20	Public Resources Code § 40059

B-21	Senate Bill 231 (Stats. 2017, ch. 536)
B-22	Assembly Bill 1180 (Stats. 2017, ch. 617)
B-23	Assembly Bill 2043 (Stats. 2014, ch. 78)
B-24	Assembly Bill 2254 (Stats. 2010, ch. 602)
B-25	Cal. Code Regs., tit. 23, § 2235.2
B-26	Cal. Code Regs., tit. 23, § 2235.3
Section C	Federal Cases
C-1	<i>Natural Resources Defense Council v. Costle</i> (D.C. Cir. 1977) 568 F.2d 1369
C-2	<i>Natural Resources Defense Council v. U.S. EPA</i> (9th Cir. 1992) 966 F.2d 1292
C-3	<i>Defenders of Wildlife v. Browner</i> (9th Cir. 1999) 191 F.3d 1159
C-4	<i>Environmental Defense Center, Inc. v. EPA</i> (9th Cir. 2003) 344 F.3d 832
C-5	<i>Friends of the Earth, Inc. v. U.S. EPA</i> (D.C. Cir. 2006) 446 F.3d 140
C-6	<i>Natural Resources Defense Council v. County of Los Angeles</i> (9th Cir. 2013) 725 F.3d 1194
Section D	State Cases
D-1	<i>Sinclair Paint Co. v. State Bd. Of Equalization</i> (1997) 15 Cal.4th 866
D-2	<i>California Association of Professional Scientists v. Department of Fish and Game</i> (2000) 79 Cal.App.4th 935
D-3	<i>Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles</i> (2001) 24 Cal.4th 830
D-4	<i>City of Rancho Cucamonga v. Regional Water Quality Control Bd., Santa Ana Region</i> (2002) 135 Cal.App.4th 1377
D-5	<i>Lockyer v. City and County of San Francisco</i> (2004) 33 Cal.4th 1055
D-6	<i>Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.</i> (2004) 124 Cal.App.4th 866
D-7	<i>City of Burbank v. State Water Resources Control Board</i> (2005) 35 Cal.4th 613
D-8	<i>Clovis Unified School Dist. v. Chiang</i> (2010) 188 Cal.App.4th 794
D-9	<i>Cal. Farm Bur. Federation v. State Water Resources Control Bd.</i> (2011) 51 Cal.4th 421
D-10	<i>Schmeer v. County. of Los Angeles</i> (2013) 213 Cal.App.4th 1310
Section E	State Water Resources Control Board - Administrative Adjudication Decisions
E-1	State Water Resources Control Board Order WQ 2000-11
E-2	State Water Resources Control Board Order WQ 2009-0008
Section F	State Water Resources Control Board - Water Quality Control Plans and Permits
F-1	State Water Resources Control Board, Appendix D: Final Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash
F-2	State Water Resources Control Board, Appendix E: Final Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California
F-3	State Water Resources Control Board, Order No. 2014-0057-DWQ, NPDES General Permit for Storm Water Discharges Associated with Industrial Activities

F-4	State Water Resources Control Board, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), NPDES General Permit for Storm Water Discharges Associated With Construction And Land Disturbance Activities
F-5	State Water Resources Control Board, Order 2012-0011-DWQ (as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ, and WQ 2015-0036-EXEC), NPDES Statewide Storm Water Permit, Waste Discharge Requirements for State of California, Department of Transportation
<i>Section G</i>	<i>U.S. EPA-Issued MS4 Permits and Guidance</i>
G-1	U.S. EPA, NPDES Permit No. IDS-027561, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to Ada County Highway District, Boise State University, City of Boise, and City of Garden City. Drainage District #3, and the Idaho Transportation Department District #3 (Dec. 12, 2012)
G-2	U.S. EPA, NPDES Permit No. NMR04A000, Authorization to Discharge Under the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System Permit, issued to the Middle Rio Grande Watershed (Dec. 22, 2014)
G-3	U.S. EPA, General Permits For Stormwater Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) In Massachusetts, Authorization to Discharge Under the National Pollutant Discharge Elimination System, issued to MS4s located in the Commonwealth of Massachusetts, NPDES Permits No. MAR041000, MAR042000, and MAR043000 (Apr. 4, 2016)
G-4	U.S. EPA. <i>Developing an Outreach Strategy, Minimum Measure: Public Education and Outreach on Stormwater Impacts: Developing Municipal Outreach Programs</i>
G-5	U.S. EPA. <i>Classroom Education on Stormwater, Minimum Measure: Public Education and Outreach on Stormwater Impacts: Promoting the Stormwater Message</i>
G-6	U.S. EPA. <i>Trash and Debris Management, Public Education and Outreach on Stormwater Impacts: Education for Homeowners</i>
<i>Section H</i>	<i>Los Angeles Regional Water Quality Control Board MS4 Permit Materials</i>
H-1	Los Angeles County Department of Public Works, 1994 Report of Waste Discharge, Task 5.2, Volume 2
H-2	Los Angeles Regional Water Quality Control Board, "Final Approval of Changes to the Santa Monica Bay Shoreline Monitoring Requirements Contained in the Monitoring and Reporting Program Under the Los Angeles County Municipal Storm Water Discharge Permit (NPDES No. CAS004001) to Conform to the Extent Possible with the Santa Monica Bay Beaches Bacterial TMDLs" (Jun. 14, 2005)
H-3	Watershed Management Program (WMP) and Enhanced Watershed Management Program (EWMP) Approval Letters for WMP Groups Los Angeles River Upper Reach 2, Lower San Gabriel River, Los Cerritos Channel, Lower Los Angeles River, Santa Monica Bay Jurisdiction 7, Alamitos Bay / Los Cerritos Channel and EWMP Groups Upper Santa Clara River, Upper Los Angeles River, Rio Hondo / San Gabriel River, Malibu Creek, Upper San Gabriel River, Marina del Rey, Ballona Creek,

	Dominguez Channel, Santa Monica Bay Jurisdictions 2 & 3, North Santa Monica Bay, Palos Verdes Peninsula, and Beach Cities
H-4	Los Angeles Regional Water Quality Control Board, Order No. 01-182 as amended on September 14, 2006 by Order R4-2006-0074; August 9, 2007 by Order R4-2007-0042; December 10, 2009 by Order R4-2009-0130; and October 19, 2010 and April 14, 2011 pursuant to the peremptory writ of mandate in L.A. Superior Court Case No. BS122724), Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharge Within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach (with Appendix 7-1 and 7-2 and Attachments A, B, E, U-1, U-2, U-3, U-4)
H-5	City of Manhattan Beach, 2011-12 NPDES Annual Report
H-6	City of Norwalk, 2011-12 NPDES Annual Report
H-7	City of Westlake Village, 2011-12 NPDES Annual Report
H-8	The Ballona Creek & Santa Monica Bay Watershed Management Committee, Annual Assessment 2010-2011 (Sept. 2012).
<i>Section I</i>	<i>Funding/Fees</i>
I-1	Black and Veatch, 2005 Stormwater Utility Survey
I-2	City of San Clemente Urban Runoff Management Fee/Clean Ocean Program (2013)
I-3	City of Santa Cruz, Measure E: Clean River, Beaches and Ocean Fund (Fiscal Year 2015)
I-4	City of Palo Alto Storm Drainage Fee/San Jose Mercury News Article (August 30, 2016)
I-5	City of San Jose Storm Sewer Charge (web page listing, February 14, 2017 web access date)
I-6	City of Alameda Sewer and Storm Water Fees Bulletin (September 22, 2017, web access date)
I-7	Culver City Measure CW, The Clean Water, Clean Beach Parcel Tax (October 25, 2017, web access date)
<i>Section J</i>	<i>Miscellaneous Materials</i>
J-1	What is Integrated Pest Management (IPM)? http://www2.ipm.ucanr.edu/WhatIsIPM/ (accessed March 5, 2018)
J-2	Richard M. Nixon. Special Message to the Congress Outlining the 1972 Environmental Program, February 8, 1972. http://www.presidency.ucsb.edu/ws/print.php?pid=3731 (accessed March 5, 2018).
J-3	Jimmy Carter. Memorandum From the President on Integrated Pest Management, August 2, 1979. http://www.presidency.ucsb.edu/ws/index.php?pid=32691 (accessed March 5, 2018).
J-4	History of the UC Statewide IPM Program. http://ipm.ucanr.edu/IPMPROJECT/HISTORY/index.html (accessed March 5, 2018).
J-5	U.S. Census Bureau, <i>Quick Facts, Los Angeles County, California</i> (accessed March 16, 2018)
J-6	Caltrans, Construction Site Best Management Practices (BMP) Manual (May 2017).
J-7	"Industrial Sites Task Force," Presentation to the Los Angeles Water Board (Oct. 5, 2017)

J-8	Caltrans, Treatment BMP Technology Report (2010 Edition)
J-9	Consent Decree: <i>Heal the Bay, Inc.; Santa Monica Baykeeper, Inc.; and Terry Tamminen v. Browner</i> , Case No. C 98-4825 SBA, Mar. 22, 1999
J-10	Los Angeles Regional Water Quality Control Board, Order No. R4-2018-0020, NPDES Permit for Sentinel Peak Resources California, LLC, Inglewood Oil Field
J-11	County of Los Angeles Building Code (Title 26) 101.2

ATTACHMENT A-1

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter I. Research and Related Programs (Refs & Annos)

33 U.S.C.A. § 1251

§ 1251. Congressional declaration of goals and policy

Currentness

(a) Restoration and maintenance of chemical, physical and biological integrity of Nation's waters; national goals for achievement of objective

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this chapter--

- (1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;
- (2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;
- (3) it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited;
- (4) it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works;
- (5) it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;
- (6) it is the national policy that a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and
- (7) it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this chapter to be met through the control of both point and nonpoint sources of pollution.

(b) Congressional recognition, preservation, and protection of primary responsibilities and rights of States

It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter. It is the policy of Congress that the States manage the construction grant program under this chapter and implement the permit programs under [sections 1342](#) and [1344](#) of this title. It is further the policy of the Congress to support and aid research relating to the prevention, reduction, and elimination of pollution and to provide Federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution.

(c) Congressional policy toward Presidential activities with foreign countries

It is further the policy of Congress that the President, acting through the Secretary of State and such national and international organizations as he determines appropriate, shall take such action as may be necessary to insure that to the fullest extent possible all foreign countries shall take meaningful action for the prevention, reduction, and elimination of pollution in their waters and in international waters and for the achievement of goals regarding the elimination of discharge of pollutants and the improvement of water quality to at least the same extent as the United States does under its laws.

(d) Administrator of Environmental Protection Agency to administer chapter

Except as otherwise expressly provided in this chapter, the Administrator of the Environmental Protection Agency (hereinafter in this chapter called “Administrator”) shall administer this chapter.

(e) Public participation in development, revision, and enforcement of any regulation, etc.

Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this chapter shall be provided for, encouraged, and assisted by the Administrator and the States. The Administrator, in cooperation with the States, shall develop and publish regulations specifying minimum guidelines for public participation in such processes.

(f) Procedures utilized for implementing chapter

It is the national policy that to the maximum extent possible the procedures utilized for implementing this chapter shall encourage the drastic minimization of paperwork and interagency decision procedures, and the best use of available manpower and funds, so as to prevent needless duplication and unnecessary delays at all levels of government.

(g) Authority of States over water

It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this chapter. It is the further policy of Congress that nothing in this chapter shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.

CREDIT(S)

(June 30, 1948, c. 758, Title I, § 101, as added [Pub.L. 92-500](#), § 2, Oct. 18, 1972, 86 Stat. 816; amended [Pub.L. 95-217](#), §§ 5(a), 26(b), Dec. 27, 1977, 91 Stat. 1567, 1575; [Pub.L. 100-4](#), Title III, § 316(b), Feb. 4, 1987, 101 Stat. 60.)

EXECUTIVE ORDERS

[EXECUTIVE ORDER NO. 11548](#)

[Ex. Ord. No. 11548](#), July 20, 1970, 35 F.R. 11677, which related to the delegation of Presidential functions, was superseded by [Ex. Ord. No. 11735](#), Aug. 3, 1973, 38 F.R. 21243, set out as a note under section 1321 of this title.

[EXECUTIVE ORDER NO. 11742](#)

<Oct. 23, 1973, [38 F.R. 29457](#)>

**Delegation of Functions to Secretary of State Respecting Negotiation
of International Agreements Relating to Enhancement of Environment**

Under and by virtue of the authority vested in me by [section 301 of title 3 of the United States Code](#) and as President of the United States, I hereby authorize and empower the Secretary of State, in coordination with the Council on Environmental Quality, the Environmental Protection Agency, and other appropriate Federal agencies, to perform, without the approval, ratification, or other action of the President, the functions vested in the President by Section 7 of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500; 86 Stat. 898) with respect to international agreements relating to the enhancement of the environment.

RICHARD NIXON.

[Notes of Decisions \(127\)](#)

33 U.S.C.A. § 1251, 33 USCA § 1251
Current through P.L. 115-171.

ATTACHMENT A-2

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter III. Standards and Enforcement (Refs & Annos)

33 U.S.C.A. § 1311

§ 1311. Effluent limitations

Currentness

(a) Illegality of pollutant discharges except in compliance with law

Except as in compliance with this section and [sections 1312](#), [1316](#), [1317](#), [1328](#), [1342](#), and [1344](#) of this title, the discharge of any pollutant by any person shall be unlawful.

(b) Timetable for achievement of objectives

In order to carry out the objective of this chapter there shall be achieved--

(1)(A) not later than July 1, 1977, effluent limitations for point sources, other than publicly owned treatment works, (i) which shall require the application of the best practicable control technology currently available as defined by the Administrator pursuant to [section 1314\(b\)](#) of this title, or (ii) in the case of a discharge into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, which shall require compliance with any applicable pretreatment requirements and any requirements under [section 1317](#) of this title; and

(B) for publicly owned treatment works in existence on July 1, 1977, or approved pursuant to [section 1283](#) of this title prior to June 30, 1974 (for which construction must be completed within four years of approval), effluent limitations based upon secondary treatment as defined by the Administrator pursuant to [section 1314\(d\)\(1\)](#) of this title; or,

(C) not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by [section 1370](#) of this title) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.

(2)(A) for pollutants identified in subparagraphs (C), (D), and (F) of this paragraph, effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which (i) shall require application of the best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to [section 1314\(b\)\(2\)](#) of this title, which such effluent limitations shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him (including information developed pursuant to [section 1325](#) of this title), that such elimination is technologically

and economically achievable for a category or class of point sources as determined in accordance with regulations issued by the Administrator pursuant to [section 1314\(b\)\(2\)](#) of this title, or (ii) in the case of the introduction of a pollutant into a publicly owned treatment works which meets the requirements of subparagraph (B) of this paragraph, shall require compliance with any applicable pretreatment requirements and any other requirement under [section 1317](#) of this title;

(B) Repealed. [Pub.L. 97-117, § 21\(b\)](#), Dec. 29, 1981, 95 Stat. 1632.

(C) with respect to all toxic pollutants referred to in table 1 of Committee Print Numbered 95-30 of the Committee on Public Works and Transportation of the House of Representatives compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under [section 1314\(b\)](#) of this title, and in no case later than March 31, 1989;

(D) for all toxic pollutants listed under [paragraph \(1\) of subsection \(a\) of section 1317](#) of this title which are not referred to in subparagraph (C) of this paragraph compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable, but in no case later than three years after the date such limitations are promulgated under [section 1314\(b\)](#) of this title, and in no case later than March 31, 1989;

(E) as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under [section 1314\(b\)](#) of this title, and in no case later than March 31, 1989, compliance with effluent limitations for categories and classes of point sources, other than publicly owned treatment works, which in the case of pollutants identified pursuant to [section 1314\(a\)\(4\)](#) of this title shall require application of the best conventional pollutant control technology as determined in accordance with regulations issued by the Administrator pursuant to [section 1314\(b\)\(4\)](#) of this title; and

(F) for all pollutants (other than those subject to subparagraphs (C), (D), or (E) of this paragraph) compliance with effluent limitations in accordance with subparagraph (A) of this paragraph as expeditiously as practicable but in no case later than 3 years after the date such limitations are established, and in no case later than March 31, 1989.

(3)(A) for effluent limitations under paragraph (1)(A)(i) of this subsection promulgated after January 1, 1982, and requiring a level of control substantially greater or based on fundamentally different control technology than under permits for an industrial category issued before such date, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are promulgated under [section 1314\(b\)](#) of this title, and in no case later than March 31, 1989; and

(B) for any effluent limitation in accordance with paragraph (1)(A)(i), (2)(A)(i), or (2)(E) of this subsection established only on the basis of [section 1342\(a\)\(1\)](#) of this title in a permit issued after February 4, 1987, compliance as expeditiously as practicable but in no case later than three years after the date such limitations are established, and in no case later than March 31, 1989.

(c) Modification of timetable

The Administrator may modify the requirements of subsection (b)(2)(A) of this section with respect to any point source for which a permit application is filed after July 1, 1977, upon a showing by the owner or operator of such point source satisfactory to the Administrator that such modified requirements (1) will represent the maximum use of technology within the economic capability of the owner or operator; and (2) will result in reasonable further progress toward the elimination of the discharge of pollutants.

(d) Review and revision of effluent limitations

Any effluent limitation required by paragraph (2) of subsection (b) of this section shall be reviewed at least every five years and, if appropriate, revised pursuant to the procedure established under such paragraph.

(e) All point discharge source application of effluent limitations

Effluent limitations established pursuant to this section or [section 1312](#) of this title shall be applied to all point sources of discharge of pollutants in accordance with the provisions of this chapter.

(f) Illegality of discharge of radiological, chemical, or biological warfare agents, high-level radioactive waste, or medical waste

Notwithstanding any other provisions of this chapter it shall be unlawful to discharge any radiological, chemical, or biological warfare agent, any high-level radioactive waste, or any medical waste, into the navigable waters.

(g) Modifications for certain nonconventional pollutants

(1) General authority

The Administrator, with the concurrence of the State, may modify the requirements of subsection (b)(2)(A) of this section with respect to the discharge from any point source of ammonia, chlorine, color, iron, and total phenols (4AAP) (when determined by the Administrator to be a pollutant covered by subsection (b)(2)(F)) and any other pollutant which the Administrator lists under paragraph (4) of this subsection.

(2) Requirements for granting modifications

A modification under this subsection shall be granted only upon a showing by the owner or operator of a point source satisfactory to the Administrator that--

(A) such modified requirements will result at a minimum in compliance with the requirements of subsection (b)(1)(A) or (C) of this section, whichever is applicable;

(B) such modified requirements will not result in any additional requirements on any other point or nonpoint source; and

(C) such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.

(3) Limitation on authority to apply for subsection (c) modification

If an owner or operator of a point source applies for a modification under this subsection with respect to the discharge of any pollutant, such owner or operator shall be eligible to apply for modification under subsection (c) of this section with respect to such pollutant only during the same time period as he is eligible to apply for a modification under this subsection.

(4) Procedures for listing additional pollutants

(A) General authority

Upon petition of any person, the Administrator may add any pollutant to the list of pollutants for which modification under this section is authorized (except for pollutants identified pursuant to [section 1314\(a\)\(4\)](#) of this title, toxic pollutants subject to [section 1317\(a\)](#) of this title, and the thermal component of discharges) in accordance with the provisions of this paragraph.

(B) Requirements for listing

(i) Sufficient information

The person petitioning for listing of an additional pollutant under this subsection shall submit to the Administrator sufficient information to make the determinations required by this subparagraph.

(ii) Toxic criteria determination

The Administrator shall determine whether or not the pollutant meets the criteria for listing as a toxic pollutant under [section 1317\(a\)](#) of this title.

(iii) Listing as toxic pollutant

If the Administrator determines that the pollutant meets the criteria for listing as a toxic pollutant under [section 1317\(a\)](#) of this title, the Administrator shall list the pollutant as a toxic pollutant under [section 1317\(a\)](#) of this title.

(iv) Nonconventional criteria determination

If the Administrator determines that the pollutant does not meet the criteria for listing as a toxic pollutant under such section and determines that adequate test methods and sufficient data are available to make the determinations required by paragraph (2) of this subsection with respect to the pollutant, the Administrator shall add the pollutant to the list of pollutants specified in paragraph (1) of this subsection for which modifications are authorized under this subsection.

(C) Requirements for filing of petitions

A petition for listing of a pollutant under this paragraph--

(i) must be filed not later than 270 days after the date of promulgation of an applicable effluent guideline under [section 1314](#) of this title;

(ii) may be filed before promulgation of such guideline; and

(iii) may be filed with an application for a modification under paragraph (1) with respect to the discharge of such pollutant.

(D) Deadline for approval of petition

A decision to add a pollutant to the list of pollutants for which modifications under this subsection are authorized must be made within 270 days after the date of promulgation of an applicable effluent guideline under [section 1314](#) of this title.

(E) Burden of proof

The burden of proof for making the determinations under subparagraph (B) shall be on the petitioner.

(5) Removal of pollutants

The Administrator may remove any pollutant from the list of pollutants for which modifications are authorized under this subsection if the Administrator determines that adequate test methods and sufficient data are no longer available for determining whether or not modifications may be granted with respect to such pollutant under paragraph (2) of this subsection.

(h) Modification of secondary treatment requirements

The Administrator, with the concurrence of the State, may issue a permit under [section 1342](#) of this title which modifies the requirements of subsection (b)(1)(B) of this section with respect to the discharge of any pollutant from a publicly owned treatment works into marine waters, if the applicant demonstrates to the satisfaction of the Administrator that--

(1) there is an applicable water quality standard specific to the pollutant for which the modification is requested, which has been identified under [section 1314\(a\)\(6\)](#) of this title;

- (2) the discharge of pollutants in accordance with such modified requirements will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, and allows recreational activities, in and on the water;
- (3) the applicant has established a system for monitoring the impact of such discharge on a representative sample of aquatic biota, to the extent practicable, and the scope of such monitoring is limited to include only those scientific investigations which are necessary to study the effects of the proposed discharge;
- (4) such modified requirements will not result in any additional requirements on any other point or nonpoint source;
- (5) all applicable pretreatment requirements for sources introducing waste into such treatment works will be enforced;
- (6) in the case of any treatment works serving a population of 50,000 or more, with respect to any toxic pollutant introduced into such works by an industrial discharger for which pollutant there is no applicable pretreatment requirement in effect, sources introducing waste into such works are in compliance with all applicable pretreatment requirements, the applicant will enforce such requirements, and the applicant has in effect a pretreatment program which, in combination with the treatment of discharges from such works, removes the same amount of such pollutant as would be removed if such works were to apply secondary treatment to discharges and if such works had no pretreatment program with respect to such pollutant;
- (7) to the extent practicable, the applicant has established a schedule of activities designed to eliminate the entrance of toxic pollutants from nonindustrial sources into such treatment works;
- (8) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;
- (9) the applicant at the time such modification becomes effective will be discharging effluent which has received at least primary or equivalent treatment and which meets the criteria established under [section 1314\(a\)\(1\)](#) of this title after initial mixing in the waters surrounding or adjacent to the point at which such effluent is discharged.

For the purposes of this subsection the phrase “the discharge of any pollutant into marine waters” refers to a discharge into deep waters of the territorial sea or the waters of the contiguous zone, or into saline estuarine waters where there is strong tidal movement and other hydrological and geological characteristics which the Administrator determines necessary to allow compliance with paragraph (2) of this subsection, and [section 1251\(a\)\(2\)](#) of this title. For the purposes of paragraph (9), “primary or equivalent treatment” means treatment by screening, sedimentation, and skimming adequate to remove at least 30 percent of the biological oxygen demanding material and of the suspended solids in the treatment works influent, and disinfection, where appropriate. A municipality which applies secondary treatment shall be eligible to receive a permit pursuant to this subsection which modifies the requirements of subsection (b)(1)(B) of this section with respect to the discharge of any pollutant from any treatment works owned by such municipality into marine waters. No permit issued under this subsection shall authorize the discharge of sewage sludge into marine waters. In order for a permit to be issued under this subsection for the discharge of a pollutant into marine waters, such

marine waters must exhibit characteristics assuring that water providing dilution does not contain significant amounts of previously discharged effluent from such treatment works. No permit issued under this subsection shall authorize the discharge of any pollutant into saline estuarine waters which at the time of application do not support a balanced indigenous population of shellfish, fish and wildlife, or allow recreation in and on the waters or which exhibit ambient water quality below applicable water quality standards adopted for the protection of public water supplies, shellfish, fish and wildlife or recreational activities or such other standards necessary to assure support and protection of such uses. The prohibition contained in the preceding sentence shall apply without regard to the presence or absence of a causal relationship between such characteristics and the applicant's current or proposed discharge. Notwithstanding any other provisions of this subsection, no permit may be issued under this subsection for discharge of a pollutant into the New York Bight Apex consisting of the ocean waters of the Atlantic Ocean westward of 73 degrees 30 minutes west longitude and northward of 40 degrees 10 minutes north latitude.

(i) Municipal time extensions

(1) Where construction is required in order for a planned or existing publicly owned treatment works to achieve limitations under subsection (b)(1)(B) or (b)(1)(C) of this section, but **(A)** construction cannot be completed within the time required in such subsection, or **(B)** the United States has failed to make financial assistance under this chapter available in time to achieve such limitations by the time specified in such subsection, the owner or operator of such treatment works may request the Administrator (or if appropriate the State) to issue a permit pursuant to [section 1342](#) of this title or to modify a permit issued pursuant to that section to extend such time for compliance. Any such request shall be filed with the Administrator (or if appropriate the State) within 180 days after February 4, 1987. The Administrator (or if appropriate the State) may grant such request and issue or modify such a permit, which shall contain a schedule of compliance for the publicly owned treatment works based on the earliest date by which such financial assistance will be available from the United States and construction can be completed, but in no event later than July 1, 1988, and shall contain such other terms and conditions, including those necessary to carry out [subsections \(b\) through \(g\) of section 1281](#) of this title, [section 1317](#) of this title, and such interim effluent limitations applicable to that treatment works as the Administrator determines are necessary to carry out the provisions of this chapter.

(2)(A) Where a point source (other than a publicly owned treatment works) will not achieve the requirements of subsections (b)(1)(A) and (b)(1)(C) of this section and--

(i) if a permit issued prior to July 1, 1977, to such point source is based upon a discharge into a publicly owned treatment works; or

(ii) if such point source (other than a publicly owned treatment works) had before July 1, 1977, a contract (enforceable against such point source) to discharge into a publicly owned treatment works; or

(iii) if either an application made before July 1, 1977, for a construction grant under this chapter for a publicly owned treatment works, or engineering or architectural plans or working drawings made before July 1, 1977, for a publicly owned treatment works, show that such point source was to discharge into such publicly owned treatment works,

and such publicly owned treatment works is presently unable to accept such discharge without construction, and in the case of a discharge to an existing publicly owned treatment works, such treatment works has an extension pursuant to paragraph (1) of this subsection, the owner or operator of such point source may request the Administrator (or if appropriate the State) to issue or modify such a permit pursuant to such [section 1342](#) of this title to extend such time

for compliance. Any such request shall be filed with the Administrator (or if appropriate the State) within 180 days after December 27, 1977, or the filing of a request by the appropriate publicly owned treatment works under paragraph (1) of this subsection, whichever is later. If the Administrator (or if appropriate the State) finds that the owner or operator of such point source has acted in good faith, he may grant such request and issue or modify such a permit, which shall contain a schedule of compliance for the point source to achieve the requirements of subsections (b)(1)(A) and (C) of this section and shall contain such other terms and conditions, including pretreatment and interim effluent limitations and water conservation requirements applicable to that point source, as the Administrator determines are necessary to carry out the provisions of this chapter.

(B) No time modification granted by the Administrator (or if appropriate the State) pursuant to paragraph (2)(A) of this subsection shall extend beyond the earliest date practicable for compliance or beyond the date of any extension granted to the appropriate publicly owned treatment works pursuant to paragraph (1) of this subsection, but in no event shall it extend beyond July 1, 1988; and no such time modification shall be granted unless (i) the publicly owned treatment works will be in operation and available to the point source before July 1, 1988, and will meet the requirements of subsections (b)(1)(B) and (C) of this section after receiving the discharge from that point source; and (ii) the point source and the publicly owned treatment works have entered into an enforceable contract requiring the point source to discharge into the publicly owned treatment works, the owner or operator of such point source to pay the costs required under [section 1284](#) of this title, and the publicly owned treatment works to accept the discharge from the point source; and (iii) the permit for such point source requires that point source to meet all requirements under [section 1317\(a\)](#) and (b) of this title during the period of such time modification.

(j) Modification procedures

(1) Any application filed under this section for a modification of the provisions of--

(A) subsection (b)(1)(B) under subsection (h) of this section shall be filed not later than ¹ the 365th day which begins after December 29, 1981, except that a publicly owned treatment works which prior to December 31, 1982, had a contractual arrangement to use a portion of the capacity of an ocean outfall operated by another publicly owned treatment works which has applied for or received modification under subsection (h), may apply for a modification of subsection (h) in its own right not later than 30 days after February 4, 1987, and except as provided in paragraph (5);

(B) subsection (b)(2)(A) as it applies to pollutants identified in subsection (b)(2)(F) shall be filed not later than 270 days after the date of promulgation of an applicable effluent guideline under [section 1314](#) of this title or not later than 270 days after December 27, 1977, whichever is later.

(2) Subject to paragraph (3) of this section, any application for a modification filed under subsection (g) of this section shall not operate to stay any requirement under this chapter, unless in the judgment of the Administrator such a stay or the modification sought will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity, or teratogenicity), or synergistic propensities, and that there is a substantial likelihood that the applicant will succeed on the merits of such application. In the case of an application filed under subsection (g) of this section, the Administrator may condition any stay granted under this paragraph on requiring the filing of a bond or other appropriate security to assure timely compliance with the requirements from which a modification is sought.

(3) Compliance requirements under subsection (g)

(A) Effect of filing

An application for a modification under subsection (g) and a petition for listing of a pollutant as a pollutant for which modifications are authorized under such subsection shall not stay the requirement that the person seeking such modification or listing comply with effluent limitations under this chapter for all pollutants not the subject of such application or petition.

(B) Effect of disapproval

Disapproval of an application for a modification under subsection (g) shall not stay the requirement that the person seeking such modification comply with all applicable effluent limitations under this chapter.

(4) Deadline for subsection (g) decision

An application for a modification with respect to a pollutant filed under subsection (g) must be approved or disapproved not later than 365 days after the date of such filing; except that in any case in which a petition for listing such pollutant as a pollutant for which modifications are authorized under such subsection is approved, such application must be approved or disapproved not later than 365 days after the date of approval of such petition.

(5) Extension of application deadline

(A) In general

In the 180-day period beginning on October 31, 1994, the city of San Diego, California, may apply for a modification pursuant to subsection (h) of the requirements of subsection (b)(1)(B) with respect to biological oxygen demand and total suspended solids in the effluent discharged into marine waters.

(B) Application

An application under this paragraph shall include a commitment by the applicant to implement a waste water reclamation program that, at a minimum, will--

(i) achieve a system capacity of 45,000,000 gallons of reclaimed waste water per day by January 1, 2010; and

(ii) result in a reduction in the quantity of suspended solids discharged by the applicant into the marine environment during the period of the modification.

(C) Additional conditions

The Administrator may not grant a modification pursuant to an application submitted under this paragraph unless the Administrator determines that such modification will result in removal of not less than 58 percent of the biological oxygen demand (on an annual average) and not less than 80 percent of total suspended solids (on a monthly average) in the discharge to which the application applies.

(D) Preliminary decision deadline

The Administrator shall announce a preliminary decision on an application submitted under this paragraph not later than 1 year after the date the application is submitted.

(k) Innovative technology

In the case of any facility subject to a permit under [section 1342](#) of this title which proposes to comply with the requirements of subsection (b)(2)(A) or (b)(2)(E) of this section by replacing existing production capacity with an innovative production process which will result in an effluent reduction significantly greater than that required by the limitation otherwise applicable to such facility and moves toward the national goal of eliminating the discharge of all pollutants, or with the installation of an innovative control technique that has a substantial likelihood for enabling the facility to comply with the applicable effluent limitation by achieving a significantly greater effluent reduction than that required by the applicable effluent limitation and moves toward the national goal of eliminating the discharge of all pollutants, or by achieving the required reduction with an innovative system that has the potential for significantly lower costs than the systems which have been determined by the Administrator to be economically achievable, the Administrator (or the State with an approved program under [section 1342](#) of this title, in consultation with the Administrator) may establish a date for compliance under subsection (b)(2)(A) or (b)(2)(E) of this section no later than two years after the date for compliance with such effluent limitation which would otherwise be applicable under such subsection, if it is also determined that such innovative system has the potential for industrywide application.

(l) Toxic pollutants

Other than as provided in subsection (n) of this section, the Administrator may not modify any requirement of this section as it applies to any specific pollutant which is on the toxic pollutant list under [section 1317\(a\)\(1\)](#) of this title.

(m) Modification of effluent limitation requirements for point sources

(1) The Administrator, with the concurrence of the State, may issue a permit under [section 1342](#) of this title which modifies the requirements of subsections (b)(1)(A) and (b)(2)(E) of this section, and of [section 1343](#) of this title, with respect to effluent limitations to the extent such limitations relate to biochemical oxygen demand and pH from discharges by an industrial discharger in such State into deep waters of the territorial seas, if the applicant demonstrates and the Administrator finds that--

(A) the facility for which modification is sought is covered at the time of the enactment of this subsection by National Pollutant Discharge Elimination System permit number CA0005894 or CA0005282;

(B) the energy and environmental costs of meeting such requirements of subsections (b)(1)(A) and (b)(2)(E) and [section 1343](#) of this title exceed by an unreasonable amount the benefits to be obtained, including the objectives of this chapter;

- (C) the applicant has established a system for monitoring the impact of such discharges on a representative sample of aquatic biota;
- (D) such modified requirements will not result in any additional requirements on any other point or nonpoint source;
- (E) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit;
- (F) the discharge is into waters where there is strong tidal movement and other hydrological and geological characteristics which are necessary to allow compliance with this subsection and [section 1251\(a\)\(2\)](#) of this title;
- (G) the applicant accepts as a condition to the permit a contractual² obligation to use funds in the amount required (but not less than \$250,000 per year for ten years) for research and development of water pollution control technology, including but not limited to closed cycle technology;
- (H) the facts and circumstances present a unique situation which, if relief is granted, will not establish a precedent or the relaxation of the requirements of this chapter applicable to similarly situated discharges; and
- (I) no owner or operator of a facility comparable to that of the applicant situated in the United States has demonstrated that it would be put at a competitive disadvantage to the applicant (or the parent company or any subsidiary thereof) as a result of the issuance of a permit under this subsection.
- (2) The effluent limitations established under a permit issued under paragraph (1) shall be sufficient to implement the applicable State water quality standards, to assure the protection of public water supplies and protection and propagation of a balanced, indigenous population of shellfish, fish, fauna, wildlife, and other aquatic organisms, and to allow recreational activities in and on the water. In setting such limitations, the Administrator shall take into account any seasonal variations and the need for an adequate margin of safety, considering the lack of essential knowledge concerning the relationship between effluent limitations and water quality and the lack of essential knowledge of the effects of discharges on beneficial uses of the receiving waters.
- (3) A permit under this subsection may be issued for a period not to exceed five years, and such a permit may be renewed for one additional period not to exceed five years upon a demonstration by the applicant and a finding by the Administrator at the time of application for any such renewal that the provisions of this subsection are met.
- (4) The Administrator may terminate a permit issued under this subsection if the Administrator determines that there has been a decline in ambient water quality of the receiving waters during the period of the permit even if a direct cause and effect relationship cannot be shown: *Provided*, That if the effluent from a source with a permit issued under this subsection is contributing to a decline in ambient water quality of the receiving waters, the Administrator shall terminate such permit.

(n) Fundamentally different factors

(1) General rule

The Administrator, with the concurrence of the State, may establish an alternative requirement under subsection (b) (2) or [section 1317\(b\)](#) of this title for a facility that modifies the requirements of national effluent limitation guidelines or categorical pretreatment standards that would otherwise be applicable to such facility, if the owner or operator of such facility demonstrates to the satisfaction of the Administrator that--

(A) the facility is fundamentally different with respect to the factors (other than cost) specified in [section 1314\(b\)](#) or [1314\(g\)](#) of this title and considered by the Administrator in establishing such national effluent limitation guidelines or categorical pretreatment standards;

(B) the application--

(i) is based solely on information and supporting data submitted to the Administrator during the rulemaking for establishment of the applicable national effluent limitation guidelines or categorical pretreatment standard specifically raising the factors that are fundamentally different for such facility; or

(ii) is based on information and supporting data referred to in clause (i) and information and supporting data the applicant did not have a reasonable opportunity to submit during such rulemaking;

(C) the alternative requirement is no less stringent than justified by the fundamental difference; and

(D) the alternative requirement will not result in a non-water quality environmental impact which is markedly more adverse than the impact considered by the Administrator in establishing such national effluent limitation guideline or categorical pretreatment standard.

(2) Time limit for applications

An application for an alternative requirement which modifies the requirements of an effluent limitation or pretreatment standard under this subsection must be submitted to the Administrator within 180 days after the date on which such limitation or standard is established or revised, as the case may be.

(3) Time limit for decision

The Administrator shall approve or deny by final agency action an application submitted under this subsection within 180 days after the date such application is filed with the Administrator.

(4) Submission of information

The Administrator may allow an applicant under this subsection to submit information and supporting data until the earlier of the date the application is approved or denied or the last day that the Administrator has to approve or deny such application.

(5) Treatment of pending applications

For the purposes of this subsection, an application for an alternative requirement based on fundamentally different factors which is pending on February 4, 1987, shall be treated as having been submitted to the Administrator on the 180th day following February 4, 1987. The applicant may amend the application to take into account the provisions of this subsection.

(6) Effect of submission of application

An application for an alternative requirement under this subsection shall not stay the applicant's obligation to comply with the effluent limitation guideline or categorical pretreatment standard which is the subject of the application.

(7) Effect of denial

If an application for an alternative requirement which modifies the requirements of an effluent limitation or pretreatment standard under this subsection is denied by the Administrator, the applicant must comply with such limitation or standard as established or revised, as the case may be.

(8) Reports

By January 1, 1997, and January 1 of every odd-numbered year thereafter, the Administrator shall submit to the Committee on Environment and Public Works of the Senate and the Committee on Transportation and Infrastructure of the House of Representatives a report on the status of applications for alternative requirements which modify the requirements of effluent limitations under section 1311 or [1314](#) of this title or any national categorical pretreatment standard under [section 1317\(b\)](#) of this title filed before, on, or after February 4, 1987.

(o) Application fees

The Administrator shall prescribe and collect from each applicant fees reflecting the reasonable administrative costs incurred in reviewing and processing applications for modifications submitted to the Administrator pursuant to subsections (c), (g), (i), (k), (m), and (n) of this section, [section 1314\(d\)\(4\)](#) of this title, and [section 1326\(a\)](#) of this title. All amounts collected by the Administrator under this subsection shall be deposited into a special fund of the Treasury entitled "Water Permits and Related Services" which shall thereafter be available for appropriation to carry out activities of the Environmental Protection Agency for which such fees were collected.

(p) Modified permit for coal remining operations

(1) In general

Subject to paragraphs (2) through (4) of this subsection, the Administrator, or the State in any case which the State has an approved permit program under [section 1342\(b\)](#) of this title, may issue a permit under [section 1342](#) of this title which modifies the requirements of subsection (b)(2)(A) of this section with respect to the pH level of any pre-existing discharge, and with respect to pre-existing discharges of iron and manganese from the remined area of any coal remining operation or with respect to the pH level or level of iron or manganese in any pre-existing discharge affected by the remining operation. Such modified requirements shall apply the best available technology economically achievable on a case-by-case basis, using best professional judgment, to set specific numerical effluent limitations in each permit.

(2) Limitations

The Administrator or the State may only issue a permit pursuant to paragraph (1) if the applicant demonstrates to the satisfaction of the Administrator or the State, as the case may be, that the coal remining operation will result in the potential for improved water quality from the remining operation but in no event shall such a permit allow the pH level of any discharge, and in no event shall such a permit allow the discharges of iron and manganese, to exceed the levels being discharged from the remined area before the coal remining operation begins. No discharge from, or affected by, the remining operation shall exceed State water quality standards established under [section 1313](#) of this title.

(3) Definitions

For purposes of this subsection--

(A) Coal remining operation

The term “coal remining operation” means a coal mining operation which begins after February 4, 1987 at a site on which coal mining was conducted before August 3, 1977.

(B) Remined area

The term “remined area” means only that area of any coal remining operation on which coal mining was conducted before August 3, 1977.

(C) Pre-existing discharge

The term “pre-existing discharge” means any discharge at the time of permit application under this subsection.

(4) Applicability of strip mining laws

Nothing in this subsection shall affect the application of the Surface Mining Control and Reclamation Act of 1977 [[30 U.S.C.A. § 1201 et seq.](#)] to any coal remining operation, including the application of such Act to suspended solids.

CREDIT(S)

(June 30, 1948, c. 758, Title III, § 301, as added [Pub.L. 92-500](#), § 2, Oct. 18, 1972, 86 Stat. 844; amended [Pub.L. 95-217](#), §§ 42-47, 53(c), Dec. 27, 1977, 91 Stat. 1582-1586, 1590; [Pub.L. 97-117](#), §§ 21, 22(a)-(d), Dec. 29, 1981, 95 Stat. 1631, 1632; [Pub.L. 97-440](#), Jan. 8, 1983, 96 Stat. 2289; [Pub.L. 100-4](#), Title III, §§ 301(a) to (e), 302(a) to (d), 303(a), (b)(1), (c) to (f), 304(a), 305, 306(a), (b), 307, Feb. 4, 1987, 101 Stat. 29-37; [Pub.L. 100-688](#), Title III, § 3202(b), Nov. 18, 1988, 102 Stat. 4154; [Pub.L. 103-431](#), § 2, Oct. 31, 1994, 108 Stat. 4396; [Pub.L. 104-66](#), Title II, § 2021(b), Dec. 21, 1995, 109 Stat. 727.)

[Notes of Decisions \(321\)](#)

Footnotes

- 1 So in original. Probably should be “than”.
 - 2 So in original. Probably should be “contractual”.
- 33 U.S.C.A. § 1311, 33 USCA § 1311
Current through P.L. 115-171.

ATTACHMENT A-3



KeyCite Yellow Flag - Negative Treatment

Proposed Legislation

[United States Code Annotated](#)

[Title 33. Navigation and Navigable Waters \(Refs & Annos\)](#)

[Chapter 26. Water Pollution Prevention and Control \(Refs & Annos\)](#)

[Subchapter III. Standards and Enforcement \(Refs & Annos\)](#)

33 U.S.C.A. § 1313

§ 1313. Water quality standards and implementation plans

Effective: October 10, 2000

[Currentness](#)

(a) Existing water quality standards

(1) In order to carry out the purpose of this chapter, any water quality standard applicable to interstate waters which was adopted by any State and submitted to, and approved by, or is a waiting approval by, the Administrator pursuant to this Act as in effect immediately prior to October 18, 1972, shall remain in effect unless the Administrator determined that such standard is not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972. If the Administrator makes such a determination he shall, within three months after October 18, 1972, notify the State and specify the changes needed to meet such requirements. If such changes are not adopted by the State within ninety days after the date of such notification, the Administrator shall promulgate such changes in accordance with subsection (b) of this section.

(2) Any State which, before October 18, 1972, has adopted, pursuant to its own law, water quality standards applicable to intrastate waters shall submit such standards to the Administrator within thirty days after October 18, 1972. Each such standard shall remain in effect, in the same manner and to the same extent as any other water quality standard established under this chapter unless the Administrator determines that such standard is inconsistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972. If the Administrator makes such a determination he shall not later than the one hundred and twentieth day after the date of submission of such standards, notify the State and specify the changes needed to meet such requirements. If such changes are not adopted by the State within ninety days after such notification, the Administrator shall promulgate such changes in accordance with subsection (b) of this section.

(3)(A) Any State which prior to October 18, 1972, has not adopted pursuant to its own laws water quality standards applicable to intrastate waters shall, not later than one hundred and eighty days after October 18, 1972, adopt and submit such standards to the Administrator.

(B) If the Administrator determines that any such standards are consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall approve such standards.

(C) If the Administrator determines that any such standards are not consistent with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, he shall, not later than the ninetieth day after the date of

submission of such standards, notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standards pursuant to subsection (b) of this section.

(b) Proposed regulations

(1) The Administrator shall promptly prepare and publish proposed regulations setting forth water quality standards for a State in accordance with the applicable requirements of this Act as in effect immediately prior to October 18, 1972, if--

(A) the State fails to submit water quality standards within the times prescribed in subsection (a) of this section.

(B) a water quality standard submitted by such State under subsection (a) of this section is determined by the Administrator not to be consistent with the applicable requirements of subsection (a) of this section.

(2) The Administrator shall promulgate any water quality standard published in a proposed regulation not later than one hundred and ninety days after the date he publishes any such proposed standard, unless prior to such promulgation, such State has adopted a water quality standard which the Administrator determines to be in accordance with subsection (a) of this section.

(c) Review; revised standards; publication

(1) The Governor of a State or the State water pollution control agency of such State shall from time to time (but at least once each three year period beginning with October 18, 1972) hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards. Results of such review shall be made available to the Administrator.

(2)(A) Whenever the State revises or adopts a new standard, such revised or new standard shall be submitted to the Administrator. Such revised or new water quality standard shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses. Such standards shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter. Such standards shall be established taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.

(B) Whenever a State reviews water quality standards pursuant to paragraph (1) of this subsection, or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria for all toxic pollutants listed pursuant to [section 1317\(a\)\(1\)](#) of this title for which criteria have been published under [section 1314\(a\)](#) of this title, the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the State, as necessary to support such designated uses. Such criteria shall be specific numerical criteria for such toxic pollutants. Where such numerical criteria are not available, whenever a State reviews water quality standards pursuant to paragraph (1), or revises or adopts new standards pursuant to this paragraph, such State shall adopt criteria based on biological monitoring or assessment methods consistent with information published pursuant to [section 1314\(a\)\(8\)](#) of this title.

Nothing in this section shall be construed to limit or delay the use of effluent limitations or other permit conditions based on or involving biological monitoring or assessment methods or previously adopted numerical criteria.

(3) If the Administrator, within sixty days after the date of submission of the revised or new standard, determines that such standard meets the requirements of this chapter, such standard shall thereafter be the water quality standard for the applicable waters of that State. If the Administrator determines that any such revised or new standard is not consistent with the applicable requirements of this chapter, he shall not later than the ninetieth day after the date of submission of such standard notify the State and specify the changes to meet such requirements. If such changes are not adopted by the State within ninety days after the date of notification, the Administrator shall promulgate such standard pursuant to paragraph (4) of this subsection.

(4) The Administrator shall promptly prepare and publish proposed regulations setting forth a revised or new water quality standard for the navigable waters involved--

(A) if a revised or new water quality standard submitted by such State under paragraph (3) of this subsection for such waters is determined by the Administrator not to be consistent with the applicable requirements of this chapter, or

(B) in any case where the Administrator determines that a revised or new standard is necessary to meet the requirements of this chapter.

The Administrator shall promulgate any revised or new standard under this paragraph not later than ninety days after he publishes such proposed standards, unless prior to such promulgation, such State has adopted a revised or new water quality standard which the Administrator determines to be in accordance with this chapter.

(d) Identification of areas with insufficient controls; maximum daily load; certain effluent limitations revision

(1)(A) Each State shall identify those waters within its boundaries for which the effluent limitations required by [section 1311\(b\)\(1\)\(A\)](#) and [section 1311\(b\)\(1\)\(B\)](#) of this title are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.

(B) Each State shall identify those waters or parts thereof within its boundaries for which controls on thermal discharges under [section 1311](#) of this title are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife.

(C) Each State shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under [section 1314\(a\)\(2\)](#) of this title as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.

(D) Each State shall estimate for the waters identified in paragraph (1)(B) of this subsection the total maximum daily thermal load required to assure protection and propagation of a balanced, indigenous population of shellfish, fish, and

wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for such protection and propagation in the identified waters or parts thereof.

(2) Each State shall submit to the Administrator from time to time, with the first such submission not later than one hundred and eighty days after the date of publication of the first identification of pollutants under [section 1314\(a\)\(2\)\(D\)](#) of this title, for his approval the waters identified and the loads established under paragraphs (1)(A), (1)(B), (1)(C), and (1)(D) of this subsection. The Administrator shall either approve or disapprove such identification and load not later than thirty days after the date of submission. If the Administrator approves such identification and load, such State shall incorporate them into its current plan under subsection (e) of this section. If the Administrator disapproves such identification and load, he shall not later than thirty days after the date of such disapproval identify such waters in such State and establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters and upon such identification and establishment the State shall incorporate them into its current plan under subsection (e) of this section.

(3) For the specific purpose of developing information, each State shall identify all waters within its boundaries which it has not identified under paragraph (1)(A) and (1)(B) of this subsection and estimate for such waters the total maximum daily load with seasonal variations and margins of safety, for those pollutants which the Administrator identifies under [section 1314\(a\)\(2\)](#) of this title as suitable for such calculation and for thermal discharges, at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish, and wildlife.

(4) Limitations on revision of certain effluent limitations

(A) Standard not attained

For waters identified under paragraph (1)(A) where the applicable water quality standard has not yet been attained, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section may be revised only if (i) the cumulative effect of all such revised effluent limitations based on such total maximum daily load or waste load allocation will assure the attainment of such water quality standard, or (ii) the designated use which is not being attained is removed in accordance with regulations established under this section.

(B) Standard attained

For waters identified under paragraph (1)(A) where the quality of such waters equals or exceeds levels necessary to protect the designated use for such waters or otherwise required by applicable water quality standards, any effluent limitation based on a total maximum daily load or other waste load allocation established under this section, or any water quality standard established under this section, or any other permitting standard may be revised only if such revision is subject to and consistent with the antidegradation policy established under this section.

(e) Continuing planning process

(1) Each State shall have a continuing planning process approved under paragraph (2) of this subsection which is consistent with this chapter.

(2) Each State shall submit not later than 120 days after October 18, 1972, to the Administrator for his approval a proposed continuing planning process which is consistent with this chapter. Not later than thirty days after the date of submission of such a process the Administrator shall either approve or disapprove such process. The Administrator shall from time to time review each State's approved planning process for the purpose of insuring that such planning process is at all times consistent with this chapter. The Administrator shall not approve any State permit program under subchapter IV of this chapter for any State which does not have an approved continuing planning process under this section.

(3) The Administrator shall approve any continuing planning process submitted to him under this section which will result in plans for all navigable waters within such State, which include, but are not limited to, the following:

(A) effluent limitations and schedules of compliance at least as stringent as those required by [section 1311\(b\)\(1\)](#), [section 1311\(b\)\(2\)](#), [section 1316](#), and [section 1317](#) of this title, and at least as stringent as any requirements contained in any applicable water quality standard in effect under authority of this section;

(B) the incorporation of all elements of any applicable area-wide waste management plans under [section 1288](#) of this title, and applicable basin plans under [section 1289](#) of this title;

(C) total maximum daily load for pollutants in accordance with subsection (d) of this section;

(D) procedures for revision;

(E) adequate authority for intergovernmental cooperation;

(F) adequate implementation, including schedules of compliance, for revised or new water quality standards, under subsection (c) of this section;

(G) controls over the disposition of all residual waste from any water treatment processing;

(H) an inventory and ranking, in order of priority, of needs for construction of waste treatment works required to meet the applicable requirements of [sections 1311](#) and [1312](#) of this title.

(f) Earlier compliance

Nothing in this section shall be construed to affect any effluent limitation, or schedule of compliance required by any State to be implemented prior to the dates set forth in [sections 1311\(b\)\(1\)](#) and [1311\(b\)\(2\)](#) of this title nor to preclude any State from requiring compliance with any effluent limitation or schedule of compliance at dates earlier than such dates.

(g) Heat standards

Water quality standards relating to heat shall be consistent with the requirements of [section 1326](#) of this title.

(h) Thermal water quality standards

For the purposes of this chapter the term “water quality standards” includes thermal water quality standards.

(i) Coastal recreation water quality criteria

(1) Adoption by States

(A) Initial criteria and standards

Not later than 42 months after October 10, 2000, each State having coastal recreation waters shall adopt and submit to the Administrator water quality criteria and standards for the coastal recreation waters of the State for those pathogens and pathogen indicators for which the Administrator has published criteria under [section 1314\(a\)](#) of this title.

(B) New or revised criteria and standards

Not later than 36 months after the date of publication by the Administrator of new or revised water quality criteria under [section 1314\(a\)\(9\)](#) of this title, each State having coastal recreation waters shall adopt and submit to the Administrator new or revised water quality standards for the coastal recreation waters of the State for all pathogens and pathogen indicators to which the new or revised water quality criteria are applicable.

(2) Failure of States to adopt

(A) In general

If a State fails to adopt water quality criteria and standards in accordance with paragraph (1)(A) that are as protective of human health as the criteria for pathogens and pathogen indicators for coastal recreation waters published by the Administrator, the Administrator shall promptly propose regulations for the State setting forth revised or new water quality standards for pathogens and pathogen indicators described in paragraph (1)(A) for coastal recreation waters of the State.

(B) Exception

If the Administrator proposes regulations for a State described in subparagraph (A) under subsection (c)(4)(B), the Administrator shall publish any revised or new standard under this subsection not later than 42 months after October 10, 2000.

(3) Applicability

Except as expressly provided by this subsection, the requirements and procedures of subsection (c) apply to this subsection, including the requirement in subsection (c)(2)(A) that the criteria protect public health and welfare.

CREDIT(S)

(June 30, 1948, c. 758, Title III, § 303, as added [Pub.L. 92-500](#), § 2, Oct. 18, 1972, 86 Stat. 846; amended [Pub.L. 100-4](#), Title III, § 308(d), Title IV, § 404(b), Feb. 4, 1987, 101 Stat. 39, 68; [Pub.L. 106-284](#), § 2, Oct. 10, 2000, 114 Stat. 870.)

[Notes of Decisions \(137\)](#)

33 U.S.C.A. § 1313, 33 USCA § 1313

Current through P.L. 115-171.

End of Document

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ATTACHMENT A-4

United States Code Annotated

Title 33. Navigation and Navigable Waters (Refs & Annos)

Chapter 26. Water Pollution Prevention and Control (Refs & Annos)

Subchapter III. Standards and Enforcement (Refs & Annos)

33 U.S.C.A. § 1318

§ 1318. Records and reports; inspections

Currentness

(a) Maintenance; monitoring equipment; entry; access to information

Whenever required to carry out the objective of this chapter, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this chapter; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out [sections 1315, 1321, 1342, 1344](#) (relating to State permit programs), 1345, and 1364 of this title--

(A) the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require; and

(B) the Administrator or his authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of his credentials--

(i) shall have a right of entry to, upon, or through any premises in which an effluent source is located or in which any records required to be maintained under clause (A) of this subsection are located, and

(ii) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required under clause (A), and sample any effluents which the owner or operator of such source is required to sample under such clause.

(b) Availability to public; trade secrets exception; penalty for disclosure of confidential information

Any records, reports, or information obtained under this section (1) shall, in the case of effluent data, be related to any applicable effluent limitations, toxic, pretreatment, or new source performance standards, and (2) shall be available to the public, except that upon a showing satisfactory to the Administrator by any person that records, reports, or information, or particular part thereof (other than effluent data), to which the Administrator has access under this section, if made public would divulge methods or processes entitled to protection as trade secrets of such person, the Administrator shall consider such record, report, or information, or particular portion thereof confidential in accordance with the purposes

of [section 1905 of Title 18](#). Any authorized representative of the Administrator (including an authorized contractor acting as a representative of the Administrator) who knowingly or willfully publishes, divulges, discloses, or makes known in any manner or to any extent not authorized by law any information which is required to be considered confidential under this subsection shall be fined not more than \$1,000 or imprisoned not more than 1 year, or both. Nothing in this subsection shall prohibit the Administrator or an authorized representative of the Administrator (including any authorized contractor acting as a representative of the Administrator) from disclosing records, reports, or information to other officers, employees, or authorized representatives of the United States concerned with carrying out this chapter or when relevant in any proceeding under this chapter.

(c) Application of State law

Each State may develop and submit to the Administrator procedures under State law for inspection, monitoring, and entry with respect to point sources located in such State. If the Administrator finds that the procedures and the law of any State relating to inspection, monitoring, and entry are applicable to at least the same extent as those required by this section, such State is authorized to apply and enforce its procedures for inspection, monitoring, and entry with respect to point sources located in such State (except with respect to point sources owned or operated by the United States).

(d) Access by Congress

Notwithstanding any limitation contained in this section or any other provision of law, all information reported to or otherwise obtained by the Administrator (or any representative of the Administrator) under this chapter shall be made available, upon written request of any duly authorized committee of Congress, to such committee.

CREDIT(S)

(June 30, 1948, c. 758, Title III, § 308, as added [Pub.L. 92-500](#), § 2, Oct. 18, 1972, 86 Stat. 858; amended [Pub.L. 95-217](#), § 67(c)(1), Dec. 27, 1977, 91 Stat. 1606; [Pub.L. 100-4](#), Title III, § 310, Title IV, § 406(d)(1), Feb. 4, 1987, 101 Stat. 41, 73.)

[Notes of Decisions \(21\)](#)

33 U.S.C.A. § 1318, 33 USCA § 1318
Current through P.L. 115-171.

ATTACHMENT A-5

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter IV. Permits and Licenses (Refs & Annos)

33 U.S.C.A. § 1342

§ 1342. National pollutant discharge elimination system

Effective: February 7, 2014

[Currentness](#)

(a) Permits for discharge of pollutants

(1) Except as provided in [sections 1328](#) and [1344](#) of this title, the Administrator may, after opportunity for public hearing issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding [section 1311\(a\)](#) of this title, upon condition that such discharge will meet either (A) all applicable requirements under [sections 1311](#), [1312](#), [1316](#), [1317](#), [1318](#), and [1343](#) of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.

(2) The Administrator shall prescribe conditions for such permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.

(3) The permit program of the Administrator under paragraph (1) of this subsection, and permits issued thereunder, shall be subject to the same terms, conditions, and requirements as apply to a State permit program and permits issued thereunder under subsection (b) of this section.

(4) All permits for discharges into the navigable waters issued pursuant to [section 407](#) of this title shall be deemed to be permits issued under this subchapter, and permits issued under this subchapter shall be deemed to be permits issued under [section 407](#) of this title, and shall continue in force and effect for their term unless revoked, modified, or suspended in accordance with the provisions of this chapter.

(5) No permit for a discharge into the navigable waters shall be issued under [section 407](#) of this title after October 18, 1972. Each application for a permit under [section 407](#) of this title, pending on October 18, 1972, shall be deemed to be an application for a permit under this section. The Administrator shall authorize a State, which he determines has the capability of administering a permit program which will carry out the objectives of this chapter to issue permits for discharges into the navigable waters within the jurisdiction of such State. The Administrator may exercise the authority granted him by the preceding sentence only during the period which begins on October 18, 1972, and ends either on the ninetieth day after the date of the first promulgation of guidelines required by [section 1314\(i\)\(2\)](#) of this title, or the date of approval by the Administrator of a permit program for such State under subsection (b) of this section, whichever date first occurs, and no such authorization to a State shall extend beyond the last day of such period. Each such permit shall

be subject to such conditions as the Administrator determines are necessary to carry out the provisions of this chapter. No such permit shall issue if the Administrator objects to such issuance.

(b) State permit programs

At any time after the promulgation of the guidelines required by [subsection \(i\)\(2\) of section 1314](#) of this title, the Governor of each State desiring to administer its own permit program for discharges into navigable waters within its jurisdiction may submit to the Administrator a full and complete description of the program it proposes to establish and administer under State law or under an interstate compact. In addition, such State shall submit a statement from the attorney general (or the attorney for those State water pollution control agencies which have independent legal counsel), or from the chief legal officer in the case of an interstate agency, that the laws of such State, or the interstate compact, as the case may be, provide adequate authority to carry out the described program. The Administrator shall approve each submitted program unless he determines that adequate authority does not exist:

(1) To issue permits which--

(A) apply, and insure compliance with, any applicable requirements of [sections 1311, 1312, 1316, 1317, and 1343](#) of this title;

(B) are for fixed terms not exceeding five years; and

(C) can be terminated or modified for cause including, but not limited to, the following:

(i) violation of any condition of the permit;

(ii) obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts;

(iii) change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(D) control the disposal of pollutants into wells;

(2)(A) To issue permits which apply, and insure compliance with, all applicable requirements of [section 1318](#) of this title; or

(B) To inspect, monitor, enter, and require reports to at least the same extent as required in [section 1318](#) of this title;

(3) To insure that the public, and any other State the waters of which may be affected, receive notice of each application for a permit and to provide an opportunity for public hearing before a ruling on each such application;

(4) To insure that the Administrator receives notice of each application (including a copy thereof) for a permit;

(5) To insure that any State (other than the permitting State), whose waters may be affected by the issuance of a permit may submit written recommendations to the permitting State (and the Administrator) with respect to any permit application and, if any part of such written recommendations are not accepted by the permitting State, that the permitting State will notify such affected State (and the Administrator) in writing of its failure to so accept such recommendations together with its reasons for so doing;

(6) To insure that no permit will be issued if, in the judgment of the Secretary of the Army acting through the Chief of Engineers, after consultation with the Secretary of the department in which the Coast Guard is operating, anchorage and navigation of any of the navigable waters would be substantially impaired thereby;

(7) To abate violations of the permit or the permit program, including civil and criminal penalties and other ways and means of enforcement;

(8) To insure that any permit for a discharge from a publicly owned treatment works includes conditions to require the identification in terms of character and volume of pollutants of any significant source introducing pollutants subject to pretreatment standards under [section 1317\(b\)](#) of this title into such works and a program to assure compliance with such pretreatment standards by each such source, in addition to adequate notice to the permitting agency of (A) new introductions into such works of pollutants from any source which would be a new source as defined in [section 1316](#) of this title if such source were discharging pollutants, (B) new introductions of pollutants into such works from a source which would be subject to [section 1311](#) of this title if it were discharging such pollutants, or (C) a substantial change in volume or character of pollutants being introduced into such works by a source introducing pollutants into such works at the time of issuance of the permit. Such notice shall include information on the quality and quantity of effluent to be introduced into such treatment works and any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned treatment works; and

(9) To insure that any industrial user of any publicly owned treatment works will comply with [sections 1284\(b\)](#), [1317](#), and [1318](#) of this title.

(c) Suspension of Federal program upon submission of State program; withdrawal of approval of State program; return of State program to Administrator

(1) Not later than ninety days after the date on which a State has submitted a program (or revision thereof) pursuant to subsection (b) of this section, the Administrator shall suspend the issuance of permits under subsection (a) of this section as to those discharges subject to such program unless he determines that the State permit program does not meet the requirements of subsection (b) of this section or does not conform to the guidelines issued under [section 1314\(i\)\(2\)](#) of this title. If the Administrator so determines, he shall notify the State of any revisions or modifications necessary to conform to such requirements or guidelines.

(2) Any State permit program under this section shall at all times be in accordance with this section and guidelines promulgated pursuant to [section 1314\(i\)\(2\)](#) of this title.

(3) Whenever the Administrator determines after public hearing that a State is not administering a program approved under this section in accordance with requirements of this section, he shall so notify the State and, if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days, the Administrator shall withdraw approval of such program. The Administrator shall not withdraw approval of any such program unless he shall first have notified the State, and made public, in writing, the reasons for such withdrawal.

(4) Limitations on partial permit program returns and withdrawals

A State may return to the Administrator administration, and the Administrator may withdraw under paragraph (3) of this subsection approval, of--

(A) a State partial permit program approved under subsection (n)(3) only if the entire permit program being administered by the State department or agency at the time is returned or withdrawn; and

(B) a State partial permit program approved under subsection (n)(4) only if an entire phased component of the permit program being administered by the State at the time is returned or withdrawn.

(d) Notification of Administrator

(1) Each State shall transmit to the Administrator a copy of each permit application received by such State and provide notice to the Administrator of every action related to the consideration of such permit application, including each permit proposed to be issued by such State.

(2) No permit shall issue (A) if the Administrator within ninety days of the date of his notification under subsection (b)(5) of this section objects in writing to the issuance of such permit, or (B) if the Administrator within ninety days of the date of transmittal of the proposed permit by the State objects in writing to the issuance of such permit as being outside the guidelines and requirements of this chapter. Whenever the Administrator objects to the issuance of a permit under this paragraph such written objection shall contain a statement of the reasons for such objection and the effluent limitations and conditions which such permit would include if it were issued by the Administrator.

(3) The Administrator may, as to any permit application, waive paragraph (2) of this subsection.

(4) In any case where, after December 27, 1977, the Administrator, pursuant to paragraph (2) of this subsection, objects to the issuance of a permit, on request of the State, a public hearing shall be held by the Administrator on such objection. If the State does not resubmit such permit revised to meet such objection within 30 days after completion of the hearing, or, if no hearing is requested within 90 days after the date of such objection, the Administrator may issue the permit pursuant to subsection (a) of this section for such source in accordance with the guidelines and requirements of this chapter.

(e) Waiver of notification requirement

In accordance with guidelines promulgated pursuant to [subsection \(i\)\(2\) of section 1314](#) of this title, the Administrator is authorized to waive the requirements of subsection (d) of this section at the time he approves a program pursuant to

subsection (b) of this section for any category (including any class, type, or size within such category) of point sources within the State submitting such program.

(f) Point source categories

The Administrator shall promulgate regulations establishing categories of point sources which he determines shall not be subject to the requirements of subsection (d) of this section in any State with a program approved pursuant to subsection (b) of this section. The Administrator may distinguish among classes, types, and sizes within any category of point sources.

(g) Other regulations for safe transportation, handling, carriage, storage, and stowage of pollutants

Any permit issued under this section for the discharge of pollutants into the navigable waters from a vessel or other floating craft shall be subject to any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage, and stowage of pollutants.

(h) Violation of permit conditions; restriction or prohibition upon introduction of pollutant by source not previously utilizing treatment works

In the event any condition of a permit for discharges from a treatment works (as defined in [section 1292](#) of this title) which is publicly owned is violated, a State with a program approved under subsection (b) of this section or the Administrator, where no State program is approved or where the Administrator determines pursuant to [section 1319\(a\)](#) of this title that a State with an approved program has not commenced appropriate enforcement action with respect to such permit, may proceed in a court of competent jurisdiction to restrict or prohibit the introduction of any pollutant into such treatment works by a source not utilizing such treatment works prior to the finding that such condition was violated.

(i) Federal enforcement not limited

Nothing in this section shall be construed to limit the authority of the Administrator to take action pursuant to [section 1319](#) of this title.

(j) Public information

A copy of each permit application and each permit issued under this section shall be available to the public. Such permit application or permit, or portion thereof, shall further be available on request for the purpose of reproduction.

(k) Compliance with permits

Compliance with a permit issued pursuant to this section shall be deemed compliance, for purposes of [sections 1319](#) and [1365](#) of this title, with [sections 1311](#), [1312](#), [1316](#), [1317](#), and [1343](#) of this title, except any standard imposed under [section 1317](#) of this title for a toxic pollutant injurious to human health. Until December 31, 1974, in any case where a permit for discharge has been applied for pursuant to this section, but final administrative disposition of such application has not been made, such discharge shall not be a violation of (1) [section 1311](#), [1316](#), or [1342](#) of this title, or (2) [section 407](#) of this title, unless the Administrator or other plaintiff proves that final administrative disposition of such application

has not been made because of the failure of the applicant to furnish information reasonably required or requested in order to process the application. For the 180-day period beginning on October 18, 1972, in the case of any point source discharging any pollutant or combination of pollutants immediately prior to such date which source is not subject to [section 407](#) of this title, the discharge by such source shall not be a violation of this chapter if such a source applies for a permit for discharge pursuant to this section within such 180-day period.

(l) Limitation on permit requirement

(1) Agricultural return flows

The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly, require any State to require such a permit.

(2) Stormwater runoff from oil, gas, and mining operations

The Administrator shall not require a permit under this section, nor shall the Administrator directly or indirectly require any State to require a permit, for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations.

(3) Silvicultural activities

(A) NPDES permit requirements for silvicultural activities

The Administrator shall not require a permit under this section nor directly or indirectly require any State to require a permit under this section for a discharge from runoff resulting from the conduct of the following silviculture activities conducted in accordance with standard industry practice: nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance.

(B) Other requirements

Nothing in this paragraph exempts a discharge from silvicultural activity from any permitting requirement under [section 1344](#) of this title, existing permitting requirements under section 1342 of this title, or from any other federal law.

(C) The authorization provided in Section ¹ 1365(a) of this title does not apply to any non-permitting program established under 1342(p)(6) ² of this title for the silviculture activities listed in 1342(l)(3)(A) ³ of this title, or to any other limitations that might be deemed to apply to the silviculture activities listed in 1342(l)(3)(A) ³ of this title.

(m) Additional pretreatment of conventional pollutants not required

To the extent a treatment works (as defined in [section 1292](#) of this title) which is publicly owned is not meeting the requirements of a permit issued under this section for such treatment works as a result of inadequate design or operation of such treatment works, the Administrator, in issuing a permit under this section, shall not require pretreatment by a person introducing conventional pollutants identified pursuant to [section 1314\(a\)\(4\)](#) of this title into such treatment works other than pretreatment required to assure compliance with pretreatment standards under subsection (b)(8) of this section and [section 1317\(b\)\(1\)](#) of this title. Nothing in this subsection shall affect the Administrator's authority under [sections 1317](#) and [1319](#) of this title, affect State and local authority under [sections 1317\(b\)\(4\)](#) and [1370](#) of this title, relieve such treatment works of its obligations to meet requirements established under this chapter, or otherwise preclude such works from pursuing whatever feasible options are available to meet its responsibility to comply with its permit under this section.

(n) Partial permit program

(1) State submission

The Governor of a State may submit under subsection (b) of this section a permit program for a portion of the discharges into the navigable waters in such State.

(2) Minimum coverage

A partial permit program under this subsection shall cover, at a minimum, administration of a major category of the discharges into the navigable waters of the State or a major component of the permit program required by subsection (b).

(3) Approval of major category partial permit programs

The Administrator may approve a partial permit program covering administration of a major category of discharges under this subsection if--

(A) such program represents a complete permit program and covers all of the discharges under the jurisdiction of a department or agency of the State; and

(B) the Administrator determines that the partial program represents a significant and identifiable part of the State program required by subsection (b).

(4) Approval of major component partial permit programs

The Administrator may approve under this subsection a partial and phased permit program covering administration of a major component (including discharge categories) of a State permit program required by subsection (b) if--

(A) the Administrator determines that the partial program represents a significant and identifiable part of the State program required by subsection (b); and

(B) the State submits, and the Administrator approves, a plan for the State to assume administration by phases of the remainder of the State program required by subsection (b) by a specified date not more than 5 years after submission of the partial program under this subsection and agrees to make all reasonable efforts to assume such administration by such date.

(o) Anti-backsliding

(1) General prohibition

In the case of effluent limitations established on the basis of subsection (a)(1)(B) of this section, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under [section 1314\(b\)](#) of this title subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit. In the case of effluent limitations established on the basis of [section 1311\(b\)\(1\)\(C\)](#) or [section 1313\(d\)](#) or (e) of this title, a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with [section 1313\(d\)\(4\)](#) of this title.

(2) Exceptions

A permit with respect to which paragraph (1) applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if--

(A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B);

(C) a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) the permittee has received a permit modification under [section 1311\(c\)](#), [1311\(g\)](#), [1311\(h\)](#), [1311\(i\)](#), [1311\(k\)](#), [1311\(n\)](#), or [1326\(a\)](#) of this title; or

(E) the permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

Subparagraph (B) shall not apply to any revised waste load allocations or any alternative grounds for translating water quality standards into effluent limitations, except where the cumulative effect of such revised allocations results in a decrease in the amount of pollutants discharged into the concerned waters, and such revised allocations are not the result of a discharger eliminating or substantially reducing its discharge of pollutants due to complying with the requirements of this chapter or for reasons otherwise unrelated to water quality.

(3) Limitations

In no event may a permit with respect to which paragraph (1) applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, reissued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under [section 1313](#) of this title applicable to such waters.

(p) Municipal and industrial stormwater discharges

(1) General rule

Prior to October 1, 1994, the Administrator or the State (in the case of a permit program approved under this section) shall not require a permit under this section for discharges composed entirely of stormwater.

(2) Exceptions

Paragraph (1) shall not apply with respect to the following stormwater discharges:

(A) A discharge with respect to which a permit has been issued under this section before February 4, 1987.

(B) A discharge associated with industrial activity.

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000.

(E) A discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) Permit requirements

(A) Industrial discharges

Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and [section 1311](#) of this title.

(B) Municipal discharge

Permits for discharges from municipal storm sewers--

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

(4) Permit application requirements

(A) Industrial and large municipal discharges

Not later than 2 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraphs (2)(B) and (2)(C). Applications for permits for such discharges shall be filed no later than 3 years after February 4, 1987. Not later than 4 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(B) Other municipal discharges

Not later than 4 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraph (2)(D). Applications for permits for such discharges shall be filed no later than 5 years after February 4, 1987. Not later than 6 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(5) Studies

The Administrator, in consultation with the States, shall conduct a study for the purposes of--

(A) identifying those stormwater discharges or classes of stormwater discharges for which permits are not required pursuant to paragraphs (1) and (2) of this subsection;

(B) determining, to the maximum extent practicable, the nature and extent of pollutants in such discharges; and

(C) establishing procedures and methods to control stormwater discharges to the extent necessary to mitigate impacts on water quality.

Not later than October 1, 1988, the Administrator shall submit to Congress a report on the results of the study described in subparagraphs (A) and (B). Not later than October 1, 1989, the Administrator shall submit to Congress a report on the results of the study described in subparagraph (C).

(6) Regulations

Not later than October 1, 1993, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

(q) Combined sewer overflows

(1) Requirement for permits, orders, and decrees

Each permit, order, or decree issued pursuant to this chapter after December 21, 2000, for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy signed by the Administrator on April 11, 1994 (in this subsection referred to as the “CSO control policy”).

(2) Water quality and designated use review guidance

Not later than July 31, 2001, and after providing notice and opportunity for public comment, the Administrator shall issue guidance to facilitate the conduct of water quality and designated use reviews for municipal combined sewer overflow receiving waters.

(3) Report

Not later than September 1, 2001, the Administrator shall transmit to Congress a report on the progress made by the Environmental Protection Agency, States, and municipalities in implementing and enforcing the CSO control policy.

(r) Discharges incidental to the normal operation of recreational vessels

No permit shall be required under this chapter by the Administrator (or a State, in the case of a permit program approved under subsection (b)) for the discharge of any graywater, bilge water, cooling water, weather deck runoff, oil water separator effluent, or effluent from properly functioning marine engines, or any other discharge that is incidental to the normal operation of a vessel, if the discharge is from a recreational vessel.

CREDIT(S)

(June 30, 1948, c. 758, Title IV, § 402, as added [Pub.L. 92-500](#), § 2, Oct. 18, 1972, 86 Stat. 880; amended [Pub.L. 95-217](#), §§ 33(c), 50, 54(c)(1), 65, 66, Dec. 27, 1977, 91 Stat. 1577, 1588, 1591, 1599, 1600; [Pub.L. 100-4](#), Title IV, §§ 401 to 404(a), (c), formerly (d), 405, Feb. 4, 1987, 101 Stat. 65 to 67, 69; [Pub.L. 102-580](#), Title III, § 364, Oct. 31, 1992, 106 Stat. 4862; [Pub.L. 104-66](#), Title II, § 2021(e)(2), Dec. 21, 1995, 109 Stat. 727; [Pub.L. 106-554](#), § 1(a)(4) [Div. B, Title I, § 112(a)], Dec. 21, 2000, 114 Stat. 2763, 2763A-224; [Pub.L. 110-288](#), § 2, July 29, 2008, 122 Stat. 2650; [Pub.L. 113-79](#), Title XII, § 12313, Feb. 7, 2014, 128 Stat. 992.)

[Notes of Decisions \(244\)](#)

Footnotes

- 1 So in original. Probably should not be capitalized.
- 2 So in original. Probably should read “section 1342(p)(6)”.
- 3 So in original. Probably should read “section 1342(l)(3)(A)”.

33 U.S.C.A. § 1342, 33 USCA § 1342

Current through P.L. 115-171.

ATTACHMENT A-6



KeyCite Yellow Flag - Negative Treatment

Proposed Legislation

[United States Code Annotated](#)

[Title 33. Navigation and Navigable Waters \(Refs & Annos\)](#)

[Chapter 26. Water Pollution Prevention and Control \(Refs & Annos\)](#)

[Subchapter V. General Provisions](#)

33 U.S.C.A. § 1362

§ 1362. Definitions

Effective: October 1, 2014

[Currentness](#)

Except as otherwise specifically provided, when used in this chapter:

(1) The term “State water pollution control agency” means the State agency designated by the Governor having responsibility for enforcing State laws relating to the abatement of pollution.

(2) The term “interstate agency” means an agency of two or more States established by or pursuant to an agreement or compact approved by the Congress, or any other agency of two or more States, having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator.

(3) The term “State” means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and the Trust Territory of the Pacific Islands.

(4) The term “municipality” means a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under [section 1288](#) of this title.

(5) The term “person” means an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body.

(6) The term “pollutant” means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. This term does not mean (A) “sewage from vessels or a discharge incidental to the normal operation of a vessel of the Armed Forces” within the meaning of [section 1322](#) of this title; or (B) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil or gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well

is located, and if such State determines that such injection or disposal will not result in the degradation of ground or surface water resources.

(7) The term “navigable waters” means the waters of the United States, including the territorial seas.

(8) The term “territorial seas” means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles.

(9) The term “contiguous zone” means the entire zone established or to be established by the United States under article 24 of the Convention of the Territorial Sea and the Contiguous Zone.

(10) The term “ocean” means any portion of the high seas beyond the contiguous zone.

(11) The term “effluent limitation” means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.

(12) The term “discharge of a pollutant” and the term “discharge of pollutants” each means (A) any addition of any pollutant to navigable waters from any point source, (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.

(13) The term “toxic pollutant” means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

(14) The term “point source” means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.

(15) The term “biological monitoring” shall mean the determination of the effects on aquatic life, including accumulation of pollutants in tissue, in receiving waters due to the discharge of pollutants (A) by techniques and procedures, including sampling of organisms representative of appropriate levels of the food chain appropriate to the volume and the physical, chemical, and biological characteristics of the effluent, and (B) at appropriate frequencies and locations.

(16) The term “discharge” when used without qualification includes a discharge of a pollutant, and a discharge of pollutants.

(17) The term “schedule of compliance” means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.

(18) The term “industrial user” means those industries identified in the Standard Industrial Classification Manual, Bureau of the Budget, 1967, as amended and supplemented, under the category of “Division D--Manufacturing” and such other classes of significant waste producers as, by regulation, the Administrator deems appropriate.

(19) The term “pollution” means the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.

(20) The term “medical waste” means isolation wastes; infectious agents; human blood and blood products; pathological wastes; sharps; body parts; contaminated bedding; surgical wastes and potentially contaminated laboratory wastes; dialysis wastes; and such additional medical items as the Administrator shall prescribe by regulation.

(21) Coastal recreation waters

(A) In general

The term “coastal recreation waters” means--

(i) the Great Lakes; and

(ii) marine coastal waters (including coastal estuaries) that are designated under [section 1313\(c\)](#) of this title by a State for use for swimming, bathing, surfing, or similar water contact activities.

(B) Exclusions

The term “coastal recreation waters” does not include--

(i) inland waters; or

(ii) waters upstream of the mouth of a river or stream having an unimpaired natural connection with the open sea.

(22) Floatable material

(A) In general

The term “floatable material” means any foreign matter that may float or remain suspended in the water column.

(B) Inclusions

The term “floatable material” includes--

- (i) plastic;
- (ii) aluminum cans;
- (iii) wood products;
- (iv) bottles; and
- (v) paper products.

(23) Pathogen indicator

The term “pathogen indicator” means a substance that indicates the potential for human infectious disease.

(24) Oil and gas exploration and production

The term “oil and gas exploration, production, processing, or treatment operations or transmission facilities” means all field activities or operations associated with exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities.

(25) Recreational vessel

(A) In general

The term “recreational vessel” means any vessel that is--

- (i) manufactured or used primarily for pleasure; or
- (ii) leased, rented, or chartered to a person for the pleasure of that person.

(B) Exclusion

The term “recreational vessel” does not include a vessel that is subject to Coast Guard inspection and that--

(i) is engaged in commercial use; or

(ii) carries paying passengers.

(26) Treatment works

The term “treatment works” has the meaning given the term in [section 1292](#) of this title.

CREDIT(S)

(June 30, 1948, c. 758, Title V, § 502, as added [Pub.L. 92-500](#), § 2, Oct. 18, 1972, 86 Stat. 886; amended [Pub.L. 95-217](#), § 33(b), Dec. 27, 1977, 91 Stat. 1577; [Pub.L. 100-4](#), Title V, §§ 502(a), 503, Feb. 4, 1987, 101 Stat. 75; [Pub.L. 100-688](#), Title III, § 3202(a), Nov. 18, 1988, 102 Stat. 4154; [Pub.L. 104-106](#), Div. A, Title III, § 325(c)(3), Feb. 10, 1996, 110 Stat. 259; [Pub.L. 106-284](#), § 5, Oct. 10, 2000, 114 Stat. 875; [Pub.L. 109-58](#), Title III, § 323, Aug. 8, 2005, 119 Stat. 694; [Pub.L. 110-288](#), § 3, July 29, 2008, 122 Stat. 2650; [Pub.L. 113-121](#), Title V, § 5012(b), June 10, 2014, 128 Stat. 1328.)

[Notes of Decisions \(211\)](#)

33 U.S.C.A. § 1362, 33 USCA § 1362

Current through P.L. 115-171.

End of Document

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ATTACHMENT A-7

United States Code Annotated

Title 7. Agriculture (Refs & Annos)

Chapter 6. Insecticides and Environmental Pesticide Control (Refs & Annos)

Subchapter II. Environmental Pesticide Control (Refs & Annos)

7 U.S.C.A. § 136r-1

§ 136r-1. Integrated Pest Management

Effective: August 3, 1996

[Currentness](#)

The Secretary of Agriculture, in cooperation with the Administrator, shall implement research, demonstration, and education programs to support adoption of Integrated Pest Management. Integrated Pest Management is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools in a way that minimizes economic, health, and environmental risks. The Secretary of Agriculture and the Administrator shall make information on Integrated Pest Management widely available to pesticide users, including Federal agencies. Federal agencies shall use Integrated Pest Management techniques in carrying out pest management activities and shall promote Integrated Pest Management through procurement and regulatory policies, and other activities.

CREDIT(S)

(Pub.L. 104-170, Title III, § 303, Aug. 3, 1996, 110 Stat. 1512.)

7 U.S.C.A. § 136r-1, 7 USCA § 136r-1

Current through P.L. 115-173. Title 26 current through 115-174.

ATTACHMENT A-8

 KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Prior Version's Validity Called into Doubt by [In re E.P.A.](#), 6th Cir., Oct. 09, 2015

 KeyCite Yellow Flag - Negative Treatment

Proposed Regulation

[Code of Federal Regulations](#)

[Title 40. Protection of Environment](#)

[Chapter I. Environmental Protection Agency \(Refs & Annos\)](#)

[Subchapter D. Water Programs](#)

[Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System \(Refs & Annos\)](#)

[Subpart A. Definitions and General Program Requirements](#)

40 C.F.R. § 122.2

§ 122.2 Definitions.

Effective: February 7, 2018

[Currentness](#)

<[In re E.P.A.](#), 803 F.3d 804, 2015 WL 5893814 (C.A.6,2015) held: “The Clean Water Rule is hereby STAYED, nationwide, pending further order of the court.” See also [Exec. Order No. 13778](#), 82 FR 12497, 2017 WL 819672(Pres.) (Feb. 28, 2017). For text of section 2(a) of [Exec. Order No. 13778](#), see note following this section. For proposed rule proposing to add applicability dates to this section, see [82 FR 55542-01 \(Nov. 22, 2017\)](#).>

The following definitions apply to parts 122, 123, and 124. Terms not defined in this section have the meaning given by CWA. When a defined term appears in a definition, the defined term is sometimes placed in quotation marks as an aid to readers.

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Animal feeding operation is defined at [§ 122.23](#).

Applicable standards and limitations means all State, interstate, and federal standards and limitations to which a “discharge,” a “sewage sludge use or disposal practice,” or a related activity is subject under the CWA, including “effluent limitations,” water quality standards, standards of performance, toxic effluent standards or prohibitions, “best management practices,” pretreatment standards, and “standards for sewage sludge use or disposal” under [sections 301, 302, 303, 304, 306, 307, 308, 403 and 405](#) of CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by EPA for use in “approved States,” including any approved modifications or revisions.

Approved program or approved State means a State or interstate program which has been approved or authorized by EPA under part 123.

Aquaculture project is defined at [§ 122.25](#).

Average monthly discharge limitation means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.

Average weekly discharge limitation means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.

Best management practices (“BMPs”) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

BMPs means “best management practices.”

Bypass is defined at [§ 122.41\(m\)](#).

Class I sludge management facility means any POTW identified under [40 CFR 403.8\(a\)](#) as being required to have an approved pretreatment program (including such POTWs located in a State that has elected to assume local program responsibilities pursuant to [40 CFR 403.10\(e\)](#)) and any other treatment works treating domestic sewage classified as a Class I sludge management facility by the Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sludge use or disposal practices to adversely affect public health and the environment.

Combined sewer overflow (CSO) means a discharge from a combined sewer system (CSS) at a point prior to the Publicly Owned Treatment Works (POTW) Treatment Plant (defined at [§ 403.3\(r\)](#) of this chapter).

Combined sewer system (CSS) means a wastewater collection system owned by a State or municipality (as defined by section 502(4) of the CWA) which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a Publicly Owned Treatment Works (POTW) Treatment Plant (as defined at [§ 403.3\(r\)](#) of this chapter).

Concentrated animal feeding operation is defined at [§ 122.23](#).

Concentrated aquatic animal feeding operation is defined at [§ 122.24](#).

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a “discharge” which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) [Pub.L. 92–500](#), as amended by [Pub.L. 95–217](#), [Pub.L. 95–576](#), [Pub.L. 96–483](#) and [Pub.L. 97–117](#), 33 U.S.C. 1251 et seq.

CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

Daily discharge means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

Direct discharge means the “discharge of a pollutant.”

Director means the Regional Administrator or the State Director, as the context requires, or an authorized representative. When there is no “approved State program,” and there is an EPA administered program, “Director” means the Regional Administrator. When there is an approved State program, “Director” normally means the State Director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State program. (For example, when EPA has issued an NPDES permit prior to the approval of a State program, EPA may retain jurisdiction over that permit after program approval, see § 123.1.) In such cases, the term “Director” means the Regional Administrator and not the State Director.

Discharge when used without qualification means the “discharge of a pollutant.”

Discharge of a pollutant means:

(a) Any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or

(b) Any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any “indirect discharger.”

Discharge Monitoring Report (“DMR”) means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by “approved States” as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

DMR means “Discharge Monitoring Report.”

Draft permit means a document prepared under § 124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a “permit.” A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in § 124.5, are types of “draft permits.” A denial of a request for modification, revocation and reissuance, or termination, as discussed in § 124.5, is not a “draft permit.” A “proposed permit” is not a “draft permit.”

Effluent limitation means any restriction imposed by the Director on quantities, discharge rates, and concentrations of “pollutants” which are “discharged” from “point sources” into “waters of the United States,” the waters of the “contiguous zone,” or the ocean.

Effluent limitations guidelines means a regulation published by the Administrator under [section 304\(b\)](#) of CWA to adopt or revise “effluent limitations.”

Environmental Protection Agency (“EPA”) means the United States Environmental Protection Agency.

EPA means the United States “Environmental Protection Agency.”

Facility or activity means any NPDES “point source” or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

Federal Indian reservation means all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation.

General permit means an NPDES “permit” issued under [§ 122.28](#) authorizing a category of discharges under the CWA within a geographical area.

Great Lakes Basin means the waters defined as “Great Lakes” and “Great Lakes System” as those terms are defined in [§ 132.2](#) of this chapter.

Hazardous substance means any substance designated under 40 CFR part 116 pursuant to [section 311](#) of CWA.

Indian country means:

- (1) All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
- (2) All dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
- (3) All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

Indian Tribe means any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation.

Indirect discharger means a nondomestic discharger introducing “pollutants” to a “publicly owned treatment works.”

Individual control strategy is defined at [40 CFR 123.46\(c\)](#).

Interstate agency means an agency of two or more States established by or under an agreement or compact approved by the Congress, or any other agency of two or more States having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator under the CWA and regulations.

Major facility means any NPDES “facility or activity” classified as such by the Regional Administrator, or, in the case of “approved State programs,” the Regional Administrator in conjunction with the State Director.

Maximum daily discharge limitation means the highest allowable “daily discharge.”

Municipal separate storm sewer system is defined at § 122.26 (b)(4) and (b)(7).

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under [section 208](#) of CWA.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under [sections 307, 402, 318, and 405](#) of CWA. The term includes an “approved program.”

New discharger means any building, structure, facility, or installation:

- (a) From which there is or may be a “discharge of pollutants;”
- (b) That did not commence the “discharge of pollutants” at a particular “site” prior to August 13, 1979;
- (c) Which is not a “new source;” and
- (d) Which has never received a finally effective NPDES permit for discharges at that “site.”

This definition includes an “indirect discharger” which commences discharging into “waters of the United States” after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a “site” for which it does not have a permit; and any offshore or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a “site” under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Regional Administrator in the issuance of a final permit to be an area of biological concern. In determining whether an area is an area of biological concern, the Regional Administrator shall consider the factors specified in [40 CFR 125.122\(a\)\(1\) through \(10\)](#).

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a “new discharger” only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- (a) After promulgation of standards of performance under [section 306](#) of CWA which are applicable to such source, or
- (b) After proposal of standards of performance in accordance with [section 306](#) of CWA which are applicable to such source, but only if the standards are promulgated in accordance with [section 306](#) within 120 days of their proposal.

NPDES means “National Pollutant Discharge Elimination System.”

Owner or operator means the owner or operator of any “facility or activity” subject to regulation under the NPDES program.

Permit means an authorization, license, or equivalent control document issued by EPA or an “approved State” to implement the requirements of this part and parts 123 and 124. “Permit” includes an NPDES “general permit” ([§ 122.28](#)).

Permit does not include any permit which has not yet been the subject of final agency action, such as a “draft permit” or a “proposed permit.”

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. (See § 122.3).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

NOTE: Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials. Examples of materials not covered include radium and accelerator-produced isotopes. See [Train v. Colorado Public Interest Research Group, Inc.](#), 426 U.S. 1 (1976).

POTW is defined at § 403.3 of this chapter.

Primary industry category means any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D.D.C. 1979)); also listed in appendix A of part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operator is not the operator of the treatment works and (b) not a “POTW.”

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Proposed permit means a State NPDES “permit” prepared after the close of the public comment period (and, when applicable, any public hearing and administrative appeals) which is sent to EPA for review before final issuance by the State. A “proposed permit” is not a “draft permit.”

Publicly owned treatment works is defined at [40 CFR 403.3](#).

Recommencing discharger means a source which recommences discharge after terminating operations.

Regional Administrator means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator.

Schedule of compliance means a schedule of remedial measures included in a “permit”, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the CWA and regulations.

Secondary industry category means any industry category which is not a “primary industry category.”

Secretary means the Secretary of the Army, acting through the Chief of Engineers.

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage from vessels means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels and regulated under [section 312](#) of CWA, except that with respect to commercial vessels on the Great Lakes this term includes graywater. For the purposes of this definition, “graywater” means galley, bath, and shower water.

Sewage Sludge means any solid, semi-solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced waste water treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 CFR part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Silvicultural point source is defined at [§ 122.27](#).

Site means the land or water area where any “facility or activity” is physically located or conducted, including adjacent land used in connection with the facility or activity.

Sludge-only facility means any “treatment works treating domestic sewage” whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to section 405(d) of the CWA and is required to obtain a permit under [§ 122.1\(b\)\(2\)](#).

Standards for sewage sludge use or disposal means the regulations promulgated pursuant to section 405(d) of the CWA which govern minimum requirements for sludge quality, management practices, and monitoring and reporting applicable to sewage sludge or the use or disposal of sewage sludge by any person.

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or an Indian Tribe as defined in these regulations which meets the requirements of [§ 123.31](#) of this chapter.

State Director means the chief administrative officer of any State or interstate agency operating an “approved program,” or the delegated representative of the State Director. If responsibility is divided among two or more State or interstate agencies, “State Director” means the chief administrative officer of the State or interstate agency authorized to perform the particular procedure or function to which reference is made.

State/EPA Agreement means an agreement between the Regional Administrator and the State which coordinates EPA and State activities, responsibilities and programs including those under the CWA programs.

Storm water is defined at § 122.26(b)(13).

Storm water discharge associated with industrial activity is defined at § 122.26(b)(14).

Total dissolved solids means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR part 136.

Toxic pollutant means any pollutant listed as toxic under section 307(a)(1) or, in the case of “sludge use or disposal practices,” any pollutant identified in regulations implementing section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or waste water treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices. For purposes of this definition, “domestic sewage” includes waste and waste water from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under section 405(f) of the CWA, the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR part 503 as a “treatment works treating domestic sewage,” where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR part 503.

TWTDS means “treatment works treating domestic sewage.”

Upset is defined at § 122.41(n).

Variance means any mechanism or provision under section 301 or 316 of CWA or under 40 CFR part 125, or in the applicable “effluent limitations guidelines” which allows modification to or waiver of the generally applicable effluent limitation requirements or time deadlines of CWA. This includes provisions which allow the establishment of alternative limitations based on fundamentally different factors or on sections 301(c), 301(g), 301(h), 301(i), or 316(a) of CWA.

Waters of the United States or waters of the U.S. means:

(1) For purposes of the Clean Water Act, 33 U.S.C. 1251 et seq. and its implementing regulations, subject to the exclusions in paragraph (2) of this definition, the term “waters of the United States” means:

(i) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) All interstate waters, including interstate wetlands;

(iii) The territorial seas;

(iv) All impoundments of waters otherwise identified as waters of the United States under this section;

(v) All tributaries, as defined in paragraph (3)(iii) of this section, of waters identified in paragraphs (1)(i) through (iii) of this section;

(vi) All waters adjacent to a water identified in paragraphs (1)(i) through (v) of this definition, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;

(vii) All waters in paragraphs (1)(vii)(A) through (E) of this definition where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (1)(i) through (iii) of this definition. The waters identified in each of paragraphs (1)(vii)(A) through (E) of this definition are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition. Waters identified in this paragraph shall not be combined with waters identified in paragraph (1)(vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

(A) Prairie potholes. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.

(B) Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.

(C) Pocosins. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.

(D) Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.

(E) Texas coastal prairie wetlands. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (1)(i) through (iii) of this definition and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (1)(i) through (v) of this definition where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (1)(i) through (v) of this definition. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in (1)(i) through (iii) of this definition or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (1)(vi) of this definition when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (1)(vi), they are an adjacent water and no case-specific significant nexus analysis is required.

(2) The following are not “waters of the United States” even where they otherwise meet the terms of paragraphs (1)(iv) through (viii) of this definition.

(i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.]

(ii) Prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

(iii) The following ditches:

(A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

(B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

(C) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (1)(i) through (iii) of this definition.

(iv) The following features:

(A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;

(B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;

(C) Artificial reflecting pools or swimming pools created in dry land;

(D) Small ornamental waters created in dry land;

(E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;

(F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and

(G) Puddles.

(v) Groundwater, including groundwater drained through subsurface drainage systems.

(vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

(3) In this definition, the following terms apply:

(i) **Adjacent.** The term adjacent means bordering, contiguous, or neighboring a water identified in paragraphs (1)(i) through (v) of this definition, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like. For purposes of adjacency, an open water such as a pond or lake includes any wetlands within or abutting its ordinary high water mark. Adjacency is not limited to waters located laterally to a water identified in paragraphs (1)(i) through (v) of this definition. Adjacent waters also include all waters that connect segments of a water identified in paragraphs (1)(i) through (v) or are located at the head of a water identified in paragraphs (1)(i) through (v) of this definition and are bordering, contiguous, or neighboring such water. Waters being used for established normal farming, ranching, and silviculture activities ([33 U.S.C. 1344\(f\)](#)) are not adjacent.

(ii) **Neighboring.** The term neighboring means:

(A) All waters located within 100 feet of the ordinary high water mark of a water identified in paragraphs (1)(i) through (v) of this definition. The entire water is neighboring if a portion is located within 100 feet of the ordinary high water mark;

(B) All waters located within the 100-year floodplain of a water identified in paragraphs (1)(i) through (v) of this definition and not more than 1,500 feet from the ordinary high water mark of such water. The entire water is neighboring if a portion is located within 1,500 feet of the ordinary high water mark and within the 100-year floodplain;

(C) All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (1)(i) or (iii) of this definition, and all waters within 1,500 feet of the ordinary high water mark of the Great Lakes. The entire water is neighboring if a portion is located within 1,500 feet of the high tide line or within 1,500 feet of the ordinary high water mark of the Great Lakes.

(iii) Tributary and tributaries. The terms tributary and tributaries each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (1)(iv) of this definition), to a water identified in paragraphs (1)(i) through (iii) of this definition that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark. These physical indicators demonstrate there is volume, frequency, and duration of flow sufficient to create a bed and banks and an ordinary high water mark, and thus to qualify as a tributary. A tributary can be a natural, man-altered, or man-made water and includes waters such as rivers, streams, canals, and ditches not excluded under paragraph (2) of this definition. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if, for any length, there are one or more constructed breaks (such as bridges, culverts, pipes, or dams), or one or more natural breaks (such as wetlands along the run of a stream, debris piles, boulder fields, or a stream that flows underground) so long as a bed and banks and an ordinary high water mark can be identified upstream of the break. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if it contributes flow through a water of the United States that does not meet the definition of tributary or through a non-jurisdictional water to a water identified in paragraphs (1)(i) through (iii) of this definition.

(iv) Wetlands. The term wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(v) Significant nexus. The term significant nexus means that a water, including wetlands, either alone or in combination with other similarly situated waters in the region, significantly affects the chemical, physical, or biological integrity of a water identified in paragraphs (1)(i) through (iii) of this definition. The term “in the region” means the watershed that drains to the nearest water identified in paragraphs (1)(i) through (iii) of this definition. For an effect to be significant, it must be more than speculative or insubstantial. Waters are similarly situated when they function alike and are sufficiently close to function together in affecting downstream waters. For purposes of determining whether or not a water has a significant nexus, the water's effect on downstream (1)(i) through (iii) waters shall be assessed by evaluating the aquatic functions identified in paragraphs (3)(v)(A) through (I) of this definition. A water has a significant nexus when any single function or combination of functions performed by the water, alone or together with similarly situated waters in the region, contributes significantly to the chemical, physical, or biological integrity of the nearest water identified in paragraphs (1)(i) through (iii) of this definition. Functions relevant to the significant nexus evaluation are the following:

(A) Sediment trapping,

(B) Nutrient recycling,

(C) Pollutant trapping, transformation, filtering, and transport,

(D) Retention and attenuation of flood waters,

(E) Runoff storage,

(F) Contribution of flow,

(G) Export of organic matter,

(H) Export of food resources, and

(I) Provision of life cycle dependent aquatic habitat (such as foraging, feeding, nesting, breeding, spawning, or use as a nursery area) for species located in a water identified in paragraphs (1)(i) through (iii) of this definition.

(vi) Ordinary high water mark. The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(vii) High tide line. The term high tide line means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in [40 CFR § 423.11\(m\)](#) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.] Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act jurisdiction remains with EPA.

Whole effluent toxicity means the aggregate toxic effect of an effluent measured directly by a toxicity test.

Note: At [45 FR 48620](#), July 21, 1980, the Environmental Protection Agency suspended until further notice in § 122.2, the last sentence, beginning “This exclusion applies ___” in the definition of “Waters of the United States.” This revision continues that suspension.¹

Note: Section 2(a) of [Exec. Order No. 13778](#) provides: “The Administrator of the Environmental Protection Agency (Administrator) and the Assistant Secretary of the Army for Civil Works (Assistant Secretary) shall review the final rule entitled “[Clean Water Rule: Definition of ‘Waters of the United States,’](#)” [80 Fed. Reg. 37054 \(June 29, 2015\)](#), for consistency with the policy set forth in section 1 of this order and publish for notice and comment a proposed rule rescinding or revising the rule, as appropriate and consistent with law.”

(Authority: Clean Water Act ([33 U.S.C. 1251 et seq.](#)), Safe Drinking Water Act ([42 U.S.C. 300f et seq.](#)), Clean Air Act ([42 U.S.C. 7401 et seq.](#)), Resource Conservation and Recovery Act ([42 U.S.C. 6901 et seq.](#)))

Credits

[[48 FR 39619](#), Sept. 1, 1983; [50 FR 6940, 6941](#), Feb. 19, 1985; [54 FR 254](#), Jan. 4, 1989; [54 FR 18781](#), May 2, 1989; [54 FR 23895](#), June 2, 1989; [58 FR 45037](#), Aug. 25, 1993; [58 FR 67980](#), Dec. 22, 1993; [64 FR 42462](#), Aug. 4, 1999; [64 FR 43426](#), Aug. 10, 1999; [65 FR 30905](#), May 15, 2000; [80 FR 37114](#), June 29, 2015; [83 FR 730](#), Jan. 8, 2018; [83 FR 5208](#), Feb. 6, 2018]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(98\)](#)

Current through May 24, 2018; [83 FR 24044](#).

Footnotes

1 Editorial Note: The words “This revision” refer to the document published at [48 FR 14153](#), Apr. 1, 1983.

ATTACHMENT A-9

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
(Refs & Annos)

Subpart A. Definitions and General Program Requirements

40 C.F.R. § 122.6

§ 122.6 Continuation of expiring permits.

Currentness

(a) EPA permits. When EPA is the permit-issuing authority, the conditions of an expired permit continue in force under 5 U.S.C. 558(c) until the effective date of a new permit (see § 124.15) if:

- (1) The permittee has submitted a timely application under § 122.21 which is a complete (under § 122.21(e)) application for a new permit; and
- (2) The Regional Administrator, through no fault of the permittee does not issue a new permit with an effective date under § 124.15 on or before the expiration date of the previous permit (for example, when issuance is impracticable due to time or resource constraints).

(b) Effect. Permits continued under this section remain fully effective and enforceable.

(c) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit the Regional Administrator may choose to do any or all of the following:

- (1) Initiate enforcement action based upon the permit which has been continued;
- (2) Issue a notice of intent to deny the new permit under § 124.6. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;
- (3) Issue a new permit under part 124 with appropriate conditions; or
- (4) Take other actions authorized by these regulations.

(d) State continuation. (1) An EPA-issued permit does not continue in force beyond its expiration date under Federal law if at that time a State is the permitting authority. States authorized to administer the NPDES program may continue

either EPA or State-issued permits until the effective date of the new permits, if State law allows. Otherwise, the facility or activity is operating without a permit from the time of expiration of the old permit to the effective date of the State-issued new permit.

Credits

[[50 FR 6940](#), Feb. 19, 1985]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(15\)](#)

Current through May 24, 2018; [83 FR 24044](#).

End of Document

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ATTACHMENT A-10

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
(Refs & Annos)

Subpart B. Permit Application and Special NPDES Program Requirements

40 C.F.R. § 122.21

§ 122.21 Application for a permit (applicable to State programs, see § 123.25).

Effective: February 7, 2018

Currentness

(a) Duty to apply.

(1) Any person who discharges or proposes to discharge pollutants or who owns or operates a “sludge-only facility” whose sewage sludge use or disposal practice is regulated by part 503 of this chapter, and who does not have an effective permit, except persons covered by general permits under § 122.28, excluded under § 122.3, or a user of a privately owned treatment works unless the Director requires otherwise under § 122.44(m), must submit a complete application to the Director in accordance with this section and part 124 of this chapter. The requirements for concentrated animal feeding operations are described in § 122.23(d).

(2) Application Forms:

(i) All applicants for EPA-issued permits must submit applications on EPA permit application forms. More than one application form may be required from a facility depending on the number and types of discharges or outfalls found there. Application forms may be obtained by contacting the EPA water resource center at (202) 260-7786 or Water Resource Center, U.S. EPA, Mail Code 4100, 1200 Pennsylvania Ave., NW., Washington, DC 20460 or at the EPA Internet site www.epa.gov/owm/npdes.htm. Applications for EPA-issued permits must be submitted as follows:

(A) All applicants, other than POTWs and TWTDS, must submit Form 1.

(B) Applicants for new and existing POTWs must submit the information contained in paragraph (j) of this section using Form 2A or other form provided by the director.

(C) Applicants for concentrated animal feeding operations or aquatic animal production facilities must submit Form 2B.

(D) Applicants for existing industrial facilities (including manufacturing facilities, commercial facilities, mining activities, and silvicultural activities), must submit Form 2C.

(E) Applicants for new industrial facilities that discharge process wastewater must submit Form 2D.

(F) Applicants for new and existing industrial facilities that discharge only nonprocess wastewater must submit Form 2E.

(G) Applicants for new and existing facilities whose discharge is composed entirely of storm water associated with industrial activity must submit Form 2F, unless exempted by § 122.26(c)(1)(ii). If the discharge is composed of storm water and non-storm water, the applicant must also submit, Forms 2C, 2D, and/or 2E, as appropriate (in addition to Form 2F).

(H) Applicants for new and existing TWTDS, subject to paragraph (c)(2)(i) of this section must submit the application information required by paragraph (q) of this section, using Form 2S or other form provided by the director.

(ii) The application information required by paragraph (a)(2)(i) of this section may be electronically submitted if such method of submittal is approved by EPA or the Director.

(iii) Applicants can obtain copies of these forms by contacting the Water Management Divisions (or equivalent division which contains the NPDES permitting function) of the EPA Regional Offices. The Regional Offices' addresses can be found at § 1.7 of this chapter.

(iv) Applicants for State-issued permits must use State forms which must require at a minimum the information listed in the appropriate paragraphs of this section.

(b) Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.

(c) Time to apply.

(1) Any person proposing a new discharge, shall submit an application at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director. Facilities proposing a new discharge of storm water associated with industrial activity shall submit an application 180 days before that facility commences industrial activity which may result in a discharge of storm water associated with that industrial activity. Facilities described under § 122.26(b)(14)(x) or (b)(15)(i) shall submit applications at least 90 days before the date on which construction is to commence. Different submittal dates may be required under the terms of applicable general permits. Persons proposing a new discharge are encouraged to submit their applications well in advance of the 90 or 180 day requirements to avoid delay. See also paragraph (k) of this section and § 122.26(c)(1)(i)(G) and (c)(1)(ii).

(2) Permits under section 405(f) of CWA. All TWTDS whose sewage sludge use or disposal practices are regulated by part 503 of this chapter must submit permit applications according to the applicable schedule in paragraphs (c)(2)(i) or (ii) of this section.

(i) A TWTDS with a currently effective NPDES permit must submit a permit application at the time of its next NPDES permit renewal application. Such information must be submitted in accordance with paragraph (d) of this section.

(ii) Any other TWTDS not addressed under paragraph (c)(2)(i) of this section must submit the information listed in paragraphs (c)(2)(ii)(A) through (E) of this section to the Director within 1 year after publication of a standard applicable to its sewage sludge use or disposal practice(s), using Form 2S or another form provided by the Director. The Director will determine when such TWTDS must submit a full permit application.

(A) The TWTDS's name, mailing address, location, and status as federal, State, private, public or other entity;

(B) The applicant's name, address, telephone number, and ownership status;

(C) A description of the sewage sludge use or disposal practices. Unless the sewage sludge meets the requirements of paragraph (q)(8)(iv) of this section, the description must include the name and address of any facility where sewage sludge is sent for treatment or disposal, and the location of any land application sites;

(D) Annual amount of sewage sludge generated, treated, used or disposed (estimated dry weight basis); and

(E) The most recent data the TWTDS may have on the quality of the sewage sludge.

(iii) Notwithstanding paragraphs (c)(2)(i) or (ii) of this section, the Director may require permit applications from any TWTDS at any time if the Director determines that a permit is necessary to protect public health and the environment from any potential adverse effects that may occur from toxic pollutants in sewage sludge.

(iv) Any TWTDS that commences operations after promulgation of an applicable “standard for sewage sludge use or disposal” must submit an application to the Director at least 180 days prior to the date proposed for commencing operations.

(d) Duty to reapply.

(1) Any POTW with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

(2) All other permittees with currently effective permits shall submit a new application 180 days before the existing permit expires, except that:

(i) The Regional Administrator may grant permission to submit an application later than the deadline for submission otherwise applicable, but no later than the permit expiration date; and

(3) [Reserved]

(e) Completeness.

(1) The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity. For EPA administered NPDES programs, an application which is reviewed under § 124.3 of this chapter is complete when the Director receives either a complete application or the information listed in a notice of deficiency.

(2) A permit application shall not be considered complete if a permitting authority has waived application requirements under paragraphs (j) or (q) of this section and EPA has disapproved the waiver application. If a waiver request has been submitted to EPA more than 210 days prior to permit expiration and EPA has not disapproved the waiver application 181 days prior to permit expiration, the permit application lacking the information subject to the waiver application shall be considered complete.

(3) Except as specified in 122.21(e)(3)(ii), a permit application shall not be considered complete unless all required quantitative data are collected in accordance with sufficiently sensitive analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O.

(i) For the purposes of this requirement, a method approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O is “sufficiently sensitive” when:

(A) The method minimum level (ML) is at or below the level of the applicable water quality criterion for the measured pollutant or pollutant parameter; or

(B) The method ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

(C) The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

Note to paragraph (e)(3)(i): Consistent with 40 CFR part 136, applicants have the option of providing matrix or sample specific minimum levels rather than the published levels. Further, where an applicant can demonstrate that, despite a good faith effort to use a method that would otherwise meet the definition of “sufficiently sensitive”, the analytical results are not consistent with the QA/QC specifications for that method, then the Director may determine that the method is not performing adequately and the applicant should select a different method from the remaining EPA–approved methods that is sufficiently sensitive consistent with 40 CFR 122.21(e)(3)(i). Where no other EPA–approved methods exist, the applicant should select a method consistent with 40 CFR 122.21(e)(3)(ii).

(ii) When there is no analytical method that has been approved under 40 CFR part 136, required under 40 CFR chapter I, subchapter N or O, and is not otherwise required by the Director, the applicant may use any suitable method but shall provide a description of the method. When selecting a suitable method, other factors such as a method's precision, accuracy, or resolution, may be considered when assessing the performance of the method.

(f) Information requirements. All applicants for NPDES permits, other than POTWs and other TWTDS, must provide the following information to the Director, using the application form provided by the Director. Additional information required of applicants is set forth in paragraphs (g) through (k) of this section.

(1) The activities conducted by the applicant which require it to obtain an NPDES permit.

(2) Name, mailing address, and location of the facility for which the application is submitted.

(3) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(4) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(5) Whether the facility is located on Indian lands.

(6) A listing of all permits or construction approvals received or applied for under any of the following programs:

(i) Hazardous Waste Management program under RCRA.

(ii) UIC program under SDWA.

(iii) NPDES program under CWA.

(iv) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(v) Nonattainment program under the Clean Air Act.

(vi) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.

(vii) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.

(viii) Dredge or fill permits under section 404 of CWA.

(ix) Other relevant environmental permits, including State permits.

(7) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area.

(8) A brief description of the nature of the business.

(g) Application requirements for existing manufacturing, commercial, mining, and silvicultural dischargers. Existing manufacturing, commercial mining, and silvicultural dischargers applying for NPDES permits, except for those facilities subject to the requirements of § 122.21(h), shall provide the following information to the Director, using application forms provided by the Director.

(1) Outfall location. The latitude and longitude to the nearest 15 seconds and the name of the receiving water.

(2) Line drawing. A line drawing of the water flow through the facility with a water balance, showing operations contributing wastewater to the effluent and treatment units. Similar processes, operations, or production areas may be indicated as a single unit, labeled to correspond to the more detailed identification under paragraph (g)(3) of this section. The water balance must show approximate average flows at intake and discharge points and between units, including treatment units. If a water balance cannot be determined (for example, for certain mining activities), the applicant may provide instead a pictorial description of the nature and amount of any sources of water and any collection and treatment measures.

(3) Average flows and treatment. A narrative identification of each type of process, operation, or production area which contributes wastewater to the effluent for each outfall, including process wastewater, cooling water, and stormwater runoff; the average flow which each process contributes; and a description of the treatment the wastewater receives, including the ultimate disposal of any solid or fluid wastes other than by discharge. Processes, operations, or production areas may be described in general terms (for example, “dye-making reactor”, “distillation tower”). For a privately owned treatment works, this information shall include the identity of each user of the treatment works. The average flow of point sources composed of storm water may be estimated. The basis for the rainfall event and the method of estimation must be indicated.

(4) Intermittent flows. If any of the discharges described in paragraph (g)(3) of this section are intermittent or seasonal, a description of the frequency, duration and flow rate of each discharge occurrence (except for stormwater runoff, spillage or leaks).

(5) Maximum production. If an effluent guideline promulgated under [section 304](#) of CWA applies to the applicant and is expressed in terms of production (or other measure of operation), a reasonable measure of the applicant's actual production reported in the units used in the applicable effluent guideline. The reported measure must reflect the actual production of the facility as required by [§ 122.45\(b\)\(2\)](#).

(6) Improvements. If the applicant is subject to any present requirements or compliance schedules for construction, upgrading or operation of waste treatment equipment, an identification of the abatement requirement, a description of the abatement project, and a listing of the required and projected final compliance dates.

(7) Effluent characteristics.

(i) Information on the discharge of pollutants specified in this paragraph (g)(7) (except information on storm water discharges which is to be provided as specified in [§ 122.26](#)). When “quantitative data” for a pollutant are required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under Part 136 of this chapter unless use of another method is required for the pollutant under 40 CFR subchapters N or O. When no analytical method is approved under Part 136 or required under subchapters N or O, the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that quantitative data as applying to the substantially identical outfall. The requirements in paragraphs (g)(7)(vi) and (vii) of this section state that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. When paragraph (g) (7) of this section requires analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including E. coli), and Enterococci (previously known as fecal streptococcus at [§ 122.26 \(d\)\(2\)\(iii\) \(A\)\(3\)](#)), or volatile organics, grab samples must be collected for those pollutants. For all other pollutants, a 24-hour composite sample, using a minimum of four (4) grab samples, must be used unless specified otherwise at 40 CFR Part 136. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than storm water discharges, the Director may waive composite sampling for any outfall for which the applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four (4) grab samples will be a representative sample of the effluent being discharged. Results of analyses of individual grab samples for any parameter may be averaged to obtain the daily average. Grab samples that are not required to be analyzed immediately (see Table II at [40 CFR 136.3 \(e\)](#)) may be composited in the laboratory, provided that container, preservation, and holding time requirements are met (see Table II at [40 CFR 136.3 \(e\)](#)) and that sample integrity is not compromised by compositing.

(ii) Storm water discharges. For storm water discharges, all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area. For all applicants, a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge.

The flow-weighted composite sample for a storm water discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes (applicants submitting permit applications for storm water discharges under § 122.26(d) may collect flow-weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director). However, a minimum of one grab sample may be taken for storm water discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For storm water discharge samples taken from discharges associated with industrial activities, quantitative data must be reported for the grab sample taken during the first thirty minutes (or as soon thereafter as practicable) of the discharge for all pollutants specified in § 122.26(c)(1). For all storm water permit applicants taking flow-weighted composites, quantitative data must be reported for all pollutants specified in § 122.26 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under part 136 of this chapter, and additional time for submitting data on a case-by-case basis. An applicant is expected to “know or have reason to believe” that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

(iii) Reporting requirements. Every applicant must report quantitative data for every outfall for the following pollutants:

Biochemical Oxygen Demand (BOD5)

Chemical Oxygen Demand

Total Organic Carbon

Total Suspended Solids

Ammonia (as N)

Temperature (both winter and summer)

pH

(iv) The Director may waive the reporting requirements for individual point sources or for a particular industry category for one or more of the pollutants listed in paragraph (g)(7)(iii) of this section if the applicant has demonstrated that such a waiver is appropriate because information adequate to support issuance of a permit can be obtained with less stringent requirements.

(v) Each applicant with processes in one or more primary industry category (see appendix A of this part) contributing to a discharge must report quantitative data for the following pollutants in each outfall containing process wastewater:

(A) The organic toxic pollutants in the fractions designated in table I of appendix D of this part for the applicant's industrial category or categories unless the applicant qualifies as a small business under paragraph (g)(8) of this section. Table II of appendix D of this part lists the organic toxic pollutants in each fraction. The fractions result from the sample preparation required by the analytical procedure which uses gas chromatography/mass spectrometry. A determination that an applicant falls within a particular industrial category for the purposes of selecting fractions for testing is not conclusive as to the applicant's inclusion in that category for any other purposes. See Notes 2, 3, and 4 of this section.

(B) The pollutants listed in table III of appendix D of this part (the toxic metals, cyanide, and total phenols).

(vi)(A) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in table IV of appendix D of this part (certain conventional and nonconventional pollutants) is discharged from each outfall. If an applicable effluent limitations guideline either directly limits the pollutant or, by its express terms, indirectly limits the pollutant through limitations on an indicator, the applicant must report quantitative data. For every pollutant discharged which is not so limited in an effluent limitations guideline, the applicant must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

(B) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants listed in table II or table III of appendix D of this part (the toxic pollutants and total phenols) for which quantitative data are not otherwise required under paragraph (g)(7)(v) of this section are discharged from each outfall. For every pollutant expected to be discharged in concentrations of 10 ppb or greater the applicant must report quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, where any of these four pollutants are expected to be discharged in concentrations of 100 ppb or greater the applicant must report quantitative data. For every pollutant expected to be discharged in concentrations less than 10 ppb, or in the case of acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, in concentrations less than 100 ppb, the applicant must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged. An applicant qualifying as a small business under paragraph (g)(8) of this section is not required to analyze for pollutants listed in table II of appendix D of this part (the organic toxic pollutants).

(vii) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in table V of appendix D of this part (certain hazardous substances and asbestos) are discharged from each outfall. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged, and report any quantitative data it has for any pollutant.

(viii) Each applicant must report qualitative data, generated using a screening procedure not calibrated with analytical standards, for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) if it:

(A) Uses or manufactures 2,4,5-trichlorophenoxy acetic acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnell); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP);
or

(B) Knows or has reason to believe that TCDD is or may be present in an effluent.

(8) Small business exemption. An application which qualifies as a small business under one of the following criteria is exempt from the requirements in paragraph (g)(7)(v)(A) or (g)(7)(vi)(A) of this section to submit quantitative data for the pollutants listed in table II of appendix D of this part (the organic toxic pollutants):

(i) For coal mines, a probable total annual production of less than 100,000 tons per year.

(ii) For all other applicants, gross total annual sales averaging less than \$100,000 per year (in second quarter 1980 dollars).

(9) Used or manufactured toxics. A listing of any toxic pollutant which the applicant currently uses or manufactures as an intermediate or final product or byproduct. The Director may waive or modify this requirement for any applicant if the applicant demonstrates that it would be unduly burdensome to identify each toxic pollutant and the Director has adequate information to issue the permit.

(10) [Reserved]

(11) Biological toxicity tests. An identification of any biological toxicity tests which the applicant knows or has reason to believe have been made within the last 3 years on any of the applicant's discharges or on a receiving water in relation to a discharge.

(12) Contract analyses. If a contract laboratory or consulting firm performed any of the analyses required by paragraph (g)(7) of this section, the identity of each laboratory or firm and the analyses performed.

(13) Additional information. In addition to the information reported on the application form, applicants shall provide to the Director, at his or her request, such other information as the Director may reasonably require to assess the discharges of the facility and to determine whether to issue an NPDES permit. The additional information may include additional quantitative data and bioassays to assess the relative toxicity of discharges to aquatic life and requirements to determine the cause of the toxicity.

(h) Application requirements for manufacturing, commercial, mining and silvicultural facilities which discharge only non-process wastewater. Except for stormwater discharges, all manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits which discharge only non-process wastewater not regulated by an effluent limitations guideline or new source performance standard shall provide the following information to the Director, using application forms provided by the Director:

(1) Outfall location. Outfall number, latitude and longitude to the nearest 15 seconds, and the name of the receiving water.

(2) Discharge date (for new dischargers). Date of expected commencement of discharge.

(3) Type of waste. An identification of the general type of waste discharged, or expected to be discharged upon commencement of operations, including sanitary wastes, restaurant or cafeteria wastes, or noncontact cooling water. An identification of cooling water additives (if any) that are used or expected to be used upon commencement of operations, along with their composition if existing composition is available.

(4) Effluent characteristics.

(i) Quantitative data for the pollutants or parameters listed below, unless testing is waived by the Director. The quantitative data may be data collected over the past 365 days, if they remain representative of current operations, and must include maximum daily value, average daily value, and number of measurements taken. The applicant must collect and analyze samples in accordance with 40 CFR Part 136. When analysis of pH, temperature, residual chlorine, oil and grease, or fecal coliform (including E. coli), and Enterococci (previously known as fecal streptococcus) and volatile organics is required in paragraphs (h)(4)(i)(A) through (K) of this section, grab samples must be collected for those pollutants. For all other pollutants, a 24-hour composite sample, using a minimum of four (4) grab samples, must be used unless specified otherwise at 40 CFR Part 136. For a composite sample, only one analysis of the composite of aliquots is required. New dischargers must include estimates for the pollutants or parameters listed below instead of actual sampling data, along with the source of each estimate. All levels must be reported or estimated as concentration and as total mass, except for flow, pH, and temperature.

(A) Biochemical Oxygen Demand (BOD₅).

(B) Total Suspended Solids (TSS).

(C) Fecal Coliform (if believed present or if sanitary waste is or will be discharged).

(D) Total Residual Chlorine (if chlorine is used).

(E) Oil and Grease.

(F) Chemical Oxygen Demand (COD) (if non-contact cooling water is or will be discharged).

(G) Total Organic Carbon (TOC) (if non-contact cooling water is or will be discharged).

(H) Ammonia (as N).

(I) Discharge Flow.

(J) pH.

(K) Temperature (Winter and Summer).

(ii) The Director may waive the testing and reporting requirements for any of the pollutants or flow listed in paragraph (h)(4)(i) of this section if the applicant submits a request for such a waiver before or with his application which demonstrates that information adequate to support issuance of a permit can be obtained through less stringent requirements.

(iii) If the applicant is a new discharger, he must complete and submit Item IV of Form 2e (see § 122.21(h)(4)) by providing quantitative data in accordance with that section no later than two years after commencement of discharge. However, the applicant need not complete those portions of Item IV requiring tests which he has already performed and reported under the discharge monitoring requirements of his NPDES permit.

(iv) The requirements of parts i and iii of this section that an applicant must provide quantitative data or estimates of certain pollutants do not apply to pollutants present in a discharge solely as a result of their presence in intake water. However, an applicant must report such pollutants as present. Net credit may be provided for the presence of pollutants in intake water if the requirements of § 122.45(g) are met.

(5) Flow. A description of the frequency of flow and duration of any seasonal or intermittent discharge (except for stormwater runoff, leaks, or spills).

(6) Treatment system. A brief description of any system used or to be used.

(7) Optional information. Any additional information the applicant wishes to be considered, such as influent data for the purpose of obtaining “net” credits pursuant to § 122.45(g).

(8) Certification. Signature of certifying official under § 122.22.

(i) Application requirements for new and existing concentrated animal feeding operations and aquatic animal production facilities. New and existing concentrated animal feeding operations (defined in § 122.23) and concentrated aquatic animal production facilities (defined in § 122.24) shall provide the following information to the Director, using the application form provided by the Director:

(1) For concentrated animal feeding operations:

(i) The name of the owner or operator;

(ii) The facility location and mailing addresses;

(iii) Latitude and longitude of the production area (entrance to production area);

(iv) A topographic map of the geographic area in which the CAFO is located showing the specific location of the production area, in lieu of the requirements of paragraph (f)(7) of this section;

(v) Specific information about the number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);

(vi) The type of containment and storage (anaerobic lagoon, roofed storage shed, storage ponds, underfloor pits, above ground storage tanks, below ground storage tanks, concrete pad, impervious soil pad, other) and total capacity for manure, litter, and process wastewater storage (tons/gallons);

(vii) The total number of acres under control of the applicant available for land application of manure, litter, or process wastewater;

(viii) Estimated amounts of manure, litter, and process wastewater generated per year (tons/gallons);

(ix) Estimated amounts of manure, litter and process wastewater transferred to other persons per year (tons/gallons);
and

(x) A nutrient management plan that at a minimum satisfies the requirements specified in § 122.42(e), including, for all CAFOs subject to 40 CFR part 412, subpart C or subpart D, the requirements of 40 CFR 412.4(c), as applicable.

(2) For concentrated aquatic animal production facilities:

(i) The maximum daily and average monthly flow from each outfall.

(ii) The number of ponds, raceways, and similar structures.

(iii) The name of the receiving water and the source of intake water.

(iv) For each species of aquatic animals, the total yearly and maximum harvestable weight.

(v) The calendar month of maximum feeding and the total mass of food fed during that month.

(j) Application requirements for new and existing POTWs. Unless otherwise indicated, all POTWs and other dischargers designated by the Director must provide, at a minimum, the information in this paragraph to the Director, using Form 2A or another application form provided by the Director. Permit applicants must submit all information available at the time of permit application. The information may be provided by referencing information previously submitted to the Director. The Director may waive any requirement of this paragraph if he or she has access to substantially identical

information. The Director may also waive any requirement of this paragraph that is not of material concern for a specific permit, if approved by the Regional Administrator. The waiver request to the Regional Administrator must include the State's justification for the waiver. A Regional Administrator's disapproval of a State's proposed waiver does not constitute final Agency action, but does provide notice to the State and permit applicant(s) that EPA may object to any State-issued permit issued in the absence of the required information.

(1) Basic application information. All applicants must provide the following information:

(i) Facility information. Name, mailing address, and location of the facility for which the application is submitted;

(ii) Applicant information. Name, mailing address, and telephone number of the applicant, and indication as to whether the applicant is the facility's owner, operator, or both;

(iii) Existing environmental permits. Identification of all environmental permits or construction approvals received or applied for (including dates) under any of the following programs:

(A) Hazardous Waste Management program under the Resource Conservation and Recovery Act (RCRA), Subpart C;

(B) Underground Injection Control program under the Safe Drinking Water Act (SDWA);

(C) NPDES program under Clean Water Act (CWA);

(D) Prevention of Significant Deterioration (PSD) program under the Clean Air Act;

(E) Nonattainment program under the Clean Air Act;

(F) National Emission Standards for Hazardous Air Pollutants (NESHAPS) preconstruction approval under the Clean Air Act;

(G) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act;

(H) Dredge or fill permits under section 404 of the CWA; and

(I) Other relevant environmental permits, including State permits;

(iv) Population. The name and population of each municipal entity served by the facility, including unincorporated connector districts. Indicate whether each municipal entity owns or maintains the collection system and whether the collection system is separate sanitary or combined storm and sanitary, if known;

(v) Indian country. Information concerning whether the facility is located in Indian country and whether the facility discharges to a receiving stream that flows through Indian country;

(vi) Flow rate. The facility's design flow rate (the wastewater flow rate the plant was built to handle), annual average daily flow rate, and maximum daily flow rate for each of the previous 3 years;

(vii) Collection system. Identification of type(s) of collection system(s) used by the treatment works (i.e., separate sanitary sewers or combined storm and sanitary sewers) and an estimate of the percent of sewer line that each type comprises; and

(viii) Outfalls and other discharge or disposal methods. The following information for outfalls to waters of the United States and other discharge or disposal methods:

(A) For effluent discharges to waters of the United States, the total number and types of outfalls (e.g, treated effluent, combined sewer overflows, bypasses, constructed emergency overflows);

(B) For wastewater discharged to surface impoundments:

(1) The location of each surface impoundment;

(2) The average daily volume discharged to each surface impoundment; and

(3) Whether the discharge is continuous or intermittent;

(C) For wastewater applied to the land:

(1) The location of each land application site;

(2) The size of each land application site, in acres;

(3) The average daily volume applied to each land application site, in gallons per day; and

(4) Whether land application is continuous or intermittent;

(D) For effluent sent to another facility for treatment prior to discharge:

(1) The means by which the effluent is transported;

(2) The name, mailing address, contact person, and phone number of the organization transporting the discharge, if the transport is provided by a party other than the applicant;

(3) The name, mailing address, contact person, phone number, and NPDES permit number (if any) of the receiving facility; and

(4) The average daily flow rate from this facility into the receiving facility, in millions of gallons per day; and

(E) For wastewater disposed of in a manner not included in paragraphs (j)(1)(viii)(A) through (D) of this section (e.g., underground percolation, underground injection):

(1) A description of the disposal method, including the location and size of each disposal site, if applicable;

(2) The annual average daily volume disposed of by this method, in gallons per day; and

(3) Whether disposal through this method is continuous or intermittent;

(2) Additional Information. All applicants with a design flow greater than or equal to 0.1 mgd must provide the following information:

(i) Inflow and infiltration. The current average daily volume of inflow and infiltration, in gallons per day, and steps the facility is taking to minimize inflow and infiltration;

(ii) Topographic map. A topographic map (or other map if a topographic map is unavailable) extending at least one mile beyond property boundaries of the treatment plant, including all unit processes, and showing:

(A) Treatment plant area and unit processes;

(B) The major pipes or other structures through which wastewater enters the treatment plant and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable;

(C) Each well where fluids from the treatment plant are injected underground;

(D) Wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within ¼ mile of the treatment works' property boundaries;

(E) Sewage sludge management facilities (including on-site treatment, storage, and disposal sites); and

(F) Location at which waste classified as hazardous under RCRA enters the treatment plant by truck, rail, or dedicated pipe;

(iii) Process flow diagram or schematic.

(A) A diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. This includes a water balance showing all treatment units, including disinfection, and showing daily average flow rates at influent and discharge points, and approximate daily flow rates between treatment units; and

(B) A narrative description of the diagram; and

(iv) Scheduled improvements, schedules of implementation. The following information regarding scheduled improvements:

(A) The outfall number of each outfall affected;

(B) A narrative description of each required improvement;

(C) Scheduled or actual dates of completion for the following:

(1) Commencement of construction;

(2) Completion of construction;

(3) Commencement of discharge; and

(4) Attainment of operational level;

(D) A description of permits and clearances concerning other Federal and/or State requirements;

(3) Information on effluent discharges. Each applicant must provide the following information for each outfall, including bypass points, through which effluent is discharged, as applicable:

(i) Description of outfall. The following information about each outfall:

(A) Outfall number;

(B) State, county, and city or town in which outfall is located;

(C) Latitude and longitude, to the nearest second;

(D) Distance from shore and depth below surface;

(E) Average daily flow rate, in million gallons per day;

(F) The following information for each outfall with a seasonal or periodic discharge:

(1) Number of times per year the discharge occurs;

(2) Duration of each discharge;

(3) Flow of each discharge; and

(4) Months in which discharge occurs; and

(G) Whether the outfall is equipped with a diffuser and the type (e.g., high-rate) of diffuser used;

(ii) Description of receiving waters. The following information (if known) for each outfall through which effluent is discharged to waters of the United States:

(A) Name of receiving water;

(B) Name of watershed/river/stream system and United States Soil Conservation Service 14-digit watershed code;

(C) Name of State Management/River Basin and United States Geological Survey 8-digit hydrologic cataloging unit code; and

(D) Critical flow of receiving stream and total hardness of receiving stream at critical low flow (if applicable);

(iii) Description of treatment. The following information describing the treatment provided for discharges from each outfall to waters of the United States:

(A) The highest level of treatment (e.g., primary, equivalent to secondary, secondary, advanced, other) that is provided for the discharge for each outfall and:

- (1) Design biochemical oxygen demand (BOD₅ or CBOD₅) removal (percent);
- (2) Design suspended solids (SS) removal (percent); and, where applicable,
- (3) Design phosphorus (P) removal (percent);
- (4) Design nitrogen (N) removal (percent); and
- (5) Any other removals that an advanced treatment system is designed to achieve.

(B) A description of the type of disinfection used, and whether the treatment plant dechlorinates (if disinfection is accomplished through chlorination);

(4) Effluent monitoring for specific parameters.

(i) As provided in paragraphs (j)(4)(ii) through (x) of this section, all applicants must submit to the Director effluent monitoring information for samples taken from each outfall through which effluent is discharged to waters of the United States, except for CSOs. The Director may allow applicants to submit sampling data for only one outfall on a case-by-case basis, where the applicant has two or more outfalls with substantially identical effluent. The Director may also allow applicants to composite samples from one or more outfalls that discharge into the same mixing zone;

(ii) All applicants must sample and analyze for the pollutants listed in appendix J, Table 1A of this part;

(iii) All applicants with a design flow greater than or equal to 0.1 mgd must sample and analyze for the pollutants listed in appendix J, Table 1 of this part. Facilities that do not use chlorine for disinfection, do not use chlorine elsewhere in the treatment process, and have no reasonable potential to discharge chlorine in their effluent may delete chlorine from Table 1;

(iv) The following applicants must sample and analyze for the pollutants listed in appendix J, Table 2 of this part, and for any other pollutants for which the State or EPA have established water quality standards applicable to the receiving waters:

(A) All POTWs with a design flow rate equal to or greater than one million gallons per day;

(B) All POTWs with approved pretreatment programs or POTWs required to develop a pretreatment program;

- (C) Other POTWs, as required by the Director;

- (v) The Director should require sampling for additional pollutants, as appropriate, on a case-by-case basis;

- (vi) Applicants must provide data from a minimum of three samples taken within four and one-half years prior to the date of the permit application. Samples must be representative of the seasonal variation in the discharge from each outfall. Existing data may be used, if available, in lieu of sampling done solely for the purpose of this application. The Director should require additional samples, as appropriate, on a case-by-case basis.

- (vii) All existing data for pollutants specified in paragraphs (j)(4)(ii) through (v) of this section that is collected within four and one-half years of the application must be included in the pollutant data summary submitted by the applicant. If, however, the applicant samples for a specific pollutant on a monthly or more frequent basis, it is only necessary, for such pollutant, to summarize all data collected within one year of the application.

- (viii) Applicants must collect samples of effluent and analyze such samples for pollutants in accordance with analytical methods approved under 40 CFR Part 136 unless an alternative is specified in the existing NPDES permit. When analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including *E. coli*), or volatile organics is required in paragraphs (j)(4)(ii) through (iv) of this section, grab samples must be collected for those pollutants. For all other pollutants, 24-hour composite samples must be used. For a composite sample, only one analysis of the composite of aliquots is required.

- (ix) The effluent monitoring data provided must include at least the following information for each parameter:
 - (A) Maximum daily discharge, expressed as concentration or mass, based upon actual sample values;

 - (B) Average daily discharge for all samples, expressed as concentration or mass, and the number of samples used to obtain this value;

 - (C) The analytical method used; and

 - (D) The threshold level (i.e., method detection limit, minimum level, or other designated method endpoints) for the analytical method used.

- (x) Unless otherwise required by the Director, metals must be reported as total recoverable.

- (5) Effluent monitoring for whole effluent toxicity.

(i) All applicants must provide an identification of any whole effluent toxicity tests conducted during the four and one-half years prior to the date of the application on any of the applicant's discharges or on any receiving water near the discharge.

(ii) As provided in paragraphs (j)(5)(iii)–(ix) of this section, the following applicants must submit to the Director the results of valid whole effluent toxicity tests for acute or chronic toxicity for samples taken from each outfall through which effluent is discharged to surface waters, except for combined sewer overflows:

(A) All POTWs with design flow rates greater than or equal to one million gallons per day;

(B) All POTWs with approved pretreatment programs or POTWs required to develop a pretreatment program;

(C) Other POTWs, as required by the Director, based on consideration of the following factors:

(1) The variability of the pollutants or pollutant parameters in the POTW effluent (based on chemical-specific information, the type of treatment plant, and types of industrial contributors);

(2) The ratio of effluent flow to receiving stream flow;

(3) Existing controls on point or non-point sources, including total maximum daily load calculations for the receiving stream segment and the relative contribution of the POTW;

(4) Receiving stream characteristics, including possible or known water quality impairment, and whether the POTW discharges to a coastal water, one of the Great Lakes, or a water designated as an outstanding natural resource water; or

(5) Other considerations (including, but not limited to, the history of toxic impacts and compliance problems at the POTW) that the Director determines could cause or contribute to adverse water quality impacts.

(iii) Where the POTW has two or more outfalls with substantially identical effluent discharging to the same receiving stream segment, the Director may allow applicants to submit whole effluent toxicity data for only one outfall on a case-by-case basis. The Director may also allow applicants to composite samples from one or more outfalls that discharge into the same mixing zone.

(iv) Each applicant required to perform whole effluent toxicity testing pursuant to paragraph (j)(5)(ii) of this section must provide:

(A) Results of a minimum of four quarterly tests for a year, from the year preceding the permit application; or

- (B) Results from four tests performed at least annually in the four and one half year period prior to the application, provided the results show no appreciable toxicity using a safety factor determined by the permitting authority.
- (v) Applicants must conduct tests with multiple species (no less than two species; e.g., fish, invertebrate, plant), and test for acute or chronic toxicity, depending on the range of receiving water dilution. EPA recommends that applicants conduct acute or chronic testing based on the following dilutions:
- (A) Acute toxicity testing if the dilution of the effluent is greater than 1000:1 at the edge of the mixing zone;
 - (B) Acute or chronic toxicity testing if the dilution of the effluent is between 100:1 and 1000:1 at the edge of the mixing zone. Acute testing may be more appropriate at the higher end of this range (1000:1), and chronic testing may be more appropriate at the lower end of this range (100:1); and
 - (C) Chronic testing if the dilution of the effluent is less than 100:1 at the edge of the mixing zone.
- (vi) Each applicant required to perform whole effluent toxicity testing pursuant to paragraph (j)(5)(ii) of this section must provide the number of chronic or acute whole effluent toxicity tests that have been conducted since the last permit reissuance.
- (vii) Applicants must provide the results using the form provided by the Director, or test summaries if available and comprehensive, for each whole effluent toxicity test conducted pursuant to paragraph (j)(5)(ii) of this section for which such information has not been reported previously to the Director.
- (viii) Whole effluent toxicity testing conducted pursuant to paragraph (j)(5)(ii) of this section must be conducted using methods approved under 40 CFR part 136. West coast facilities in Washington, Oregon, California, Alaska, Hawaii, and the Pacific Territories are exempted from 40 CFR part 136 chronic methods and must use alternative guidance as directed by the permitting authority.
- (ix) For whole effluent toxicity data submitted to the Director within four and one-half years prior to the date of the application, applicants must provide the dates on which the data were submitted and a summary of the results.
- (x) Each POTW required to perform whole effluent toxicity testing pursuant to paragraph (j)(5)(ii) of this section must provide any information on the cause of toxicity and written details of any toxicity reduction evaluation conducted, if any whole effluent toxicity test conducted within the past four and one-half years revealed toxicity.
- (6) Industrial discharges. Applicants must submit the following information about industrial discharges to the POTW:
- (i) Number of significant industrial users (SIUs) and categorical industrial users (CIUs) discharging to the POTW; and

(ii) POTWs with one or more SIUs shall provide the following information for each SIU, as defined at [40 CFR 403.3\(v\)](#), that discharges to the POTW:

(A) Name and mailing address;

(B) Description of all industrial processes that affect or contribute to the SIU's discharge;

(C) Principal products and raw materials of the SIU that affect or contribute to the SIU's discharge;

(D) Average daily volume of wastewater discharged, indicating the amount attributable to process flow and non-process flow;

(E) Whether the SIU is subject to local limits;

(F) Whether the SIU is subject to categorical standards, and if so, under which category(ies) and subcategory(ies); and

(G) Whether any problems at the POTW (e.g., upsets, pass through, interference) have been attributed to the SIU in the past four and one-half years.

(iii) The information required in paragraphs (j)(6)(i) and (ii) of this section may be waived by the Director for POTWs with pretreatment programs if the applicant has submitted either of the following that contain information substantially identical to that required in paragraphs (j)(6)(i) and (ii) of this section.

(A) An annual report submitted within one year of the application; or

(B) A pretreatment program;

(7) Discharges from hazardous waste generators and from waste cleanup or remediation sites. POTWs receiving Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or RCRA Corrective Action wastes or wastes generated at another type of cleanup or remediation site must provide the following information:

(i) If the POTW receives, or has been notified that it will receive, by truck, rail, or dedicated pipe any wastes that are regulated as RCRA hazardous wastes pursuant to 40 CFR part 261, the applicant must report the following:

(A) The method by which the waste is received (i.e., whether by truck, rail, or dedicated pipe); and

(B) The hazardous waste number and amount received annually of each hazardous waste;

(ii) If the POTW receives, or has been notified that it will receive, wastewaters that originate from remedial activities, including those undertaken pursuant to CERCLA and sections 3004(u) or 3008(h) of RCRA, the applicant must report the following:

(A) The identity and description of the site(s) or facility(ies) at which the wastewater originates;

(B) The identities of the wastewater's hazardous constituents, as listed in appendix VIII of part 261 of this chapter; if known; and

(C) The extent of treatment, if any, the wastewater receives or will receive before entering the POTW;

(iii) Applicants are exempt from the requirements of paragraph (j)(7)(ii) of this section if they receive no more than fifteen kilograms per month of hazardous wastes, unless the wastes are acute hazardous wastes as specified in [40 CFR 261.30\(d\)](#) and [261.33\(e\)](#).

(8) Combined sewer overflows. Each applicant with combined sewer systems must provide the following information:

(i) Combined sewer system information. The following information regarding the combined sewer system:

(A) System map. A map indicating the location of the following:

(1) All CSO discharge points;

(2) Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding national resource waters); and

(3) Waters supporting threatened and endangered species potentially affected by CSOs; and

(B) System diagram. A diagram of the combined sewer collection system that includes the following information:

(1) The location of major sewer trunk lines, both combined and separate sanitary;

(2) The locations of points where separate sanitary sewers feed into the combined sewer system;

(3) In-line and off-line storage structures;

(4) The locations of flow-regulating devices; and

(5) The locations of pump stations;

(ii) Information on CSO outfalls. The following information for each CSO discharge point covered by the permit application:

(A) Description of outfall. The following information on each outfall:

(1) Outfall number;

(2) State, county, and city or town in which outfall is located;

(3) Latitude and longitude, to the nearest second; and

(4) Distance from shore and depth below surface;

(5) Whether the applicant monitored any of the following in the past year for this CSO:

(i) Rainfall;

(ii) CSO flow volume;

(iii) CSO pollutant concentrations;

(iv) Receiving water quality;

(v) CSO frequency; and

(6) The number of storm events monitored in the past year;

(B) CSO events. The following information about CSO overflows from each outfall:

(1) The number of events in the past year;

(2) The average duration per event, if available;

(3) The average volume per CSO event, if available; and

(4) The minimum rainfall that caused a CSO event, if available, in the last year;

(C) Description of receiving waters. The following information about receiving waters:

(1) Name of receiving water;

(2) Name of watershed/stream system and the United States Soil Conservation Service watershed (14-digit) code (if known); and

(3) Name of State Management/River Basin and the United States Geological Survey hydrologic cataloging unit (8-digit) code (if known); and

(D) CSO operations. A description of any known water quality impacts on the receiving water caused by the CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shellfish bed closings, fish kills, fish advisories, other recreational loss, or exceedance of any applicable State water quality standard);

(iii) Public notification plan for CSO discharges to the Great Lakes Basin. Each permittee authorized to discharge a combined sewer overflow to the Great Lakes Basin as defined in § 122.2 must submit a public notification plan developed in accordance with § 122.38 as part of its permit application. The public notification plan shall describe any significant updates to the plan that may have occurred since the last plan submission.

(9) Contractors. All applicants must provide the name, mailing address, telephone number, and responsibilities of all contractors responsible for any operational or maintenance aspects of the facility; and

(10) Signature. All applications must be signed by a certifying official in compliance with § 122.22.

(k) Application requirements for new sources and new discharges. New manufacturing, commercial, mining and silvicultural dischargers applying for NPDES permits (except for new discharges of facilities subject to the requirements of paragraph (h) of this section or new discharges of storm water associated with industrial activity which are subject to the requirements of § 122.26(c)(1) and this section (except as provided by § 122.26(c)(1)(ii)) shall provide the following information to the Director, using the application forms provided by the Director:

(1) Expected outfall location. The latitude and longitude to the nearest 15 seconds and the name of the receiving water.

(2) Discharge dates. The expected date of commencement of discharge.

(3) Flows, Sources of Pollution, and Treatment Technologies.—

(i) Expected treatment of wastewater. Description of the treatment that the wastewater will receive, along with all operations contributing wastewater to the effluent, average flow contributed by each operation, and the ultimate disposal of any solid or liquid wastes not discharged.

(ii) Line drawing. A line drawing of the water flow through the facility with a water balance as described in § 122.21(g)(2).

(iii) Intermittent flows. If any of the expected discharges will be intermittent or seasonal, a description of the frequency, duration and maximum daily flow rate of each discharge occurrence (except for stormwater runoff, spillage, or leaks).

(4) Production. If a new source performance standard promulgated under [section 306](#) of CWA or an effluent limitation guideline applies to the applicant and is expressed in terms of production (or other measure of operation), a reasonable measure of the applicant's expected actual production reported in the units used in the applicable effluent guideline or new source performance standard as required by [§ 122.45\(b\)\(2\)](#) for each of the first three years. Alternative estimates may also be submitted if production is likely to vary.

(5) Effluent characteristics. The requirements in paragraphs (h)(4)(i), (ii), and (iii) of this section that an applicant must provide estimates of certain pollutants expected to be present do not apply to pollutants present in a discharge solely as a result of their presence in intake water; however, an applicant must report such pollutants as present. Net credits may be provided for the presence of pollutants in intake water if the requirements of [§ 122.45\(g\)](#) are met. All levels (except for discharge flow, temperature, and pH) must be estimated as concentration and as total mass.

(i) Each applicant must report estimated daily maximum, daily average, and source of information for each outfall for the following pollutants or parameters. The Director may waive the reporting requirements for any of these pollutants and parameters if the applicant submits a request for such a waiver before or with his application which demonstrates that information adequate to support issuance of the permit can be obtained through less stringent reporting requirements.

(A) Biochemical Oxygen Demand (BOD).

(B) Chemical Oxygen Demand (COD).

(C) Total Organic Carbon (TOC).

(D) Total Suspended Solids (TSS).

(E) Flow.

(F) Ammonia (as N).

(G) Temperature (winter and summer).

(H) pH.

(ii) Each applicant must report estimated daily maximum, daily average, and source of information for each outfall for the following pollutants, if the applicant knows or has reason to believe they will be present or if they are limited by an effluent limitation guideline or new source performance standard either directly or indirectly through limitations on an indicator pollutant: all pollutants in table IV of appendix D of part 122 (certain conventional and nonconventional pollutants).

(iii) Each applicant must report estimated daily maximum, daily average and source of information for the following pollutants if he knows or has reason to believe that they will be present in the discharges from any outfall:

(A) The pollutants listed in table III of appendix D (the toxic metals, in the discharge from any outfall: Total cyanide, and total phenols);

(B) The organic toxic pollutants in table II of appendix D (except bis (chloromethyl) ether, dichlorofluoromethane and trichlorofluoromethane). This requirement is waived for applicants with expected gross sales of less than \$100,000 per year for the next three years, and for coal mines with expected average production of less than 100,000 tons of coal per year.

(iv) The applicant is required to report that 2,3,7,8 Tetrachlorodibenzo-P-Dioxin (TCDD) may be discharged if he uses or manufactures one of the following compounds, or if he knows or has reason to believe that TCDD will or may be present in an effluent:

(A) 2,4,5-trichlorophenoxy acetic acid (2,4,5-T) (CAS #93-76-5);

(B) 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5-TP) (CAS #93-72-1);

(C) 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon) (CAS #136-25-4);

(D) 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel) (CAS #299-84-3);

(E) 2,4,5-trichlorophenol (TCP) (CAS #95-95-4); or

(F) Hexachlorophene (HCP) (CAS #70-30-4);

(v) Each applicant must report any pollutants listed in table V of appendix D (certain hazardous substances) if he believes they will be present in any outfall (no quantitative estimates are required unless they are already available).

(vi) No later than two years after the commencement of discharge from the proposed facility, the applicant is required to complete and submit Items V and VI of NPDES application Form 2c (see § 122.21(g)). However, the applicant need not complete those portions of Item V requiring tests which he has already performed and reported under the discharge monitoring requirements of his NPDES permit.

(6) Engineering Report. Each applicant must report the existence of any technical evaluation concerning his wastewater treatment, along with the name and location of similar plants of which he has knowledge.

(7) Other information. Any optional information the permittee wishes to have considered.

(8) Certification. Signature of certifying official under [§ 122.22](#).

(I) Special provisions for applications from new sources.

(1) The owner or operator of any facility which may be a new source (as defined in [§ 122.2](#)) and which is located in a State without an approved NPDES program must comply with the provisions of this paragraph (I)(1).

(2)(i) Before beginning any on-site construction as defined in [§ 122.29](#), the owner or operator of any facility which may be a new source must submit information to the Regional Administrator so that he or she can determine if the facility is a new source. The Regional Administrator may request any additional information needed to determine whether the facility is a new source.

(ii) The Regional Administrator shall make an initial determination whether the facility is a new source within 30 days of receiving all necessary information under paragraph (I)(2)(i) of this section.

(3) The Regional Administrator shall issue a public notice in accordance with [§ 124.10](#) of this chapter of the new source determination under paragraph (I)(2) of this section. If the Regional Administrator has determined that the facility is a new source, the notice shall state that the applicant must comply with the environmental review requirements of [40 CFR 6.600](#) through [6.607](#).

(4) Any interested party may challenge the Regional Administrator's initial new source determination by requesting review of the determination under [§ 124.19](#) of this chapter within 30 days of the public notice of the initial determination. If all interested parties agree, the Environmental Appeals Board may defer review until after a final permit decision is made, and consolidate review of the determination with any review of the permit decision.

(m) Variance requests by non-POTWs. A discharger which is not a publicly owned treatment works (POTW) may request a variance from otherwise applicable effluent limitations under any of the following statutory or regulatory provisions within the times specified in this paragraph:

(1) Fundamentally different factors.

(i) A request for a variance based on the presence of “fundamentally different factors” from those on which the effluent limitations guideline was based shall be filed as follows:

(A) For a request from best practicable control technology currently available (BPT), by the close of the public comment period under § 124.10.

(B) For a request from best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT), by no later than:

(1) July 3, 1989, for a request based on an effluent limitation guideline promulgated before February 4, 1987, to the extent July 3, 1989 is not later than that provided under previously promulgated regulations; or

(2) 180 days after the date on which an effluent limitation guideline is published in the Federal Register for a request based on an effluent limitation guideline promulgated on or after February 4, 1987.

(ii) The request shall explain how the requirements of the applicable regulatory and/or statutory criteria have been met.

(2) Non-conventional pollutants. A request for a variance from the BAT requirements for CWA [section 301\(b\)\(2\)\(F\)](#) pollutants (commonly called “non-conventional” pollutants) pursuant to [section 301\(c\)](#) of CWA because of the economic capability of the owner or operator, or pursuant to [section 301\(g\)](#) of the CWA (provided however that a [§ 301\(g\)](#) variance may only be requested for ammonia; chlorine; color; iron; total phenols (4AAP) (when determined by the Administrator to be a pollutant covered by [section 301\(b\)\(2\)\(F\)](#)) and any other pollutant which the Administrator lists under [section 301\(g\)\(4\)](#) of the CWA) must be made as follows:

(i) For those requests for a variance from an effluent limitation based upon an effluent limitation guideline by:

(A) Submitting an initial request to the Regional Administrator, as well as to the State Director if applicable, stating the name of the discharger, the permit number, the outfall number(s), the applicable effluent guideline, and whether the discharger is requesting a [section 301\(c\)](#) or [section 301\(g\)](#) modification or both. This request must have been filed not later than:

(1) September 25, 1978, for a pollutant which is controlled by a BAT effluent limitation guideline promulgated before December 27, 1977; or

(2) 270 days after promulgation of an applicable effluent limitation guideline for guidelines promulgated after December 27, 1977; and

(B) Submitting a completed request no later than the close of the public comment period under § 124.10 demonstrating that the requirements of § 124.13 and the applicable requirements of part 125 have been met. Notwithstanding this provision, the complete application for a request under section 301(g) shall be filed 180 days before EPA must make a decision (unless the Regional Division Director establishes a shorter or longer period).

(ii) For those requests for a variance from effluent limitations not based on effluent limitation guidelines, the request need only comply with paragraph (m)(2)(i)(B) of this section and need not be preceded by an initial request under paragraph (m)(2)(i)(A) of this section.

(3) [Reserved]

(4) [Reserved]

(5) Water quality related effluent limitations. A modification under section 302(b)(2) of requirements under section 302(a) for achieving water quality related effluent limitations may be requested no later than the close of the public comment period under § 124.10 on the permit from which the modification is sought.

(6) Thermal discharges. A variance under CWA section 316(a) for the thermal component of any discharge must be filed with a timely application for a permit under this section, except that if thermal effluent limitations are established under CWA section 402(a)(1) or are based on water quality standards the request for a variance may be filed by the close of the public comment period under § 124.10. A copy of the request as required under 40 CFR part 125, subpart H, shall be sent simultaneously to the appropriate State or interstate certifying agency as required under 40 CFR part 125. (See § 124.65 for special procedures for section 316(a) thermal variances.)

(n) Variance requests by POTWs. A discharger which is a publicly owned treatment works (POTW) may request a variance from otherwise applicable effluent limitations under any of the following statutory provisions as specified in this paragraph:

(1) Discharges into marine waters. A request for a modification under CWA section 301(h) of requirements of CWA section 301(b)(1)(B) for discharges into marine waters must be filed in accordance with the requirements of 40 CFR part 125, subpart G.

(2) [Reserved]

(3) Water quality based effluent limitation. A modification under CWA section 302(b)(2) of the requirements under section 302(a) for achieving water quality based effluent limitations shall be requested no later than the close of the public comment period under § 124.10 on the permit from which the modification is sought.

(o) Expedited variance procedures and time extensions.

(1) Notwithstanding the time requirements in paragraphs (m) and (n) of this section, the Director may notify a permit applicant before a draft permit is issued under § 124.6 that the draft permit will likely contain limitations which are eligible for variances. In the notice the Director may require the applicant as a condition of consideration of any potential variance request to submit a request explaining how the requirements of part 125 applicable to the variance have been met and may require its submission within a specified reasonable time after receipt of the notice. The notice may be sent before the permit application has been submitted. The draft or final permit may contain the alternative limitations which may become effective upon final grant of the variance.

(2) A discharger who cannot file a timely complete request required under paragraph (m)(2)(i)(B) or (m)(2)(ii) of this section may request an extension. The extension may be granted or denied at the discretion of the Director. Extensions shall be no more than 6 months in duration.

(p) Recordkeeping. Except for information required by paragraph (d)(3)(ii) of this section, which shall be retained for a period of at least five years from the date the application is signed (or longer as required by 40 CFR part 503), applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under this section for a period of at least 3 years from the date the application is signed.

(q) Sewage sludge management. All TWTDS subject to paragraph (c)(2)(i) of this section must provide the information in this paragraph to the Director, using Form 2S or another application form approved by the Director. New applicants must submit all information available at the time of permit application. The information may be provided by referencing information previously submitted to the Director. The Director may waive any requirement of this paragraph if he or she has access to substantially identical information. The Director may also waive any requirement of this paragraph that is not of material concern for a specific permit, if approved by the Regional Administrator. The waiver request to the Regional Administrator must include the State's justification for the waiver. A Regional Administrator's disapproval of a State's proposed waiver does not constitute final Agency action, but does provide notice to the State and permit applicant(s) that EPA may object to any State-issued permit issued in the absence of the required information.

(1) Facility information. All applicants must submit the following information:

(i) The name, mailing address, and location of the TWTDS for which the application is submitted;

(ii) Whether the facility is a Class I Sludge Management Facility;

(iii) The design flow rate (in million gallons per day);

(iv) The total population served; and

(v) The TWTDS's status as Federal, State, private, public, or other entity;

(2) Applicant information. All applicants must submit the following information:

(i) The name, mailing address, and telephone number of the applicant; and

(ii) Indication whether the applicant is the owner, operator, or both;

(3) Permit information. All applicants must submit the facility's NPDES permit number, if applicable, and a listing of all other Federal, State, and local permits or construction approvals received or applied for under any of the following programs:

(i) Hazardous Waste Management program under the Resource Conservation and Recovery Act (RCRA);

(ii) UIC program under the Safe Drinking Water Act (SDWA);

(iii) NPDES program under the Clean Water Act (CWA);

(iv) Prevention of Significant Deterioration (PSD) program under the Clean Air Act;

(v) Nonattainment program under the Clean Air Act;

(vi) National Emission Standards for Hazardous Air Pollutants (NESHAPS) preconstruction approval under the Clean Air Act;

(vii) Dredge or fill permits under section 404 of CWA;

(viii) Other relevant environmental permits, including State or local permits;

(4) Indian country. All applicants must identify any generation, treatment, storage, land application, or disposal of sewage sludge that occurs in Indian country;

(5) Topographic map. All applicants must submit a topographic map (or other map if a topographic map is unavailable) extending one mile beyond property boundaries of the facility and showing the following information:

(i) All sewage sludge management facilities, including on-site treatment, storage, and disposal sites; and

(ii) Wells, springs, and other surface water bodies that are within ¼ mile of the property boundaries and listed in public records or otherwise known to the applicant;

(6) Sewage sludge handling. All applicants must submit a line drawing and/or a narrative description that identifies all sewage sludge management practices employed during the term of the permit, including all units used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each such unit, and all processes used for pathogen reduction and vector attraction reduction;

(7) Sewage sludge quality. The applicant must submit sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR part 503 for the applicant's use or disposal practices on the date of permit application.

(i) The Director may require sampling for additional pollutants, as appropriate, on a case-by-case basis;

(ii) Applicants must provide data from a minimum of three samples taken within four and one-half years prior to the date of the permit application. Samples must be representative of the sewage sludge and should be taken at least one month apart. Existing data may be used in lieu of sampling done solely for the purpose of this application;

(iii) Applicants must collect and analyze samples in accordance with analytical methods approved under SW-846 unless an alternative has been specified in an existing sewage sludge permit;

(iv) The monitoring data provided must include at least the following information for each parameter:

(A) Average monthly concentration for all samples (mg/kg dry weight), based upon actual sample values;

(B) The analytical method used; and

(C) The method detection level.

(8) Preparation of sewage sludge. If the applicant is a "person who prepares" sewage sludge, as defined at [40 CFR 503.9\(r\)](#), the applicant must provide the following information:

(i) If the applicant's facility generates sewage sludge, the total dry metric tons per 365-day period generated at the facility;

(ii) If the applicant's facility receives sewage sludge from another facility, the following information for each facility from which sewage sludge is received:

(A) The name, mailing address, and location of the other facility;

(B) The total dry metric tons per 365-day period received from the other facility; and

(C) A description of any treatment processes occurring at the other facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics;

(iii) If the applicant's facility changes the quality of sewage sludge through blending, treatment, or other activities, the following information:

(A) Whether the Class A pathogen reduction requirements in [40 CFR 503.32\(a\)](#) or the Class B pathogen reduction requirements in [40 CFR 503.32\(b\)](#) are met, and a description of any treatment processes used to reduce pathogens in sewage sludge;

(B) Whether any of the vector attraction reduction options of [40 CFR 503.33\(b\)\(1\)](#) through [\(b\)\(8\)](#) are met, and a description of any treatment processes used to reduce vector attraction properties in sewage sludge; and

(C) A description of any other blending, treatment, or other activities that change the quality of sewage sludge;

(iv) If sewage sludge from the applicant's facility meets the ceiling concentrations in [40 CFR 503.13\(b\)\(1\)](#), the pollutant concentrations in [§ 503.13\(b\)\(3\)](#), the Class A pathogen requirements in [§ 503.32\(a\)](#), and one of the vector attraction reduction requirements in [§ 503.33\(b\)\(1\)](#) through [\(b\)\(8\)](#), and if the sewage sludge is applied to the land, the applicant must provide the total dry metric tons per 365-day period of sewage sludge subject to this paragraph that is applied to the land;

(v) If sewage sludge from the applicant's facility is sold or given away in a bag or other container for application to the land, and the sewage sludge is not subject to paragraph (q)(8)(iv) of this section, the applicant must provide the following information:

(A) The total dry metric tons per 365-day period of sewage sludge subject to this paragraph that is sold or given away in a bag or other container for application to the land; and

(B) A copy of all labels or notices that accompany the sewage sludge being sold or given away;

(vi) If sewage sludge from the applicant's facility is provided to another "person who prepares," as defined at [40 CFR 503.9\(r\)](#), and the sewage sludge is not subject to paragraph (q)(8)(iv) of this section, the applicant must provide the following information for each facility receiving the sewage sludge:

(A) The name and mailing address of the receiving facility;

(B) The total dry metric tons per 365-day period of sewage sludge subject to this paragraph that the applicant provides to the receiving facility;

(C) A description of any treatment processes occurring at the receiving facility, including blending activities and treatment to reduce pathogens or vector attraction characteristic;

(D) A copy of the notice and necessary information that the applicant is required to provide the receiving facility under [40 CFR 503.12\(g\)](#); and

(E) If the receiving facility places sewage sludge in bags or containers for sale or give-away to application to the land, a copy of any labels or notices that accompany the sewage sludge;

(9) Land application of bulk sewage sludge. If sewage sludge from the applicant's facility is applied to the land in bulk form, and is not subject to paragraphs (q)(8)(iv), (v), or (vi) of this section, the applicant must provide the following information:

(i) The total dry metric tons per 365-day period of sewage sludge subject to this paragraph that is applied to the land;

(ii) If any land application sites are located in States other than the State where the sewage sludge is prepared, a description of how the applicant will notify the permitting authority for the State(s) where the land application sites are located;

(iii) The following information for each land application site that has been identified at the time of permit application:

(A) The name (if any), and location for the land application site;

(B) The site's latitude and longitude to the nearest second, and method of determination;

(C) A topographic map (or other map if a topographic map is unavailable) that shows the site's location;

(D) The name, mailing address, and telephone number of the site owner, if different from the applicant;

(E) The name, mailing address, and telephone number of the person who applies sewage sludge to the site, if different from the applicant;

(F) Whether the site is agricultural land, forest, a public contact site, or a reclamation site, as such site types are defined under [40 CFR 503.11](#);

(G) The type of vegetation grown on the site, if known, and the nitrogen requirement for this vegetation;

(H) Whether either of the vector attraction reduction options of [40 CFR 503.33\(b\)\(9\)](#) or [\(b\)\(10\)](#) is met at the site, and a description of any procedures employed at the time of use to reduce vector attraction properties in sewage sludge; and

(I) Other information that describes how the site will be managed, as specified by the permitting authority.

(iv) The following information for each land application site that has been identified at the time of permit application, if the applicant intends to apply bulk sewage sludge subject to the cumulative pollutant loading rates in [40 CFR 503.13\(b\)\(2\)](#) to the site:

(A) Whether the applicant has contacted the permitting authority in the State where the bulk sewage sludge subject to [§ 503.13\(b\)\(2\)](#) will be applied, to ascertain whether bulk sewage sludge subject to [§ 503.13\(b\)\(2\)](#) has been applied to the site on or since July 20, 1993, and if so, the name of the permitting authority and the name and phone number of a contact person at the permitting authority;

(B) Identification of facilities other than the applicant's facility that have sent, or are sending, sewage sludge subject to the cumulative pollutant loading rates in [§ 503.13\(b\)\(2\)](#) to the site since July 20, 1993, if, based on the inquiry in paragraph (q)(iv)(A), bulk sewage sludge subject to cumulative pollutant loading rates in [§ 503.13\(b\)\(2\)](#) has been applied to the site since July 20, 1993;

(v) If not all land application sites have been identified at the time of permit application, the applicant must submit a land application plan that, at a minimum:

(A) Describes the geographical area covered by the plan;

(B) Identifies the site selection criteria;

(C) Describes how the site(s) will be managed;

(D) Provides for advance notice to the permit authority of specific land application sites and reasonable time for the permit authority to object prior to land application of the sewage sludge; and

(E) Provides for advance public notice of land application sites in the manner prescribed by State and local law. When State or local law does not require advance public notice, it must be provided in a manner reasonably calculated to apprise the general public of the planned land application.

(10) Surface disposal. If sewage sludge from the applicant's facility is placed on a surface disposal site, the applicant must provide the following information:

(i) The total dry metric tons of sewage sludge from the applicant's facility that is placed on surface disposal sites per 365-day period;

(ii) The following information for each surface disposal site receiving sewage sludge from the applicant's facility that the applicant does not own or operate:

(A) The site name or number, contact person, mailing address, and telephone number for the surface disposal site; and

(B) The total dry metric tons from the applicant's facility per 365-day period placed on the surface disposal site;

(iii) The following information for each active sewage sludge unit at each surface disposal site that the applicant owns or operates:

(A) The name or number and the location of the active sewage sludge unit;

(B) The unit's latitude and longitude to the nearest second, and method of determination;

(C) If not already provided, a topographic map (or other map if a topographic map is unavailable) that shows the unit's location;

(D) The total dry metric tons placed on the active sewage sludge unit per 365-day period;

(E) The total dry metric tons placed on the active sewage sludge unit over the life of the unit;

(F) A description of any liner for the active sewage sludge unit, including whether it has a maximum permeability of 1×10^{-7} cm/sec;

(G) A description of any leachate collection system for the active sewage sludge unit, including the method used for leachate disposal, and any Federal, State, and local permit number(s) for leachate disposal;

(H) If the active sewage sludge unit is less than 150 meters from the property line of the surface disposal site, the actual distance from the unit boundary to the site property line;

(I) The remaining capacity (dry metric tons) for the active sewage sludge unit;

(J) The date on which the active sewage sludge unit is expected to close, if such a date has been identified;

(K) The following information for any other facility that sends sewage sludge to the active sewage sludge unit:

(1) The name, contact person, and mailing address of the facility; and

(2) Available information regarding the quality of the sewage sludge received from the facility, including any treatment at the facility to reduce pathogens or vector attraction characteristics;

(L) Whether any of the vector attraction reduction options of 40 CFR 503.33(b)(9) through (b)(11) is met at the active sewage sludge unit, and a description of any procedures employed at the time of disposal to reduce vector attraction properties in sewage sludge;

(M) The following information, as applicable to any ground-water monitoring occurring at the active sewage sludge unit:

(1) A description of any ground-water monitoring occurring at the active sewage sludge unit;

(2) Any available ground-water monitoring data, with a description of the well locations and approximate depth to ground water;

(3) A copy of any ground-water monitoring plan that has been prepared for the active sewage sludge unit;

(4) A copy of any certification that has been obtained from a qualified ground-water scientist that the aquifer has not been contaminated; and

(N) If site-specific pollutant limits are being sought for the sewage sludge placed on this active sewage sludge unit, information to support such a request;

(11) Incineration. If sewage sludge from the applicant's facility is fired in a sewage sludge incinerator, the applicant must provide the following information:

(i) The total dry metric tons of sewage sludge from the applicant's facility that is fired in sewage sludge incinerators per 365-day period;

(ii) The following information for each sewage sludge incinerator firing the applicant's sewage sludge that the applicant does not own or operate:

(A) The name and/or number, contact person, mailing address, and telephone number of the sewage sludge incinerator; and

(B) The total dry metric tons from the applicant's facility per 365-day period fired in the sewage sludge incinerator;

(iii) The following information for each sewage sludge incinerator that the applicant owns or operates:

(A) The name and/or number and the location of the sewage sludge incinerator;

(B) The incinerator's latitude and longitude to the nearest second, and method of determination;

(C) The total dry metric tons per 365-day period fired in the sewage sludge incinerator;

(D) Information, test data, and documentation of ongoing operating parameters indicating that compliance with the National Emission Standard for Beryllium in 40 CFR part 61 will be achieved;

(E) Information, test data, and documentation of ongoing operating parameters indicating that compliance with the National Emission Standard for Mercury in 40 CFR part 61 will be achieved;

(F) The dispersion factor for the sewage sludge incinerator, as well as modeling results and supporting documentation;

(G) The control efficiency for parameters regulated in [40 CFR 503.43](#), as well as performance test results and supporting documentation;

(H) Information used to calculate the risk specific concentration (RSC) for chromium, including the results of incinerator stack tests for hexavalent and total chromium concentrations, if the applicant is requesting a chromium limit based on a site-specific RSC value;

(I) Whether the applicant monitors total hydrocarbons (THC) or Carbon Monoxide (CO) in the exit gas for the sewage sludge incinerator;

(J) The type of sewage sludge incinerator;

(K) The maximum performance test combustion temperature, as obtained during the performance test of the sewage sludge incinerator to determine pollutant control efficiencies;

(L) The following information on the sewage sludge feed rate used during the performance test:

(1) Sewage sludge feed rate in dry metric tons per day;

(2) Identification of whether the feed rate submitted is average use or maximum design; and

(3) A description of how the feed rate was calculated;

(M) The incinerator stack height in meters for each stack, including identification of whether actual or creditable stack height was used;

(N) The operating parameters for the sewage sludge incinerator air pollution control device(s), as obtained during the performance test of the sewage sludge incinerator to determine pollutant control efficiencies;

(O) Identification of the monitoring equipment in place, including (but not limited to) equipment to monitor the following:

(1) Total hydrocarbons or Carbon Monoxide;

(2) Percent oxygen;

(3) Percent moisture; and

(4) Combustion temperature; and

(P) A list of all air pollution control equipment used with this sewage sludge incinerator;

(12) Disposal in a municipal solid waste landfill. If sewage sludge from the applicant's facility is sent to a municipal solid waste landfill (MSWLF), the applicant must provide the following information for each MSWLF to which sewage sludge is sent:

(i) The name, contact person, mailing address, location, and all applicable permit numbers of the MSWLF;

(ii) The total dry metric tons per 365-day period sent from this facility to the MSWLF;

(iii) A determination of whether the sewage sludge meets applicable requirements for disposal of sewage sludge in a MSWLF, including the results of the paint filter liquids test and any additional requirements that apply on a site-specific basis; and

(iv) Information, if known, indicating whether the MSWLF complies with criteria set forth in 40 CFR part 258;

(13) Contractors. All applicants must provide the name, mailing address, telephone number, and responsibilities of all contractors responsible for any operational or maintenance aspects of the facility related to sewage sludge generation, treatment, use, or disposal;

(14) Other information. At the request of the permitting authority, the applicant must provide any other information necessary to determine the appropriate standards for permitting under 40 CFR part 503, and must provide any other information necessary to assess the sewage sludge use and disposal practices, determine whether to issue a permit, or identify appropriate permit requirements; and

(15) Signature. All applications must be signed by a certifying official in compliance with § 122.22.

(r) Applications for facilities with cooling water intake structures—

(1)(i) New facilities with new or modified cooling water intake structures. New facilities (other than offshore oil and gas extraction facilities) with cooling water intake structures as defined in part 125, subpart I of this chapter, must submit to the Director for review the information required under paragraphs (r)(2) (except (r)(2)(iv)), (3), and (4) (except (r)(4)(ix), (x), (xi), and (xii)) of this section and § 125.86 of this chapter as part of the permit application. New offshore oil and gas extraction facilities with cooling water intake structures as defined in part 125, subpart N, of this chapter that are fixed facilities must submit to the Director for review the information required under paragraphs (r)(2) (except (r)(2)(iv)), (3), and (4) (except (r)(4)(ix), (x), (xi), and (xii)) of this section and § 125.136 of this chapter as part of their permit application.

(ii) Existing facilities.

(A) All existing facilities. The owner or operator of an existing facility defined at 40 CFR 125.92(k) must submit to the Director for review the information required under paragraphs (r)(2) and (3) of this section and applicable provisions of paragraphs (r)(4), (5), (6), (7), and (8) of this section.

(B) Existing facilities greater than 125 mgd AIF. In addition, the owner or operator of an existing facility that withdraws greater than 125 mgd actual intake flow (AIF), as defined at 40 CFR 125.92 (a), of water for cooling purposes must also submit to the Director for review the information required under paragraphs (r)(9), (10), (11), (12), and (13) of this section. If the owner or operator of an existing facility intends to comply with the BTA (best technology available) standards for entrainment using a closed-cycle recirculating system as defined at 40 CFR 125.92(c), the Director may reduce or waive some or all of the information required under paragraphs (r)(9) through (13) of this section.

(C) Additional information. The owner or operator of an existing facility must also submit such additional information as the Director determines is necessary pursuant to 40 CFR 125.98(i).

(D) New units at existing facilities. The owner or operator of a new unit at an existing facility, as defined at 40 CFR 125.92(u), must submit or update any information previously provided to the Director by submitting the information required under paragraphs (r)(2), (3), (5), (8), and (14) of this section and applicable provisions of

paragraphs (r)(4), (6), and (7) of this section. Requests for and approvals of alternative requirements sought under [40 CFR 125.94\(e\)\(2\)](#) or [125.98\(b\)\(7\)](#) must be submitted with the permit application.

(E) New units at existing facilities not previously subject to Part 125. The owner or operator of a new unit as defined at [40 CFR 125.92\(u\)](#) at an existing facility not previously subject to part 125 of this chapter that increases the total capacity of the existing facility to more than 2 mgd DIF must submit the information required under paragraphs (r)(2), (3), (5), and (8) of this section and applicable provisions of paragraphs (r)(4), (6), and (7) of this section at the time of the permit application for the new unit. Requests for alternative requirements under [40 CFR 125.94\(e\)\(2\)](#) or [125.98\(b\)\(7\)](#) must be submitted with the permit application. If the total capacity of the facility will increase to more than 125 mgd AIF, the owner or operator must also submit the information required in paragraphs (r)(9) through (13) of this section. If the owner or operator of an existing facility intends to comply with the BTA (best technology available) standards for entrainment using a closed-cycle recirculating system as defined at [40 CFR 125.92\(e\)](#), the Director may reduce or waive some or all of the information required under paragraphs (r)(9) through (13) of this section.

(F) If the owner or operator of an existing facility plans to retire the facility before the current permit expires, then the requirements of paragraphs (r)(1)(ii)(A), (B), (C), (D), and (E) of this section do not apply.

(G) If the owner or operator of an existing facility plans to retire the facility after the current permit expires but within one permit cycle, then the Director may waive the requirements of paragraphs (r)(7), (9), (10), (11), (12), and (13) of this section pending a signed certification statement from the owner or operator of the facility specifying the last operating date of the facility.

(H) All facilities. The owner or operator of any existing facility or new unit at any existing facility must also submit with its permit application all information received as a result of any communication with a Field Office of the Fish and Wildlife Service and/or Regional Office of the National Marine Fisheries Service.

(2) Source water physical data. These include:

(i) A narrative description and scaled drawings showing the physical configuration of all source water bodies used by your facility, including areal dimensions, depths, salinity and temperature regimes, and other documentation that supports your determination of the water body type where each cooling water intake structure is located;

(ii) Identification and characterization of the source waterbody's hydrological and geomorphological features, as well as the methods you used to conduct any physical studies to determine your intake's area of influence within the waterbody and the results of such studies;

(iii) Locational maps; and

(iv) For new offshore oil and gas facilities that are not fixed facilities, a narrative description and/or locational maps providing information on predicted locations within the waterbody during the permit term in sufficient detail for the Director to determine the appropriateness of additional impingement requirements under [§ 125.134\(b\)\(4\)](#).

(3) Cooling water intake structure data. These include:

(i) A narrative description of the configuration of each of your cooling water intake structures and where it is located in the water body and in the water column;

(ii) Latitude and longitude in degrees, minutes, and seconds for each of your cooling water intake structures;

(iii) A narrative description of the operation of each of your cooling water intake structures, including design intake flows, daily hours of operation, number of days of the year in operation and seasonal changes, if applicable;

(iv) A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges; and

(v) Engineering drawings of the cooling water intake structure.

(4) Source water baseline biological characterization data. This information is required to characterize the biological community in the vicinity of the cooling water intake structure and to characterize the operation of the cooling water intake structures. The Director may also use this information in subsequent permit renewal proceedings to determine if your Design and Construction Technology Plan as required in § 125.86(b)(4) or § 125.136(b)(3) of this chapter should be revised. This supporting information must include existing data (if they are available). However, you may supplement the data using newly conducted field studies if you choose to do so. The information you submit must include:

(i) A list of the data in paragraphs (r)(4)(ii) through (vi) of this section that are not available and efforts made to identify sources of the data;

(ii) A list of species (or relevant taxa) for all life stages and their relative abundance in the vicinity of the cooling water intake structure;

(iii) Identification of the species and life stages that would be most susceptible to impingement and entrainment. Species evaluated should include the forage base as well as those most important in terms of significance to commercial and recreational fisheries;

(iv) Identification and evaluation of the primary period of reproduction, larval recruitment, and period of peak abundance for relevant taxa;

(v) Data representative of the seasonal and daily activities (e.g., feeding and water column migration) of biological organisms in the vicinity of the cooling water intake structure;

(vi) Identification of all threatened, endangered, and other protected species that might be susceptible to impingement and entrainment at your cooling water intake structures;

(vii) Documentation of any public participation or consultation with Federal or State agencies undertaken in development of the plan; and

(viii) If you supplement the information requested in paragraph (r)(4)(i) of this section with data collected using field studies, supporting documentation for the Source Water Baseline Biological Characterization must include a description of all methods and quality assurance procedures for sampling, and data analysis including a description of the study area; taxonomic identification of sampled and evaluated biological assemblages (including all life stages of fish and shellfish); and sampling and data analysis methods. The sampling and/or data analysis methods you use must be appropriate for a quantitative survey and based on consideration of methods used in other biological studies performed within the same source water body. The study area should include, at a minimum, the area of influence of the cooling water intake structure.

(ix) In the case of the owner or operator of an existing facility or new unit at an existing facility, the Source Water Baseline Biological Characterization Data is the information in paragraphs (r)(4)(i) through (xii) of this section.

(x) For the owner or operator of an existing facility, identification of protective measures and stabilization activities that have been implemented, and a description of how these measures and activities affected the baseline water condition in the vicinity of the intake.

(xi) For the owner or operator of an existing facility, a list of fragile species, as defined at [40 CFR 125.92\(m\)](#), at the facility. The applicant need only identify those species not already identified as fragile at [40 CFR 125.92\(m\)](#). New units at an existing facility are not required to resubmit this information if the cooling water withdrawals for the operation of the new unit are from an existing intake.

(xii) For the owner or operator of an existing facility that has obtained incidental take exemption or authorization for its cooling water intake structure(s) from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, any information submitted in order to obtain that exemption or authorization may be used to satisfy the permit application information requirement of paragraph [40 CFR 125.95\(f\)](#) if included in the application.

(5) Cooling Water System Data. The owner or operator of an existing facility must submit the following information for each cooling water intake structure used or intended to be used:

(i) A narrative description of the operation of the cooling water system and its relationship to cooling water intake structures; the proportion of the design intake flow that is used in the system; the number of days of the year the cooling water system is in operation and seasonal changes in the operation of the system, if applicable; the proportion of design intake flow for contact cooling, non-contact cooling, and process uses; a distribution of water reuse to include cooling water reused as process water, process water reused for cooling, and the use of gray water for cooling; a description of reductions in total water withdrawals including cooling water intake flow reductions already achieved through minimized process water withdrawals; a description of any cooling water that is used in

a manufacturing process either before or after it is used for cooling, including other recycled process water flows; the proportion of the source waterbody withdrawn (on a monthly basis);

(ii) Design and engineering calculations prepared by a qualified professional and supporting data to support the description required by paragraph (r)(5)(i) of this section; and

(iii) Description of existing impingement and entrainment technologies or operational measures and a summary of their performance, including but not limited to reductions in impingement mortality and entrainment due to intake location and reductions in total water withdrawals and usage.

(6) Chosen Method(s) of Compliance with Impingement Mortality Standard. The owner or operator of the facility must identify the chosen compliance method for the entire facility; alternatively, the applicant must identify the chosen compliance method for each cooling water intake structure at its facility. The applicant must identify any intake structure for which a BTA determination for Impingement Mortality under [40 CFR 125.94 \(c\)\(11\) or \(12\)](#) is requested. In addition, the owner or operator that chooses to comply via [40 CFR 125.94 \(c\)\(5\) or \(6\)](#) must also submit an impingement technology performance optimization study as described below:

(i) If the applicant chooses to comply with [40 CFR 125.94\(c\)\(5\)](#), subject to the flexibility for timing provided in [40 CFR 125.95\(a\)\(2\)](#), the impingement technology performance optimization study must include two years of biological data collection measuring the reduction in impingement mortality achieved by the modified traveling screens as defined at [40 CFR 125.92\(s\)](#) and demonstrating that the operation has been optimized to minimize impingement mortality. A complete description of the modified traveling screens and associated equipment must be included, including, for example, type of mesh, mesh slot size, pressure sprays and fish return mechanisms. A description of any biological data collection and data collection approach used in measuring impingement mortality must be included:

(A) Collecting data no less frequently than monthly. The Director may establish more frequent data collection;

(B) Biological data collection representative of the impingement and the impingement mortality at the intakes subject to this provision;

(C) A taxonomic identification to the lowest taxon possible of all organisms collected;

(D) The method in which naturally moribund organisms are identified and taken into account;

(E) The method in which mortality due to holding times is taken into account;

(F) If the facility entraps fish or shellfish, a count of entrapment, as defined at [40 CFR 125.92\(j\)](#), as impingement mortality; and

(G) The percent impingement mortality reflecting optimized operation of the modified traveling screen and all supporting calculations.

(ii) If the applicant chooses to comply with [40 CFR 125.94\(c\)\(6\)](#), the impingement technology performance optimization study must include biological data measuring the reduction in impingement mortality achieved by operation of the system of technologies, operational measures and best management practices, and demonstrating that operation of the system has been optimized to minimize impingement mortality. This system of technologies, operational measures and best management practices may include flow reductions, seasonal operation, unit closure, credit for intake location, and behavioral deterrent systems. The applicant must document how each system element contributes to the system's performance. The applicant must include a minimum of two years of biological data measuring the reduction in impingement mortality achieved by the system. The applicant must also include a description of any sampling or data collection approach used in measuring the rate of impingement, impingement mortality, or flow reductions.

(A) **Rate of Impingement.** If the demonstration relies in part on a credit for reductions in the rate of impingement in the system, the applicant must provide an estimate of those reductions to be used as credit towards reducing impingement mortality, and any relevant supporting documentation, including previously collected biological data, performance reviews, and previously conducted performance studies not already submitted to the Director. The submission of studies more than 10 years old must include an explanation of why the data are still relevant and representative of conditions at the facility and explain how the data should be interpreted using the definitions of impingement and entrapment at [40 CFR 125.92\(n\)](#) and [\(j\)](#), respectively. The estimated reductions in rate of impingement must be based on a comparison of the system to a once-through cooling system with a traveling screen whose point of withdrawal from the surface water source is located at the shoreline of the source waterbody. For impoundments that are waters of the United States in whole or in part, the facility's rate of impingement must be measured at a location within the cooling water intake system that the Director deems appropriate. In addition, the applicant must include two years of biological data collection demonstrating the rate of impingement resulting from the system. For this demonstration, the applicant must collect data no less frequently than monthly. The Director may establish more frequent data collection.

(B) **Impingement Mortality.** If the demonstration relies in part on a credit for reductions in impingement mortality already obtained at the facility, the applicant must include two years of biological data collection demonstrating the level of impingement mortality the system is capable of achieving. The applicant must submit any relevant supporting documentation, including previously collected biological data, performance reviews, and previously conducted performance studies not already submitted to the Director. The applicant must provide a description of any sampling or data collection approach used in measuring impingement mortality. In addition, for this demonstration the applicant must:

(1) Collect data no less frequently than monthly. The Director may establish more frequent data collection;

(2) Conduct biological data collection that is representative of the impingement and the impingement mortality at an intake subject to this provision. In addition, the applicant must describe how the location of the cooling water intake structure in the waterbody and the water column are accounted for in the points of data collection;

- (3) Include a taxonomic identification to the lowest taxon possible of all organisms to be collected;
- (4) Describe the method in which naturally moribund organisms are identified and taken into account;
- (5) Describe the method in which mortality due to holding times is taken into account; and
- (6) If the facility entraps fish or shellfish, a count of the entrapment, as defined at [40 CFR 125.92\(j\)](#), as impingement mortality.

(C) Flow reduction. If the demonstration relies in part on flow reduction to reduce impingement, the applicant must include two years of intake flows, measured daily, as part of the demonstration, and describe the extent to which flow reductions are seasonal or intermittent. The applicant must document how the flow reduction results in reduced impingement. In addition, the applicant must describe how the reduction in impingement has reduced impingement mortality.

(D) Total system performance. The applicant must document the percent impingement mortality reflecting optimized operation of the total system of technologies, operational measures, and best management practices and all supporting calculations. The total system performance is the combination of the impingement mortality performance reflected in paragraphs (r)(6)(ii)(A), (B), and (C) of this section.

(7) Entrainment Performance Studies. The owner or operator of an existing facility must submit any previously conducted studies or studies obtained from other facilities addressing technology efficacy, through-facility entrainment survival, and other entrainment studies. Any such submittals must include a description of each study, together with underlying data, and a summary of any conclusions or results. Any studies conducted at other locations must include an explanation as to why the data from other locations are relevant and representative of conditions at your facility. In the case of studies more than 10 years old, the applicant must explain why the data are still relevant and representative of conditions at the facility and explain how the data should be interpreted using the definition of entrainment at [40 CFR 125.92\(h\)](#).

(8) Operational Status. The owner or operator of an existing facility must submit a description of the operational status of each generating, production, or process unit that uses cooling water, including but not limited to:

(i) For power production or steam generation, descriptions of individual unit operating status including age of each unit, capacity utilization rate (or equivalent) for the previous 5 years, including any extended or unusual outages that significantly affect current data for flow, impingement, entrainment, or other factors, including identification of any operating unit with a capacity utilization rate of less than 8 percent averaged over a 24-month block contiguous period, and any major upgrades completed within the last 15 years, including but not limited to boiler replacement, condenser replacement, turbine replacement, or changes to fuel type;

(ii) Descriptions of completed, approved, or scheduled uprates and Nuclear Regulatory Commission relicensing status of each unit at nuclear facilities;

(iii) For process units at your facility that use cooling water other than for power production or steam generation, if you intend to use reductions in flow or changes in operations to meet the requirements of [40 CFR 125.94\(c\)](#), descriptions of individual production processes and product lines, operating status including age of each line, seasonal operation, including any extended or unusual outages that significantly affect current data for flow, impingement, entrainment, or other factors, any major upgrades completed within the last 15 years, and plans or schedules for decommissioning or replacement of process units or production processes and product lines;

(iv) For all manufacturing facilities, descriptions of current and future production schedules; and

(v) Descriptions of plans or schedules for any new units planned within the next 5 years.

(9) Entrainment Characterization Study. The owner or operator of an existing facility that withdraws greater than 125 mgd AIF, where the withdrawal of cooling water is measured at a location within the cooling water intake structure that the Director deems appropriate, must develop for submission to the Director an Entrainment Characterization Study that includes a minimum of two years of entrainment data collection. The Entrainment Characterization Study must include the following components:

(i) Entrainment Data Collection Method. The study should identify and document the data collection period and frequency. The study should identify and document organisms collected to the lowest taxon possible of all life stages of fish and shellfish that are in the vicinity of the cooling water intake structure(s) and are susceptible to entrainment, including any organisms identified by the Director, and any species protected under Federal, State, or Tribal law, including threatened or endangered species with a habitat range that includes waters in the vicinity of the cooling water intake structure. Biological data collection must be representative of the entrainment at the intakes subject to this provision. The owner or operator of the facility must identify and document how the location of the cooling water intake structure in the waterbody and the water column are accounted for by the data collection locations;

(ii) Biological Entrainment Characterization. Characterization of all life stages of fish, shellfish, and any species protected under Federal, State, or Tribal law (including threatened or endangered species), including a description of their abundance and their temporal and spatial characteristics in the vicinity of the cooling water intake structure(s), based on sufficient data to characterize annual, seasonal, and diel variations in entrainment, including but not limited to variations related to climate and weather differences, spawning, feeding, and water column migration. This characterization may include historical data that are representative of the current operation of the facility and of biological conditions at the site. Identification of all life stages of fish and shellfish must include identification of any surrogate species used, and identification of data representing both motile and non-motile life-stages of organisms;

(iii) Analysis and Supporting Documentation. Documentation of the current entrainment of all life stages of fish, shellfish, and any species protected under Federal, State, or Tribal law (including threatened or endangered species). The documentation may include historical data that are representative of the current operation of the facility and of biological conditions at the site. Entrainment data to support the facility's calculations must be collected during periods of representative operational flows for the cooling water intake structure, and the flows associated with the data collection must be documented. The method used to determine latent mortality along with data for specific organism mortality or survival that is applied to other life-stages or species must be identified. The owner or operator of the facility must identify and document all assumptions and calculations used to determine the total entrainment

for that facility together with all methods and quality assurance/quality control procedures for data collection and data analysis. The proposed data collection and data analysis methods must be appropriate for a quantitative survey.

(10) Comprehensive Technical Feasibility and Cost Evaluation Study. The owner or operator of an existing facility that withdraws greater than 125 mgd AIF must develop for submission to the Director an engineering study of the technical feasibility and incremental costs of candidate entrainment control technologies. In addition, the study must include the following:

(i) Technical feasibility. An evaluation of the technical feasibility of closed-cycle recirculating systems as defined at [40 CFR 125.92\(c\)](#), fine mesh screens with a mesh size of 2 millimeters or smaller, and water reuse or alternate sources of cooling water. In addition, this study must include:

(A) A description of all technologies and operational measures considered (including alternative designs of closed-cycle recirculating systems such as natural draft cooling towers, mechanical draft cooling towers, hybrid designs, and compact or multi-cell arrangements);

(B) A discussion of land availability, including an evaluation of adjacent land and acres potentially available due to generating unit retirements, production unit retirements, other buildings and equipment retirements, and potential for repurposing of areas devoted to ponds, coal piles, rail yards, transmission yards, and parking lots;

(C) A discussion of available sources of process water, grey water, waste water, reclaimed water, or other waters of appropriate quantity and quality for use as some or all of the cooling water needs of the facility; and

(D) Documentation of factors other than cost that may make a candidate technology impractical or infeasible for further evaluation.

(ii) Other entrainment control technologies. An evaluation of additional technologies for reducing entrainment may be required by the Director.

(iii) Cost evaluations. The study must include engineering cost estimates of all technologies considered in paragraphs (r)(10)(i) and (ii) of this section. Facility costs must also be adjusted to estimate social costs. All costs must be presented as the net present value (NPV) and the corresponding annual value. Costs must be clearly labeled as compliance costs or social costs. The applicant must separately discuss facility level compliance costs and social costs, and provide documentation as follows:

(A) Compliance costs are calculated as after-tax, while social costs are calculated as pre-tax. Compliance costs include the facility's administrative costs, including costs of permit application, while the social cost adjustment includes the Director's administrative costs. Any outages, downtime, or other impacts to facility net revenue, are included in compliance costs, while only that portion of lost net revenue that does not accrue to other producers can be included in social costs. Social costs must also be discounted using social discount rates of 3 percent and 7 percent. Assumptions regarding depreciation schedules, tax rates, interest rates, discount rates and related assumptions must be identified;

(B) Costs and explanation of any additional facility modifications necessary to support construction and operation of technologies considered in paragraphs (r)(10)(i) and (ii) of this section, including but not limited to relocation of existing buildings or equipment, reinforcement or upgrading of existing equipment, and additional construction and operating permits. Assumptions regarding depreciation schedules, interest rates, discount rates, useful life of the technology considered, and any related assumptions must be identified; and

(C) Costs and explanation for addressing any non-water quality environmental and other impacts identified in paragraph (r)(12) of this section. The cost evaluation must include a discussion of all reasonable attempts to mitigate each of these impacts.

(11) **Benefits Valuation Study.** The owner or operator of an existing facility that withdraws greater than 125 mgd AIF must develop for submission to the Director an evaluation of the benefits of the candidate entrainment reduction technologies and operational measures evaluated in paragraph (r)(10) of this section including using the Entrainment Characterization Study completed in paragraph (r)(9) of this section. Each category of benefits must be described narratively, and when possible, benefits should be quantified in physical or biological units and monetized using appropriate economic valuation methods. The benefits valuation study must include, but is not limited to, the following elements:

(i) Incremental changes in the numbers of individual fish and shellfish lost due to impingement mortality and entrainment as defined in [40 CFR 125.92](#), for all life stages of each exposed species;

(ii) Description of basis for any estimates of changes in the stock sizes or harvest levels of commercial and recreational fish or shellfish species or forage fish species;

(iii) Description of basis for any monetized values assigned to changes in the stock size or harvest levels of commercial and recreational fish or shellfish species, forage fish, and to any other ecosystem or non use benefits;

(iv) A discussion of mitigation efforts completed prior to October 14, 2014 including how long they have been in effect and how effective they have been;

(v) Discussion, with quantification and monetization, where possible, of any other benefits expected to accrue to the environment and local communities, including but not limited to improvements for mammals, birds, and other organisms and aquatic habitats;

(vi) Discussion, with quantification and monetization, where possible, of any benefits expected to result from any reductions in thermal discharges from entrainment technologies.

(12) **Non-water Quality Environmental and Other Impacts Study.** The owner or operator of an existing facility that withdraws greater than 125 mgd AIF must develop for submission to the Director a detailed facility-specific discussion of the changes in non-water quality environmental and other impacts attributed to each technology and operational measure considered in paragraph (r)(10) of this section, including both impacts increased and impacts decreased. The study must include the following:

(i) Estimates of changes to energy consumption, including but not limited to auxiliary power consumption and turbine backpressure energy penalty;

(ii) Estimates of air pollutant emissions and of the human health and environmental impacts associated with such emissions;

(iii) Estimates of changes in noise;

(iv) A discussion of impacts to safety, including documentation of the potential for plumes, icing, and availability of emergency cooling water;

(v) A discussion of facility reliability, including but not limited to facility availability, production of steam, impacts to production based on process unit heating or cooling, and reliability due to cooling water availability;

(vi) Significant changes in consumption of water, including a facility-specific comparison of the evaporative losses of both once-through cooling and closed-cycle recirculating systems, and documentation of impacts attributable to changes in water consumption; and

(vii) A discussion of all reasonable attempts to mitigate each of these factors.

(13) Peer Review. If the applicant is required to submit studies under paragraphs (r)(10) through (12) of this section, the applicant must conduct an external peer review of each report to be submitted with the permit application. The applicant must select peer reviewers and notify the Director in advance of the peer review. The Director may disapprove of a peer reviewer or require additional peer reviewers. The Director may confer with EPA, Federal, State and Tribal fish and wildlife management agencies with responsibility for fish and wildlife potentially affected by the cooling water intake structure, independent system operators, and state public utility regulatory agencies, to determine which peer review comments must be addressed. The applicant must provide an explanation for any significant reviewer comments not accepted. Peer reviewers must have appropriate qualifications and their names and credentials must be included in the peer review report.

(14) New Units. The applicant must identify the chosen compliance method for the new unit. In addition, the owner or operator that selects the BTA standards for new units at [40 CFR 125.94 \(e\)\(2\)](#) as its route to compliance must submit information to demonstrate entrainment reductions equivalent to 90 percent or greater of the reduction that could be achieved through compliance with [40 CFR 125.94\(e\)\(1\)](#). The demonstration must include the Entrainment Characterization Study at paragraph (r)(9) of this section. In addition, if data specific to your facility indicates that compliance with the requirements of [§ 125.94](#) of this chapter for each new unit would result in compliance costs wholly out of proportion to the costs EPA considered in establishing the requirements at issue, or would result in significant adverse impacts on local air quality, significant adverse impacts on local water resources other than impingement or entrainment, or significant adverse impacts on local energy markets, you must submit all supporting data as part of paragraph (r)(14) of this section. The Director may determine that additional data and information, including but not limited to monitoring, must be included as part of paragraph (r)(14) of this section.

Credits

[[49 FR 31842](#), Aug. 8, 1984; [49 FR 38046](#), Sept. 26, 1984; [50 FR 4514](#), Jan. 31, 1985; [50 FR 6940, 6941](#), Feb. 19, 1985; [50 FR 35203](#), Aug. 29, 1985; [51 FR 26991](#), July 28, 1986; [53 FR 4158](#), Feb. 12, 1988; [53 FR 33007](#), Aug. 29, 1988; [54 FR 254](#), Jan. 4, 1989; [54 FR 18782](#), May 2, 1989; [55 FR 30128](#), July 24, 1990; [55 FR 48062](#), Nov. 16, 1990; [58 FR 9413](#), Feb. 19, 1993; [60 FR 17956](#), April 7, 1995; [60 FR 33931](#), June 29, 1995; [60 FR 40235](#), Aug. 7, 1995; [64 FR 42462](#), Aug. 4, 1999; [64 FR 43426](#), Aug. 10, 1999; [64 FR 68838](#), Dec. 8, 1999; [65 FR 30905](#), May 15, 2000; [66 FR 65337](#), Dec. 18, 2001; [68 FR 7265](#), Feb. 12, 2003; [69 FR 41682](#), July 9, 2004; [70 FR 60191](#), Oct. 14, 2005; [71 FR 6983](#), Feb. 10, 2006; [71 FR 35039](#), June 16, 2006; [72 FR 11211](#), March 12, 2007; [72 FR 37109](#), July 9, 2007; [72 FR 40250](#), July 24, 2007; [73 FR 70480](#), Nov. 20, 2008; [79 FR 48424](#), Aug. 15, 2014; [79 FR 49013](#), Aug. 19, 2014; [79 FR 56275](#), Sept. 19, 2014; [83 FR 730](#), Jan. 8, 2018]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

Notes of Decisions (259)

Current through May 24, 2018; [83 FR 24044](#).

ATTACHMENT A-11

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
(Refs & Annos)

Subpart B. Permit Application and Special NPDES Program Requirements

40 C.F.R. § 122.22

§ 122.22 Signatories to permit applications and reports (applicable to State programs, see § 123.25).

Effective: December 21, 2015

Currentness

(a) Applications. All permit applications shall be signed as follows:

(1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in § 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under § 122.22(a)(1)(ii) rather than to specific individuals.

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(b) All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

(3) The written authorization is submitted to the Director.

(c) Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(e) Electronic reporting. If documents described in paragraph (a) or (b) of this section are submitted electronically by or on behalf of the NPDES-regulated facility, any person providing the electronic signature for such documents shall meet all relevant requirements of this section, and shall ensure that all of the relevant requirements of 40 CFR part 3 (including, in all cases, subpart D to part 3) (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission.

(Authority: Clean Water Act ([33 U.S.C. 1251 et seq.](#)), Safe Drinking Water Act ([42 U.S.C. 300f et seq.](#)), Clean Air Act ([42 U.S.C. 7401 et seq.](#)), Resource Conservation and Recovery Act ([42 U.S.C. 6901 et seq.](#)))

Credits

[[48 FR 39619](#), Sept. 1, 1983; [49 FR 38046](#), Sept. 26, 1984; [55 FR 48063](#), Nov. 16, 1990; [65 FR 30907](#), May 15, 2000; [80 FR 64096](#), Oct. 22, 2015]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

Notes of Decisions (1)

Current through May 24, 2018; 83 FR 24044.

End of Document

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ATTACHMENT A-12



KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Prior Version Held Invalid [Natural Resources Defense Council v. U.S. E.P.A.](#), 9th Cir., May 23, 2008

[Code of Federal Regulations](#)

[Title 40. Protection of Environment](#)

[Chapter I. Environmental Protection Agency \(Refs & Annos\)](#)

[Subchapter D. Water Programs](#)

[Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System \(Refs & Annos\)](#)

[Subpart B. Permit Application and Special NPDES Program Requirements](#)

40 C.F.R. § 122.26

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

Effective: December 21, 2015

[Currentness](#)

<For statute(s) affecting validity, see: The Clean Water Act, [33 USCA § 1251 et seq.](#)>

(a) Permit requirement.

(1) Prior to October 1, 1994, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

(i) A discharge with respect to which a permit has been issued prior to February 4, 1987;

(ii) A discharge associated with industrial activity (see § 122.26(a)(4));

(iii) A discharge from a large municipal separate storm sewer system;

(iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at [§ 122.2](#).

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

- (A) The location of the discharge with respect to waters of the United States as defined at [40 CFR 122.2](#).
- (B) The size of the discharge;
- (C) The quantity and nature of the pollutants discharged to waters of the United States; and
- (D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from the following:

(i) Mining operations composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that have not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations, except in accordance with paragraph (c)(1)(iv) of this section.

(ii) All field activities or operations associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities, except in accordance with paragraph (c)(1)(iii) of this section. Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are not subject to the provisions of paragraph (c)(1)(iii)(C) of this section.

Note to paragraph (a)(2)(ii): EPA encourages operators of oil and gas field activities or operations to implement and maintain Best Management Practices (BMPs) to minimize discharges of pollutants, including sediment, in storm water both during and after construction activities to help ensure protection of surface water quality during storm events. Appropriate controls would be those suitable to the site conditions and consistent with generally accepted engineering design criteria and manufacturer specifications. Selection of BMPs could also be affected by seasonal or climate conditions.

(3) Large and medium municipal separate storm sewer systems.

(i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(1) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due;

(2) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application;

(3) Each of the operators of municipal separate storm sewers within the systems described in paragraphs (b)(4)(i), (ii), and (iii) or (b)(7)(i), (ii), and (iii) of this section, that are under the purview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

(4) Discharges through large and medium municipal separate storm sewer systems. In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the

location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) Other municipal separate storm sewers. The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) Non-municipal separate storm sewers. For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(7) Combined sewer systems. Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. See 40 CFR part 35, subpart I, appendix A(b)H.2.j.

(9)(i) On and after October 1, 1994, for discharges composed entirely of storm water, that are not required by paragraph (a)(1) of this section to obtain a permit, operators shall be required to obtain a NPDES permit only if:

(A) The discharge is from a small MS4 required to be regulated pursuant to § 122.32;

(B) The discharge is a storm water discharge associated with small construction activity pursuant to paragraph (b)(15) of this section;

(C) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that storm water controls are needed for the discharge based on wasteload allocations that are part of “total maximum daily loads” (TMDLs) that address the pollutant(s) of concern; or

(D) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(ii) Operators of small MS4s designated pursuant to paragraphs (a)(9)(i)(A), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with §§ 122.33 through 122.35. Operators of non-municipal sources designated pursuant to paragraphs (a)(9)(i)(B), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with paragraph (c)(1) of this section.

(iii) Operators of storm water discharges designated pursuant to paragraphs (a)(9)(i)(C) and (a)(9)(i)(D) of this section shall apply to the Director for a permit within 180 days of receipt of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter).

(b) Definitions.

(1) Co-permittee means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) Incorporated place means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) Large municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix F of this part); or

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal

separate storm sewers described under paragraph (b)(4)(i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4)(i), (ii), (iii) of this section.

(5) Major municipal separate storm sewer outfall (or “major outfall”) means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) Major outfall means a major municipal separate storm sewer outfall.

(7) Medium municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census (appendix G of this part); or

(ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(7)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal

separate storm sewers described under paragraph (b)(7)(i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7) (i), (ii), (iii) of this section.

(8) Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at [40 CFR 122.2](#).

(9) Outfall means a point source as defined by [40 CFR 122.2](#) at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) Overburden means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) Runoff coefficient means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (b)(14)(i) through (xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of paragraph (b)(14):

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

(ii) Facilities classified within Standard Industrial Classification 24, Industry Group 241 that are rock crushing, gravel washing, log sorting, or log storage facilities operated in connection with silvicultural activities defined in [40 CFR 122.27\(b\)\(2\)-\(3\)](#) and Industry Groups 242 through 249; 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373; (not included are all other types of silviculture facilities);

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221–25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)–(vii) or (ix)–(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres

of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221–25;

(15) Storm water discharge associated with small construction activity means the discharge of storm water from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The Director may waive the otherwise applicable requirements in a general permit for a storm water discharge from construction activities that disturb less than five acres where:

(A) The value of the rainfall erosivity factor (“R” in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The rainfall erosivity factor is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE), pages 21–64, dated January 1997. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained at EPA’s Water Docket, 1200 Pennsylvania Avenue NW, Washington, DC 20460. For information on the availability of this material at National Archives and Records Administration, call 202–741–6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. An operator must certify to the Director that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five; or

(B) Storm water controls are not needed based on a “total maximum daily load” (TMDL) approved or established by EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. For the purpose of this paragraph, the pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the Director that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis.

(C) As of December 21, 2020 all certifications submitted in compliance with paragraphs (b)(15)(i)(A) and (B) of this section must be submitted electronically by the owner or operator to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements

for electronic reporting. Prior to this date, and independent of part 127, owners or operators may be required to report electronically if specified by a particular permit or if required to do so by state law.

(ii) Any other construction activity designated by the Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States.

Exhibit 1 to § 122.26(b)(15).—Summary of Coverage of “Storm Water Discharges Associated with Small Construction Activity” Under the NPDES Storm Water Program

Automatic Designation: Required Nationwide Coverage	<ul style="list-style-type: none">· Construction activities that result in a land disturbance of equal to or greater than one acre and less than five acres.· Construction activities disturbing less than one acre if part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre and less than five acres. (see § 122.26(b)(15)(i).)
Potential Designation: Optional Evaluation and Designation by the NPDES Permitting Authority or EPA Regional Administrator.	<ul style="list-style-type: none">· Construction activities that result in a land disturbance of less than one acre based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants. (see § 122.26(b)(15)(ii).)
Potential Waiver: Waiver from Requirements as Determined by the NPDES Permitting Authority.	Any automatically designated construction activity where the operator certifies: (1) A rainfall erosivity factor of less than five, or (2) That the activity will occur within an area where controls are not needed based on a TMDL or, for non-impaired waters that do not require a TMDL, an equivalent analysis for the pollutant(s) of concern. (see § 122.26(b)(15)(i).)

(16) Small municipal separate storm sewer system means all separate storm sewers that are:

(i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

(ii) Not defined as “large” or “medium” municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

(17) Small MS4 means a small municipal separate storm sewer system.

(18) Municipal separate storm sewer system means all separate storm sewers that are defined as “large” or “medium” or “small” municipal separate storm sewer systems pursuant to paragraphs (b)(4), (b)(7), and (b)(16) of this section, or designated under paragraph (a)(1)(v) of this section.

(19) MS4 means a municipal separate storm sewer system.

(20) Uncontrolled sanitary landfill means a landfill or open dump, whether in operation or closed, that does not meet the requirements for runoff or runoff controls established pursuant to subtitle D of the Solid Waste Disposal Act.

(c) Application requirements for storm water discharges associated with industrial activity and storm water discharges associated with small construction activity—

(1) Individual application. Dischargers of storm water associated with industrial activity and with small construction activity are required to apply for an individual permit or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit or any discharge of storm water which the Director is evaluating for designation (see 124.52(c) of this chapter) under paragraph (a)(1)(v) of this section and is not a municipal storm sewer, shall submit an NPDES application in accordance with the requirements of § 122.21 as modified and supplemented by the provisions of this paragraph.

(i) Except as provided in § 122.26(c)(1)(ii)–(iv), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored

or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with § 122.21 of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

(1) Any pollutant limited in an effluent guideline to which the facility is subject;

(2) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);

(3) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;

(4) Any information on the discharge required under § 122.21(g)(7)(vi) and (vii);

(5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and

(6) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);

(F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21(g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(iii), (g)(7)(iv), (g)(7)(v), and (g)(7)(viii); and

(G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (k)(3)(ii), (k)(3)(iii), and (k)(5).

(ii) An operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section or is associated with small construction activity solely under paragraph (b)(15) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:

(A) The location (including a map) and the nature of the construction activity;

(B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;

(C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;

(D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;

(E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and

(F) The name of the receiving water.

(iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:

(A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or

(B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to [40 CFR 110.6](#) at any time since November 16, 1987; or

(C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under [§ 122.21\(g\)\(13\)](#) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) [Reserved]

(d) Application requirements for large and medium municipal separate storm sewer discharges. The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include;

(1) Part 1. Part 1 of the application shall consist of;

(i) General information. The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) Legal authority. A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) Source identification.

(A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

- (1) The location of known municipal storm sewer system outfalls discharging to waters of the United States;
- (2) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;
- (3) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;
- (4) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;
- (5) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and
- (6) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) Discharge characterization.

(A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

- (1) Assessed and reported in [section 305\(b\)](#) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

- (2) Listed under [section 304\(l\)\(1\)\(A\)\(i\)](#), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;
- (3) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);
- (4) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);
- (5) Areas of concern of the Great Lakes identified by the International Joint Commission;
- (6) Designated estuaries under the National Estuary Program under section 320 of the CWA;
- (7) Recognized by the applicant as highly valued or sensitive waters;
- (8) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and
- (9) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) Field screening. Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(1) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(6) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (1) through (6) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced ¼ mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) Characterization plan. Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (see paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) Management programs.

(A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) Fiscal resources.

(A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) Part 2. Part 2 of the application shall consist of:

(i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

(ii) Source identification. The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(1) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) Characterization data. When “quantitative data” for a pollutant are required under paragraph (d)(2)(iii)(A)(3) of this section, the applicant must collect a sample of effluent in accordance with [40 CFR 122.21\(g\)\(7\)](#) and analyze it for the pollutant in accordance with analytical methods approved under part 136 of this chapter. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Quantitative data from representative outfalls designated by the Director (based on information received in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(1) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at [§ 122.21\(g\)\(7\)](#) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(2) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(3) For samples collected and described under paragraphs (d)(2)(iii)(A)(1) and (A)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)

Total dissolved solids (TDS)

COD

BOD₅

Oil and grease

Fecal coliform

Fecal streptococcus

pH

Total Kjeldahl nitrogen

Nitrate plus nitrite

Dissolved phosphorus

Total ammonia plus organic nitrogen

Total phosphorus

(4) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD₅, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) Proposed management program. A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the

maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(2) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD₅, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under § 122.21(g)(7)(vi) and (vii).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

(v) Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) Fiscal analysis. For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2) (iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer

identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) Application deadlines. Any operator of a point source required to obtain a permit under this section that does not have an effective NPDES permit authorizing discharges from its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) Storm water discharges associated with industrial activity.

(i) Except as provided in paragraph (e)(1)(ii) of this section, for any storm water discharge associated with industrial activity identified in paragraphs (b)(14)(i) through (xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or that is not authorized by a storm water general permit, a permit application made pursuant to paragraph (c) of this section must be submitted to the Director by October 1, 1992;

(ii) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 that is not authorized by a general or individual permit, other than an airport, powerplant, or uncontrolled sanitary landfill, the permit application must be submitted to the Director by March 10, 2003.

(2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) Part 1.

(A) Except as provided in paragraph (e)(2)(i)(B) of this section, part 1 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by September 30, 1991;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 18, 1992.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) Part 2.

(A) Except as provided in paragraph (e)(2)(iii)(B) of this section, part 2 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by October 1, 1992;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 17, 1993.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(iv) Rejected facilities.

(A) Except as provided in paragraph (e)(2)(iv)(B) of this section, facilities that are rejected as members of the group shall submit an individual application (or obtain coverage under an applicable general permit) no later than 12 months after the date of receipt of the notice of rejection or October 1, 1992, whichever comes first.

(B) Facilities that are owned or operated by a municipality and that are rejected as members of part 1 group application shall submit an individual application no later than 180 days after the date of receipt of the notice of rejection or October 1, 1992, whichever is later.

(v) A facility listed under paragraph (b)(14) (i)–(xi) of this section may add on to a group application submitted in accordance with paragraph (e)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant; the request for the addition of the facility shall be made no later than February 18, 1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 180 days of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter), for:

(i) A storm water discharge that the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraphs (a)(1)(v) and (b)(15)(ii) of this section);

(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. Facilities with permits for storm water discharges associated with industrial activity which expire on or after May 18, 1992 shall submit a new application in accordance with the requirements of 40 CFR 122.21 and 40 CFR 122.26(c) (Form 1, Form 2F, and other applicable Forms) 180 days before the expiration of such permits.

(7) The Director shall issue or deny permits for discharges composed entirely of storm water under this section in accordance with the following schedule:

(i)(A) Except as provided in paragraph (e)(7)(i)(B) of this section, the Director shall issue or deny permits for storm water discharges associated with industrial activity no later than October 1, 1993, or, for new sources or existing sources which fail to submit a complete permit application by October 1, 1992, one year after receipt of a complete permit application;

(B) For any municipality with a population of less than 250,000 which submits a timely Part I group application under paragraph (e)(2)(i)(B) of this section, the Director shall issue or deny permits for storm water discharges associated with industrial activity no later than May 17, 1994, or, for any such municipality which fails to submit a complete Part II group permit application by May 17, 1993, one year after receipt of a complete permit application;

(ii) The Director shall issue or deny permits for large municipal separate storm sewer systems no later than November 16, 1993, or, for new sources or existing sources which fail to submit a complete permit application by November 16, 1992, one year after receipt of a complete permit application;

(iii) The Director shall issue or deny permits for medium municipal separate storm sewer systems no later than May 17, 1994, or, for new sources or existing sources which fail to submit a complete permit application by May 17, 1993, one year after receipt of a complete permit application.

(8) For any storm water discharge associated with small construction activities identified in paragraph (b)(15)(i) of this section, see § 122.21(c)(1). Discharges from these sources require permit authorization by March 10, 2003, unless designated for coverage before then.

(9) For any discharge from a regulated small MS4, the permit application made under § 122.33 must be submitted to the Director by:

(i) March 10, 2003 if designated under § 122.32(a)(1) unless your MS4 serves a jurisdiction with a population under 10,000 and the NPDES permitting authority has established a phasing schedule under § 123.35(d)(3) (see § 122.33(c)(1)); or

(ii) Within 180 days of notice, unless the NPDES permitting authority grants a later date, if designated under § 122.32(a)(2) (see § 122.33(c)(2)).

(f) Petitions.

(1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large, medium, or small municipal separate storm sewer system as defined by paragraph (b)(4)(iv), (b)(7)(iv), or (b)(16) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition with the exception of petitions to designate a small MS4 in which case the Director shall make a final determination on the petition within 180 days after its receipt.

(g) Conditional exclusion for “no exposure” of industrial activities and materials to storm water. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is “no exposure” of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. “No exposure” means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

(1) Qualification. To qualify for this exclusion, the operator of the discharge must:

(i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff;

(ii) Complete and sign (according to § 122.22) a certification that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in paragraph (g)(2) of this section;

(iii) Submit the signed certification to the NPDES permitting authority once every five years. As of December 21, 2020 all certifications submitted in compliance with this section must be submitted electronically by the owner or operator to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, owners or operators may be required to report electronically if specified by a particular permit or if required to do so by state law.

(iv) Allow the Director to inspect the facility to determine compliance with the “no exposure” conditions;

(v) Allow the Director to make any “no exposure” inspection reports available to the public upon request; and

(vi) For facilities that discharge through an MS4, upon request, submit a copy of the certification of “no exposure” to the MS4 operator, as well as allow inspection and public reporting by the MS4 operator.

(2) Industrial materials and activities not requiring storm resistant shelter. To qualify for this exclusion, storm resistant shelter is not required for:

(i) Drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak (“Sealed” means banded or otherwise secured and without operational taps or valves);

(ii) Adequately maintained vehicles used in material handling; and

(iii) Final products, other than products that would be mobilized in storm water discharge (e.g., rock salt).

(3) Limitations.

(i) Storm water discharges from construction activities identified in paragraphs (b)(14)(x) and (b)(15) are not eligible for this conditional exclusion.

(ii) This conditional exclusion from the requirement for an NPDES permit is available on a facility-wide basis only, not for individual outfalls. If a facility has some discharges of storm water that would otherwise be “no exposure” discharges, individual permit requirements should be adjusted accordingly.

(iii) If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and/or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit authorization prior to the change of circumstances.

(iv) Notwithstanding the provisions of this paragraph, the NPDES permitting authority retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

(4) Certification. The no exposure certification must require the submission of the following information, at a minimum, to aid the NPDES permitting authority in determining if the facility qualifies for the no exposure exclusion:

(i) The legal name, address and phone number of the discharger (see § 122.21(b));

(ii) The facility name and address, the county name and the latitude and longitude where the facility is located;

(iii) The certification must indicate that none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation:

(A) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water;

(B) Materials or residuals on the ground or in storm water inlets from spills/leaks;

- (C) Materials or products from past industrial activity;
- (D) Material handling equipment (except adequately maintained vehicles);
- (E) Materials or products during loading/unloading or transporting activities;
- (F) Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);
- (G) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
- (H) Materials or products handled/stored on roads or railways owned or maintained by the discharger;
- (I) Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);
- (J) Application or disposal of process wastewater (unless otherwise permitted); and
- (K) Particulate matter or visible deposits of residuals from roof stacks/vents not otherwise regulated, i.e., under an air quality control permit, and evident in the storm water outflow;

(iv) All “no exposure” certifications must include the following certification statement, and be signed in accordance with the signatory requirements of § 122.22: “I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of “no exposure” and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under paragraph (g)(2)) of this section. I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Credits

[54 FR 255, Jan. 4, 1989; 55 FR 48063, Nov. 16, 1990; 56 FR 12100, March 21, 1991; 56 FR 56554, Nov. 5, 1991; 57 FR 11412, April 2, 1992; 57 FR 60447, Dec. 18, 1992; 60 FR 17956, April 7, 1995; 60 FR 40235, Aug. 7, 1995; 64 FR 68838,

Dec. 8, 1999; [65 FR 30907](#), May 15, 2000; [68 FR 11329](#), March 10, 2003; [70 FR 11563](#), March 9, 2005; [71 FR 33639](#), June 12, 2006; [77 FR 72974](#), Dec. 7, 2012; [80 FR 64096](#), Oct. 22, 2015]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(78\)](#)

Current through May 24, 2018; [83 FR 24044](#).

End of Document

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ATTACHMENT A-13

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
(Refs & Annos)

Subpart B. Permit Application and Special NPDES Program Requirements

40 C.F.R. § 122.34

§ 122.34 Permit requirements for regulated small MS4 permits.

Effective: January 9, 2017

[Currentness](#)

(a) General requirements. For any permit issued to a regulated small MS4, the NPDES permitting authority must include permit terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Terms and conditions that satisfy the requirements of this section must be expressed in clear, specific, and measurable terms. Such terms and conditions may include narrative, numeric, or other types of requirements (e.g., implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions).

(1) For permits providing coverage to any small MS4s for the first time, the NPDES permitting authority may specify a time period of up to 5 years from the date of permit issuance for the permittee to fully comply with the conditions of the permit and to implement necessary BMPs.

(2) For each successive permit, the NPDES permitting authority must include terms and conditions that meet the requirements of this section based on its evaluation of the current permit requirements, record of permittee compliance and program implementation progress, current water quality conditions, and other relevant information.

(b) Minimum control measures. The permit must include requirements that ensure the permittee implements, or continues to implement, the minimum control measures in paragraphs (b)(1) through (6) of this section during the permit term. The permit must also require a written storm water management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure.

(1) Public education and outreach on storm water impacts.

(i) The permit must identify the minimum elements and require implementation of a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: The permittee may use storm water educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the permit require the permittee to tailor the public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that the permit require that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permit should encourage the permittee to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(2) Public involvement/participation.

(i) The permit must identify the minimum elements and require implementation of a public involvement/participation program that complies with State, Tribal, and local public notice requirements.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit include provisions addressing the need for the public to be included in developing, implementing, and reviewing the storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

(3) Illicit discharge detection and elimination.

(i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to detect and eliminate illicit discharges (as defined at § 122.26(b)(2)) into the small MS4. At a minimum, the permit must require the permittee to:

(A) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

(B) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions;

(C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system; and

(D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(ii) The permit must also require the permittee to address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if the permittee identifies them as a significant contributor of pollutants to the small MS4: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at [40 CFR 35.2005\(b\)\(20\)](#)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).

(iii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit require the plan to detect and address illicit discharges include the following four components: Procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends that the permit require the permittee to visually screen outfalls during dry weather and conduct field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

(4) Construction site storm water runoff control.

(i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to reduce pollutants in any storm water runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Director waives requirements for storm water discharges associated with small construction activity in accordance with [§ 122.26\(b\)\(15\)\(i\)](#), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites. At a minimum, the permit must require the permittee to develop and implement:

(A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;

(B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(D) Procedures for site plan review which incorporate consideration of potential water quality impacts;

(E) Procedures for receipt and consideration of information submitted by the public, and

(F) Procedures for site inspection and enforcement of control measures.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. EPA recommends that the procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality. EPA also recommends that the permit require the permittee to provide appropriate educational and training measures for construction site operators, and require storm water pollution prevention plans for construction sites within the MS4's jurisdiction that discharge into the system. See § 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see § 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the NPDES permitting authority, may be responsible for implementing one or more of the minimum measures on the permittee's behalf).

(5) Post-construction storm water management in new development and redevelopment.

(i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the small MS4. The permit must ensure that controls are in place that would prevent or minimize water quality impacts. At a minimum, the permit must require the permittee to:

(A) Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community;

(B) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and

(C) Ensure adequate long-term operation and maintenance of BMPs.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the permit ensure that BMPs included in the program: Be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. EPA encourages the permittee to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, EPA recommends that the permit require the permittee to adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing the program, the permit should also require the permittee to assess existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, the permit should require the permittee to provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: Storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that the permit requirements be responsive to these changes, developments or improvements in control technologies.

(6) Pollution prevention/good housekeeping for municipal operations.

(i) The permit must identify the minimum elements and require the development and implementation of an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the State, Tribe, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit address the following: Maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

(c) Other applicable requirements. As appropriate, the permit will include:

(1) More stringent terms and conditions, including permit requirements that modify, or are in addition to, the minimum control measures based on an approved total maximum daily load (TMDL) or equivalent analysis, or where the Director determines such terms and conditions are needed to protect water quality.

(2) Other applicable NPDES permit requirements, standards and conditions established in the individual or general permit, developed consistent with the provisions of §§ 122.41 through 122.49.

(d) Evaluation and assessment requirements—

(1) Evaluation. The permit must require the permittee to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the components of its storm water management program, and the status of achieving the measurable requirements in the permit.

Note to paragraph (d)(1): The NPDES permitting authority may determine monitoring requirements for the permittee in accordance with State/Tribal monitoring plans appropriate to the watershed. Participation in a group monitoring program is encouraged.

(2) Recordkeeping. The permit must require that the permittee keep records required by the NPDES permit for at least 3 years and submit such records to the NPDES permitting authority when specifically asked to do so. The permit must require the permittee to make records, including a written description of the storm water management program, available to the public at reasonable times during regular business hours (see § 122.7 for confidentiality

provision). (The permittee may assess a reasonable charge for copying. The permit may allow the permittee to require a member of the public to provide advance notice.)

(3) Reporting. Unless the permittee is relying on another entity to satisfy its NPDES permit obligations under § 122.35(a), the permittee must submit annual reports to the NPDES permitting authority for its first permit term. For subsequent permit terms, the permittee must submit reports in year two and four unless the NPDES permitting authority requires more frequent reports. As of December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the small MS4 to the NPDES permitting authority or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the owner, operator, or the duly authorized representative of the small MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. The report must include:

- (i) The status of compliance with permit terms and conditions;
- (ii) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;
- (iii) A summary of the storm water activities the permittee proposes to undertake to comply with the permit during the next reporting cycle;
- (iv) Any changes made during the reporting period to the permittee's storm water management program; and
- (v) Notice that the permittee is relying on another governmental entity to satisfy some of the permit obligations (if applicable), consistent with § 122.35(a).

(e) Qualifying local program. If an existing qualifying local program requires the permittee to implement one or more of the minimum control measures of paragraph (b) of this section, the NPDES permitting authority may include conditions in the NPDES permit that direct the permittee to follow that qualifying program's requirements rather than the requirements of paragraph (b). A qualifying local program is a local, State or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b).

Credits

[64 FR 68842, Dec. 8, 1999; 80 FR 64097, Oct. 22, 2015; 81 FR 89349, Dec. 9, 2016]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (4)

Current through May 24, 2018; 83 FR 24044.

End of Document

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ATTACHMENT A-14

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
(Refs & Annos)

Subpart C. Permit Conditions

40 C.F.R. § 122.41

§ 122.41 Conditions applicable to all permits (applicable to State programs, see § 123.25).

Effective: December 21, 2015

Currentness

The following conditions apply to all NPDES permits. Additional conditions applicable to NPDES permits are in § 122.42. All conditions applicable to NPDES permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations (or the corresponding approved State regulations) must be given in the permit.

(a) Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(2) The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than

\$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating [section 301](#), [302](#), [306](#), [307](#), [308](#), [318](#) or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under [section 402](#) of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

(b) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) Duty to mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(e) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

(f) Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

(g) Property rights. This permit does not convey any property rights of any sort, or any exclusive privilege.

(h) Duty to provide information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

(i) Inspection and entry. The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

(j) Monitoring and records.

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- (3) Records of monitoring information shall include:
 - (i) The date, exact place, and time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analyses were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless another method is required under 40 CFR subchapters N or O.

(5) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

(k) Signatory requirements.

(1) All applications, reports, or information submitted to the Director shall be signed and certified. (See § 122.22)

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(l) Reporting requirements.—

(1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in § 122.29(b); or

(ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under § 122.42(a)(1).

(iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See § 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices. As of December 21, 2016 all reports and forms submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136, or another method required for an industry-specific waste stream under 40 CFR subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A report shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times), and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combine sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows,

or bypass events submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(A) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See § 122.41(g).

(B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See § 122.44(g).)

(iii) The Director may waive the written report on a case-by-case basis for reports under paragraph (l)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (l)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6). For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in paragraph (l)(6) and the applicable required data in appendix A to 40 CFR part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

(8) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

(9) Identification of the initial recipient for NPDES electronic reporting data. The owner, operator, or the duly authorized representative of an NPDES-regulated entity is required to electronically submit the required NPDES information (as specified in appendix A to 40 CFR part 127) to the appropriate initial recipient, as determined by

EPA, and as defined in § 127.2(b) of this chapter. EPA will identify and publish the list of initial recipients on its Web site and in the Federal Register, by state and by NPDES data group [see § 127.2(c) of this chapter]. EPA will update and maintain this listing.

(m) Bypass—

(1) Definitions.

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also it for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (m)(3) and (m)(4) of this section.

(3) Notice—

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass. As of December 21, 2020 all notices submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (l) (6) of this section (24-hour notice). As of December 21, 2020 all notices submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(4) Prohibition of bypass.

(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

(n) Upset—

(1) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii) The permittee submitted notice of the upset as required in paragraph (1)(6)(ii)(B) of this section (24 hour notice).

(iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

(4) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(Clean Water Act ([33 U.S.C. 1251 et seq.](#)), Safe Drinking Water Act ([42 U.S.C. 300f et seq.](#)), Clean Air Act ([42 U.S.C. 7401 et seq.](#)), Resource Conservation and Recovery Act ([42 U.S.C. 6901 et seq.](#)))

Editorial Note: In paragraphs (j)(2), (4) and (l)(4)(ii), there are references to 40 CFR part 503. These references are to a proposed rule which was published at [54 FR 5746](#), Feb. 6, 1989. There is currently no part 503 in the Code of Federal Regulations.

Credits

[[48 FR 39620](#), Sept. 1, 1983; [49 FR 38049](#), Sept. 26, 1984; [50 FR 4514](#), Jan. 31, 1985; [50 FR 6941](#), Feb. 19, 1985; [54 FR 255](#), Jan. 4, 1989; [54 FR 18783](#), May 2, 1989; [58 FR 18016](#), April 7, 1993; [65 FR 30908](#), May 15, 2000; [72 FR 11211](#), March 12, 2007; [80 FR 64097](#), Oct. 22, 2015]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(528\)](#)

Current through May 24, 2018; [83 FR 24044](#).

ATTACHMENT A-15



KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Prior Version Held Invalid [Waterkeeper Alliance, Inc. v. U.S. E.P.A.](#), 2nd Cir., Feb. 28, 2005

[Code of Federal Regulations](#)

[Title 40. Protection of Environment](#)

[Chapter I. Environmental Protection Agency \(Refs & Annos\)](#)

[Subchapter D. Water Programs](#)

[Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System \(Refs & Annos\)](#)

[Subpart C. Permit Conditions](#)

40 C.F.R. § 122.42

§ 122.42 Additional conditions applicable to specified categories of NPDES permits (applicable to State NPDES programs, see § 123.25).

Effective: February 7, 2018

[Currentness](#)

The following conditions, in addition to those set forth in [§ 122.41](#), apply to all NPDES permits within the categories specified below:

(a) Existing manufacturing, commercial, mining, and silvicultural dischargers. In addition to the reporting requirements under [§ 122.41\(1\)](#), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:

(i) One hundred micrograms per liter (100 µg/l);

(ii) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with [§ 122.21\(g\)\(7\)](#); or

(iv) The level established by the Director in accordance with [§ 122.44\(f\)](#).

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:

- (i) Five hundred micrograms per liter (500 µg/l);
- (ii) One milligram per liter (1 mg/l) for antimony;
- (iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with § 122.21(g)(7).
- (iv) The level established by the Director in accordance with § 122.44(f).

(b) Publicly owned treatment works. All POTWs must provide adequate notice to the Director of the following:

- (1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to sections 301 or 306 of CWA if it were directly discharging those pollutants; and
- (2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- (3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(c) Municipal separate storm sewer systems. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under § 122.26(a)(1)(v) must submit an annual report by the anniversary of the date of the issuance of the permit for such system. As of December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the MS4 to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the owner, operator, or the duly authorized representative of the MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. The report shall include:

- (1) The status of implementing the components of the storm water management program that are established as permit conditions;
- (2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with § 122.26(d)(2)(iii) of this part; and
- (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under § 122.26(d)(2)(iv) and (d)(2)(v) of this part;

(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;

(5) Annual expenditures and budget for year following each annual report;

(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs;

(7) Identification of water quality improvements or degradation;

(d) Storm water discharges. The initial permits for discharges composed entirely of storm water issued pursuant to § 122.26(e)(7) of this part shall require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

(e) Concentrated animal feeding operations (CAFOs). Any permit issued to a CAFO must include the requirements in paragraphs (e)(1) through (e)(6) of this section.

(1) Requirement to implement a nutrient management plan. Any permit issued to a CAFO must include a requirement to implement a nutrient management plan that, at a minimum, contains best management practices necessary to meet the requirements of this paragraph and applicable effluent limitations and standards, including those specified in 40 CFR part 412. The nutrient management plan must, to the extent applicable:

(i) Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities;

(ii) Ensure proper management of mortalities (i.e., dead animals) to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities;

(iii) Ensure that clean water is diverted, as appropriate, from the production area;

(iv) Prevent direct contact of confined animals with waters of the United States;

(v) Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants;

(vi) Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the United States;

(vii) Identify protocols for appropriate testing of manure, litter, process wastewater, and soil;

(viii) Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter or process wastewater; and

(ix) Identify specific records that will be maintained to document the implementation and management of the minimum elements described in paragraphs (e)(1)(i) through (e)(1)(viii) of this section.

(2) Recordkeeping requirements.

(i) The permittee must create, maintain for five years, and make available to the Director, upon request, the following records:

(A) All applicable records identified pursuant paragraph (e)(1)(ix) of this section;

(B) In addition, all CAFOs subject to 40 CFR part 412 must comply with record keeping requirements as specified in § 412.37(b) and (c) and § 412.47(b) and (c).

(ii) A copy of the CAFO's site-specific nutrient management plan must be maintained on site and made available to the Director upon request.

(3) Requirements relating to transfer of manure or process wastewater to other persons. Prior to transferring manure, litter or process wastewater to other persons, Large CAFOs must provide the recipient of the manure, litter or process wastewater with the most current nutrient analysis. The analysis provided must be consistent with the requirements of 40 CFR part 412. Large CAFOs must retain for five years records of the date, recipient name and address, and approximate amount of manure, litter or process wastewater transferred to another person.

(4) Annual reporting requirements for CAFOs. The permittee must submit an annual report to the Director. As of December 21, 2020 all annual reports submitted in compliance with this section must be submitted electronically by the permittee to the Director or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the permittee may be required to report electronically if specified by a particular permit or if required to do so by state law. The annual report must include:

(i) The number and type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);

(ii) Estimated amount of total manure, litter and process wastewater generated by the CAFO in the previous 12 months (tons/gallons);

(iii) Estimated amount of total manure, litter and process wastewater transferred to other person by the CAFO in the previous 12 months (tons/gallons);

(iv) Total number of acres for land application covered by the nutrient management plan developed in accordance with paragraph (e)(1) of this section;

(v) Total number of acres under control of the CAFO that were used for land application of manure, litter and process wastewater in the previous 12 months;

(vi) Summary of all manure, litter and process wastewater discharges from the production area that have occurred in the previous 12 months, including, for each discharge, the date of discovery, duration of discharge, and approximate volume; and

(vii) A statement indicating whether the current version of the CAFO's nutrient management plan was developed or approved by a certified nutrient management planner; and

(viii) The actual crop(s) planted and actual yield(s) for each field, the actual nitrogen and phosphorus content of the manure, litter, and process wastewater, the results of calculations conducted in accordance with paragraphs (e)(5)(i)(B) and (e)(5)(ii)(D) of this section, and the amount of manure, litter, and process wastewater applied to each field during the previous 12 months; and, for any CAFO that implements a nutrient management plan that addresses rates of application in accordance with paragraph (e)(5)(ii) of this section, the results of any soil testing for nitrogen and phosphorus taken during the preceding 12 months, the data used in calculations conducted in accordance with paragraph (e)(5)(ii)(D) of this section, and the amount of any supplemental fertilizer applied during the previous 12 months.

(5) Terms of the nutrient management plan. Any permit issued to a CAFO must require compliance with the terms of the CAFO's site-specific nutrient management plan. The terms of the nutrient management plan are the information, protocols, best management practices, and other conditions in the nutrient management plan determined by the Director to be necessary to meet the requirements of paragraph (e)(1) of this section. The terms of the nutrient management plan, with respect to protocols for land application of manure, litter, or process wastewater required by paragraph (e)(1)(viii) of this section and, as applicable, [40 CFR 412.4\(c\)](#), must include the fields available for land application; field-specific rates of application properly developed, as specified in paragraphs (e)(5)(i) through (ii) of this section, to ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater; and any timing limitations identified in the nutrient management plan concerning land application on the fields available for land application. The terms must address rates of application using one of the following two approaches, unless the Director specifies that only one of these approaches may be used:

(i) Linear approach. An approach that expresses rates of application as pounds of nitrogen and phosphorus, according to the following specifications:

(A) The terms include maximum application rates from manure, litter, and process wastewater for each year of permit coverage, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, per year, for each field to be used for land application, and certain factors necessary to determine such rates. At a minimum, the factors that are terms must include: The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field; the crops to be planted in each field or any other uses of a field such as pasture or fallow fields; the realistic yield goal for each crop or use identified for each field; the nitrogen and phosphorus recommendations from sources specified by the Director for each crop or use identified for each field; credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; and accounting for all other additions of plant available nitrogen and phosphorus to the field. In addition, the terms include the form and source of manure, litter, and process wastewater to be land-applied; the timing and method of land application; and the methodology by which the nutrient management plan accounts for the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

(B) Large CAFOs that use this approach must calculate the maximum amount of manure, litter, and process wastewater to be land applied at least once each year using the results of the most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application; or

(ii) Narrative rate approach. An approach that expresses rates of application as a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied, according to the following specifications:

(A) The terms include maximum amounts of nitrogen and phosphorus derived from all sources of nutrients, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, for each field, and certain factors necessary to determine such amounts. At a minimum, the factors that are terms must include: the outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field; the crops to be planted in each field or any other uses such as pasture or fallow fields (including alternative crops identified in accordance with paragraph (e) (5)(ii)(B) of this section); the realistic yield goal for each crop or use identified for each field; and the nitrogen and phosphorus recommendations from sources specified by the Director for each crop or use identified for each field. In addition, the terms include the methodology by which the nutrient management plan accounts for the following factors when calculating the amounts of manure, litter, and process wastewater to be land applied: Results of soil tests conducted in accordance with protocols identified in the nutrient management plan, as required by paragraph (e)(1)(vii) of this section; credits for all nitrogen in the field that will be plant available; the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; the form and source of manure, litter, and process wastewater; the timing and method of land application; and volatilization of nitrogen and mineralization of organic nitrogen.

(B) The terms of the nutrient management plan include alternative crops identified in the CAFO's nutrient management plan that are not in the planned crop rotation. Where a CAFO includes alternative crops in its nutrient management plan, the crops must be listed by field, in addition to the crops identified in the planned crop rotation for that field, and the nutrient management plan must include realistic crop yield goals and the nitrogen and phosphorus recommendations from sources specified by the Director for each crop. Maximum amounts of nitrogen and phosphorus from all sources of nutrients and the amounts of manure,

litter, and process wastewater to be applied must be determined in accordance with the methodology described in paragraph (e)(5)(ii)(A) of this section.

(C) For CAFOs using this approach, the following projections must be included in the nutrient management plan submitted to the Director, but are not terms of the nutrient management plan: The CAFO's planned crop rotations for each field for the period of permit coverage; the projected amount of manure, litter, or process wastewater to be applied; projected credits for all nitrogen in the field that will be plant available; consideration of multi-year phosphorus application; accounting for all other additions of plant available nitrogen and phosphorus to the field; and the predicted form, source, and method of application of manure, litter, and process wastewater for each crop. Timing of application for each field, insofar as it concerns the calculation of rates of application, is not a term of the nutrient management plan.

(D) CAFOs that use this approach must calculate maximum amounts of manure, litter, and process wastewater to be land applied at least once each year using the methodology required in paragraph (e)(5)(ii)(A) of this section before land applying manure, litter, and process wastewater and must rely on the following data:

(1) A field-specific determination of soil levels of nitrogen and phosphorus, including, for nitrogen, a concurrent determination of nitrogen that will be plant available consistent with the methodology required by paragraph (e)(5)(ii)(A) of this section, and for phosphorus, the results of the most recent soil test conducted in accordance with soil testing requirements approved by the Director; and

(2) The results of most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application, in order to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

(6) Changes to a nutrient management plan. Any permit issued to a CAFO must require the following procedures to apply when a CAFO owner or operator makes changes to the CAFO's nutrient management plan previously submitted to the Director:

(i) The CAFO owner or operator must provide the Director with the most current version of the CAFO's nutrient management plan and identify changes from the previous version, except that the results of calculations made in accordance with the requirements of paragraphs (e)(5)(i)(B) and (e)(5)(ii)(D) of this section are not subject to the requirements of paragraph (e)(6) of this section.

(ii) The Director must review the revised nutrient management plan to ensure that it meets the requirements of this section and applicable effluent limitations and standards, including those specified in 40 CFR part 412, and must determine whether the changes to the nutrient management plan necessitate revision to the terms of the nutrient management plan incorporated into the permit issued to the CAFO. If revision to the terms of the nutrient management plan is not necessary, the Director must notify the CAFO owner or operator and upon such notification the CAFO may implement the revised nutrient management plan. If revision to the terms of the nutrient management plan is necessary, the Director must determine whether such changes are substantial changes as described in paragraph (e)(6)(iii) of this section.

(A) If the Director determines that the changes to the terms of the nutrient management plan are not substantial, the Director must make the revised nutrient management plan publicly available and include it in the permit record, revise the terms of the nutrient management plan incorporated into the permit, and notify the owner or operator and inform the public of any changes to the terms of the nutrient management plan that are incorporated into the permit.

(B) If the Director determines that the changes to the terms of the nutrient management plan are substantial, the Director must notify the public and make the proposed changes and the information submitted by the CAFO owner or operator available for public review and comment. The process for public comments, hearing requests, and the hearing process if a hearing is held must follow the procedures applicable to draft permits set forth in 40 CFR 124.11 through 124.13. The Director may establish, either by regulation or in the CAFO's permit, an appropriate period of time for the public to comment and request a hearing on the proposed changes that differs from the time period specified in 40 CFR 124.10. The Director must respond to all significant comments received during the comment period as provided in 40 CFR 124.17, and require the CAFO owner or operator to further revise the nutrient management plan if necessary, in order to approve the revision to the terms of the nutrient management plan incorporated into the CAFO's permit. Once the Director incorporates the revised terms of the nutrient management plan into the permit, the Director must notify the owner or operator and inform the public of the final decision concerning revisions to the terms and conditions of the permit.

(iii) Substantial changes to the terms of a nutrient management plan incorporated as terms and conditions of a permit include, but are not limited to:

(A) Addition of new land application areas not previously included in the CAFO's nutrient management plan. Except that if the land application area that is being added to the nutrient management plan is covered by terms of a nutrient management plan incorporated into an existing NPDES permit in accordance with the requirements of paragraph (e)(5) of this section, and the CAFO owner or operator applies manure, litter, or process wastewater on the newly added land application area in accordance with the existing field-specific permit terms applicable to the newly added land application area, such addition of new land would be a change to the new CAFO owner or operator's nutrient management plan but not a substantial change for purposes of this section;

(B) Any changes to the field-specific maximum annual rates for land application, as set forth in paragraphs (e)(5)(i) of this section, and to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop, as set forth in paragraph (e)(5)(ii) of this section;

(C) Addition of any crop or other uses not included in the terms of the CAFO's nutrient management plan and corresponding field-specific rates of application expressed in accordance with paragraph (e)(5) of this section; and

(D) Changes to site-specific components of the CAFO's nutrient management plan, where such changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the U.S.

(iv) For EPA-issued permits only. Upon incorporation of the revised terms of the nutrient management plan into the permit, [40 CFR 124.19](#) specifies procedures for appeal of the permit decision. In addition to the procedures specified at [40 CFR 124.19](#), a person must have submitted comments or participated in the public hearing in order to appeal the permit decision.

(f) Public notification requirements for CSO discharges to the Great Lakes Basin. Any permit issued authorizing the discharge of a combined sewer overflow (CSO) to the Great Lakes Basin must:

- (1) Require implementation of the public notification requirements in [§ 122.38\(a\)](#);
- (2) Specify the information that must be included on discharge point signage, which, at a minimum, must include those elements in [§ 122.38\(a\)\(1\)\(ii\)](#);
- (3) Specify discharge points and public access areas where signs are required pursuant to [§ 122.38\(a\)\(1\)\(i\)](#);
- (4) Specify the timing and minimum information required for providing initial and supplemental notification to:
 - (i) Local public health department and other potentially affected entities under [§ 122.38\(a\)\(2\)](#); and
 - (ii) The public under [§ 122.38\(a\)\(3\)](#).
- (5) Specify the location of CSO discharges that must be monitored for volume and discharge duration and the location of CSO discharges where CSO volume and duration may be estimated; and
- (6) Require submittal of an annual notice in accordance with [§ 122.38\(b\)](#);
- (7) Specify protocols for making the annual notice under [§ 122.38\(b\)](#) available to the public.

Credits

[[49 FR 38049](#), Sept. 26, 1984; [50 FR 4514](#), Jan. 31, 1985; [55 FR 48073](#), Nov. 16, 1990; [57 FR 60448](#), Dec. 18, 1992; [68 FR 7268](#), Feb. 12, 2003; [71 FR 6984](#), Feb. 10, 2006; [72 FR 40250](#), July 24, 2007; [73 FR 70483](#), Nov. 20, 2008; [80 FR 64098](#), Oct. 22, 2015; [83 FR 732](#), Jan. 8, 2018]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(1\)](#)

Current through May 24, 2018; 83 FR 24044.

End of Document

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ATTACHMENT A-16

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
(Refs & Annos)

Subpart C. Permit Conditions

40 C.F.R. § 122.44

§ 122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see § 123.25).

Effective: December 21, 2015

[Currentness](#)

In addition to the conditions established under [§ 122.43\(a\)](#), each NPDES permit shall include conditions meeting the following requirements when applicable.

(a)(1) Technology-based effluent limitations and standards based on: effluent limitations and standards promulgated under section 301 of the CWA, or new source performance standards promulgated under [section 306](#) of CWA, on case-by-case effluent limitations determined under [section 402\(a\)\(1\)](#) of CWA, or a combination of the three, in accordance with [§ 125.3](#) of this chapter. For new sources or new dischargers, these technology based limitations and standards are subject to the provisions of [§ 122.29\(d\)](#) (protection period).

(2) Monitoring waivers for certain guideline-listed pollutants.

(i) The Director may authorize a discharger subject to technology-based effluent limitations guidelines and standards in an NPDES permit to forego sampling of a pollutant found at 40 CFR Subchapter N of this chapter if the discharger has demonstrated through sampling and other technical factors that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

(ii) This waiver is good only for the term of the permit and is not available during the term of the first permit issued to a discharger.

(iii) Any request for this waiver must be submitted when applying for a reissued permit or modification of a reissued permit. The request must demonstrate through sampling or other technical information, including information generated during an earlier permit term that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

(iv) Any grant of the monitoring waiver must be included in the permit as an express permit condition and the reasons supporting the grant must be documented in the permit's fact sheet or statement of basis.

(v) This provision does not supersede certification processes and requirements already established in existing effluent limitations guidelines and standards.

(b)(1) Other effluent limitations and standards under [sections 301, 302, 303, 307, 318, and 405](#) of CWA. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under [section 307\(a\)](#) of CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the permit, the Director shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition. See also [§ 122.41\(a\)](#).

(2) Standards for sewage sludge use or disposal under section 405(d) of the CWA unless those standards have been included in a permit issued under the appropriate provisions of subtitle C of the Solid Waste Disposal Act, Part C of Safe Drinking Water Act, the Marine Protection, Research, and Sanctuaries Act of 1972, or the Clean Air Act, or under State permit programs approved by the Administrator. When there are no applicable standards for sewage sludge use or disposal, the permit may include requirements developed on a case-by-case basis to protect public health and the environment from any adverse effects which may occur from toxic pollutants in sewage sludge. If any applicable standard for sewage sludge use or disposal is promulgated under section 405(d) of the CWA and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Director may initiate proceedings under these regulations to modify or revoke and reissue the permit to conform to the standard for sewage sludge use or disposal.

(3) Requirements applicable to cooling water intake structures under section 316(b) of the CWA, in accordance with part 125, subparts I, J, and N of this chapter.

(c) Reopener clause: For any permit issued to a treatment works treating domestic sewage (including “sludge-only facilities”), the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

(d) Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under [sections 301, 304, 306, 307, 318, and 405](#) of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.

(ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.

(iv) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the numeric criterion for whole effluent toxicity, the permit must contain effluent limits for whole effluent toxicity.

(v) Except as provided in this subparagraph, when the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, toxicity testing data, or other information, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity. Limits on whole effluent toxicity are not necessary where the permitting authority demonstrates in the fact sheet or statement of basis of the NPDES permit, using the procedures in paragraph (d)(1)(ii) of this section, that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative State water quality standards.

(vi) Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:

(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or

(B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or

(C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:

(1) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;

(2) The fact sheet required by § 124.56 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;

(3) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and

(4) The permit contains a reopener clause allowing the permitting authority to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

(vii) When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:

(A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and

(B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.

(2) Attain or maintain a specified water quality through water quality related effluent limits established under section 302 of CWA;

(3) Conform to the conditions to a State certification under section 401 of the CWA that meets the requirements of § 124.53 when EPA is the permitting authority. If a State certification is stayed by a court of competent jurisdiction or an appropriate State board or agency, EPA shall notify the State that the Agency will deem certification waived unless a finally effective State certification is received within sixty days from the date of the notice. If the State does not forward a finally effective certification within the sixty day period, EPA shall include conditions in the permit that may be necessary to meet EPA's obligation under section 301(b)(1)(C) of the CWA;

(4) Conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State;

(5) Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State law or regulations in accordance with section 301(b)(1)(C) of CWA;

(6) Ensure consistency with the requirements of a Water Quality Management plan approved by EPA under section 208(b) of CWA;

(7) Incorporate section 403(c) criteria under part 125, subpart M, for ocean discharges;

(8) Incorporate alternative effluent limitations or standards where warranted by “fundamentally different factors,” under 40 CFR part 125, subpart D;

(9) Incorporate any other appropriate requirements, conditions, or limitations (other than effluent limitations) into a new source permit to the extent allowed by the National Environmental Policy Act, 42 U.S.C. 4321 et seq. and section 511 of the CWA, when EPA is the permit issuing authority. (See § 122.29(c)).

(e) Technology-based controls for toxic pollutants. Limitations established under paragraphs (a), (b), or (d) of this section, to control pollutants meeting the criteria listed in paragraph (e)(1) of this section. Limitations will be established in accordance with paragraph (e)(2) of this section. An explanation of the development of these limitations shall be included in the fact sheet under § 124.56(b)(1)(i).

(1) Limitations must control all toxic pollutants which the Director determines (based on information reported in a permit application under § 122.21(g)(7) or in a notification under § 122.42(a)(1) or on other information) are or may be discharged at a level greater than the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c) of this chapter; or

(2) The requirement that the limitations control the pollutants meeting the criteria of paragraph (e)(1) of this section will be satisfied by:

(i) Limitations on those pollutants; or

(ii) Limitations on other pollutants which, in the judgment of the Director, will provide treatment of the pollutants under paragraph (e)(1) of this section to the levels required by § 125.3(c).

(f) Notification level. A “notification level” which exceeds the notification level of § 122.42(a)(1)(i), (ii) or (iii), upon a petition from the permittee or on the Director's initiative. This new notification level may not exceed the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c).

(g) Twenty-four hour reporting. Pollutants for which the permittee must report violations of maximum daily discharge limitations under § 122.41(1)(6)(ii)(C) (24-hour reporting) shall be listed in the permit. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

(h) Durations for permits, as set forth in § 122.46.

(i) Monitoring requirements. In addition to § 122.48, the following monitoring requirements:

(1) To assure compliance with permit limitations, requirements to monitor:

(i) The mass (or other measurement specified in the permit) for each pollutant limited in the permit;

(ii) The volume of effluent discharged from each outfall;

(iii) Other measurements as appropriate including pollutants in internal waste streams under § 122.45(i); pollutants in intake water for net limitations under § 122.45(f); frequency, rate of discharge, etc., for noncontinuous discharges under § 122.45(e); pollutants subject to notification requirements under § 122.42(a); and pollutants in sewage sludge or other monitoring as specified in 40 CFR part 503; or as determined to be necessary on a case-by-case basis pursuant to section 405(d)(4) of the CWA.

(iv) According to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O.

(A) For the purposes of this paragraph, a method is “sufficiently sensitive” when:

(1) The method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or

(2) The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

Note to paragraph (i)(1)(iv)(A): Consistent with 40 CFR part 136, applicants or permittees have the option of providing matrix or sample specific minimum levels rather than the published levels. Further, where an applicant or permittee can demonstrate that, despite a good faith effort to use a method that would otherwise meet the definition of “sufficiently sensitive”, the analytical results are not consistent with the QA/QC specifications for that method, then the Director may determine that the method is not performing adequately and the Director should select a different method from the remaining EPA–approved methods that is sufficiently sensitive consistent with 40 CFR 122.44(i)(1)(iv)(A). Where no other EPA–approved methods exist, the Director should select a method consistent with 40 CFR 122.44(i)(1)(iv)(B).

(B) In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters.

(2) Except as provided in paragraphs (i)(4) and (5) of this section, requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year. For sewage sludge use or disposal practices, requirements to monitor and report results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the sewage sludge use or disposal practice; minimally this shall be as specified in 40 CFR part 503 (where applicable), but in no case

less than once a year. All results must be electronically reported in compliance with 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127.

(3) Requirements to report monitoring results for storm water discharges associated with industrial activity which are subject to an effluent limitation guideline shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year.

(4) Requirements to report monitoring results for storm water discharges associated with industrial activity (other than those addressed in paragraph (i)(3) of this section) shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge. At a minimum, a permit for such a discharge must require:

(i) The discharger to conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity and evaluate whether measures to reduce pollutant loadings identified in a storm water pollution prevention plan are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed;

(ii) The discharger to maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the plan and the permit, and identifying any incidents of non-compliance;

(iii) Such report and certification be signed in accordance with § 122.22; and

(iv) Permits for storm water discharges associated with industrial activity from inactive mining operations may, where annual inspections are impracticable, require certification once every three years by a Registered Professional Engineer that the facility is in compliance with the permit, or alternative requirements.

(5) Permits which do not require the submittal of monitoring result reports at least annually shall require that the permittee report all instances of noncompliance not reported under § 122.41(l) (1), (4), (5), and (6) at least annually.

(j) Pretreatment program for POTWs. Requirements for POTWs to:

(1) Identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR part 403.

(2)(i) Submit a local program when required by and in accordance with 40 CFR part 403 to assure compliance with pretreatment standards to the extent applicable under section 307(b). The local program shall be incorporated into the permit as described in 40 CFR part 403. The program must require all indirect dischargers to the POTW to comply with the reporting requirements of 40 CFR part 403.

(ii) Provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1), following permit issuance or reissuance.

(3) For POTWs which are “sludge-only facilities,” a requirement to develop a pretreatment program under 40 CFR part 403 when the Director determines that a pretreatment program is necessary to assure compliance with Section 405(d) of the CWA.

(k) Best management practices (BMPs) to control or abate the discharge of pollutants when:

(1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;

(2) Authorized under section 402(p) of the CWA for the control of storm water discharges;

(3) Numeric effluent limitations are infeasible; or

(4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

Note to paragraph (k)(4): Additional technical information on BMPs and the elements of BMPs is contained in the following documents: Guidance Manual for Developing Best Management Practices (BMPs), October 1993, EPA No. 833/B-93-004, NTIS No. PB 94-178324, ERIC No. W498); Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices, September 1992, EPA No. 832/R-92-005, NTIS No. PB 92-235951, ERIC No. N482); Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices: Summary Guidance, EPA No. 833/R-92-001, NTIS No. PB 93-223550; ERIC No. W139; Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices, September 1992; EPA 832/R-92-006, NTIS No. PB 92-235969, ERIC No. N477; Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices: Summary Guidance, EPA 833/R-92-002, NTIS No. PB 94-133782; ERIC No. W492. Copies of those documents (or directions on how to obtain them) can be obtained by contacting either the Office of Water Resource Center (using the EPA document number as a reference) at (202) 260-7786; or the Educational Resources Information Center (ERIC) (using the ERIC number as a reference) at (800) 276-0462. Updates of these documents or additional BMP documents may also be available. A list of EPA BMP guidance documents is available on the OWM Home Page at <http://www.epa.gov/owm>. In addition, States may have BMP guidance documents.

These EPA guidance documents are listed here only for informational purposes; they are not binding and EPA does not intend that these guidance documents have any mandatory, regulatory effect by virtue of their listing in this note.

(l) Reissued permits.

(1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under § 122.62.)

(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under [section 304\(b\)](#) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(i) Exceptions—A permit with respect to which paragraph (1)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if—

(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(1) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under [section 402\(a\)\(1\)\(b\)](#);

(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) The permittee has received a permit modification under [section 301\(c\)](#), [301\(g\)](#), [301\(h\)](#), [301\(i\)](#), [301\(k\)](#), [301\(n\)](#), or [316\(a\)](#); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

(ii) Limitations. In no event may a permit with respect to which paragraph (1)(2) of this section applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under [section 303](#) applicable to such waters.

(m) Privately owned treatment works. For a privately owned treatment works, any conditions expressly applicable to any user, as a limited copermitttee, that may be necessary in the permit issued to the treatment works to ensure compliance with applicable requirements under this part. Alternatively, the Director may issue separate permits to the treatment works and to its users, or may require a separate permit application from any user. The Director's decision to issue a permit with no conditions applicable to any user, to impose conditions on one or more users, to issue separate permits,

or to require separate applications, and the basis for that decision, shall be stated in the fact sheet for the draft permit for the treatment works.

(n) Grants. Any conditions imposed in grants made by the Administrator to POTWs under [sections 201](#) and [204](#) of CWA which are reasonably necessary for the achievement of effluent limitations under [section 301](#) of CWA.

(o) Sewage sludge. Requirements under section 405 of CWA governing the disposal of sewage sludge from publicly owned treatment works or any other treatment works treating domestic sewage for any use for which regulations have been established, in accordance with any applicable regulations.

(p) Coast Guard. When a permit is issued to a facility that may operate at certain times as a means of transportation over water, a condition that the discharge shall comply with any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, that establish specifications for safe transportation, handling, carriage, and storage of pollutants.

(q) Navigation. Any conditions that the Secretary of the Army considers necessary to ensure that navigation and anchorage will not be substantially impaired, in accordance with [§ 124.59](#) of this chapter.

(r) Great Lakes. When a permit is issued to a facility that discharges into the Great Lakes System (as defined in [40 CFR 132.2](#)), conditions promulgated by the State, Tribe, or EPA pursuant to 40 CFR part 132.

(s) Qualifying State, Tribal, or local programs.

(1) For storm water discharges associated with small construction activity identified in [§ 122.26\(b\)\(15\)](#), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. Where a qualifying State, Tribal, or local program does not include one or more of the elements in this paragraph (s)(1), then the Director must include those elements as conditions in the permit. A qualifying State, Tribal, or local erosion and sediment control program is one that includes:

(i) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(ii) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(iii) Requirements for construction site operators to develop and implement a storm water pollution prevention plan. (A storm water pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-storm water discharges); and

(iv) Requirements to submit a site plan for review that incorporates consideration of potential water quality impacts.

(2) For storm water discharges from construction activity identified in § 122.26(b)(14)(x), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. A qualifying State, Tribal or local erosion and sediment control program is one that includes the elements listed in paragraph (s)(1) of this section and any additional requirements necessary to achieve the applicable technology-based standards of “best available technology” and “best conventional technology” based on the best professional judgment of the permit writer.

Credits

[49 FR 31842, Aug. 8, 1984; 49 FR 38049, Sept. 26, 1984; 50 FR 6940, Feb. 19, 1985; 50 FR 7912, Feb. 27, 1985; 54 FR 256, Jan. 4, 1989; 54 FR 18783, May 2, 1989; 54 FR 23895, 23896, June 2, 1989; 57 FR 11413, April 2, 1992; 57 FR 33049, July 24, 1992; 58 FR 18016, April 7, 1993; 60 FR 15386, March 23, 1995; 64 FR 42469, Aug. 4, 1999; 64 FR 43426, Aug. 10, 1999; 64 FR 68847, Dec. 8, 1999; 65 FR 30908, May 15, 2000; 65 FR 43661, July 13, 2000; 66 FR 53048, Oct. 18, 2001; 66 FR 65337, Dec. 18, 2001; 68 FR 13608, March 19, 2003; 69 FR 41682, July 9, 2004; 70 FR 60191, Oct. 14, 2005; 71 FR 35040, June 16, 2006; 72 FR 11212, March 12, 2007; 79 FR 49013, Aug. 19, 2014; 79 FR 56275, Sept. 19, 2014; 80 FR 64098, Oct. 22, 2015]

SOURCE: 45 FR 33418, May 19, 1980, as amended at 48 FR 14153, Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, 33 U.S.C. 1251 et seq.

Notes of Decisions (156)

Current through May 24, 2018; 83 FR 24044.

ATTACHMENT A-17

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 122. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System
(Refs & Annos)

Subpart C. Permit Conditions

40 C.F.R. § 122.48

§ 122.48 Requirements for recording and reporting of
monitoring results (applicable to State programs, see § 123.25).

Effective: December 21, 2015

[Currentness](#)

All permits shall specify:

(a) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in 40 CFR part 3 (Cross-Media Electronic Reporting Regulation), [§ 122.44](#), and 40 CFR part 127 (NPDES Electronic Reporting). Reporting shall be no less frequent than specified in [§ 122.44](#). EPA will maintain the start dates for the electronic reporting of monitoring results for each state on its Web site.

Credits

[[50 FR 6940](#), Feb. 19, 1985; [58 FR 18016](#), April 7, 1993; [80 FR 64098](#), Oct. 22, 2015]

SOURCE: [45 FR 33418](#), May 19, 1980, as amended at [48 FR 14153](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(15\)](#)

Current through May 24, 2018; 83 FR 24044.

ATTACHMENT A-18

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 123. State Program Requirements (Refs & Annos)
Subpart B. State Program Submissions

40 C.F.R. § 123.25

§ 123.25 Requirements for permitting.

Effective: February 7, 2018

[Currentness](#)

(a) All State Programs under this part must have legal authority to implement each of the following provisions and must be administered in conformance with each, except that States are not precluded from omitting or modifying any provisions to impose more stringent requirements:

- (1) [§ 122.4](#)—(Prohibitions);
- (2) [§ 122.5\(a\)](#) and [\(b\)](#)—(Effect of permit);
- (3) [§ 122.7\(b\)](#) and [\(c\)](#)—(Confidential information);
- (4) [§ 122.21 \(a\)-\(b\), \(c\)\(2\), \(e\)-\(k\), \(m\)-\(p\), \(q\), and \(r\)](#)—(Application for a permit);
- (5) [§ 122.22](#)—(Signatories);
- (6) [§ 122.23](#)—(Concentrated animal feeding operations);
- (7) [§ 122.24](#)—(Concentrated aquatic animal production facilities);
- (8) [§ 122.25](#)—(Aquaculture projects);
- (9) [§ 122.26](#)—(Storm water discharges);
- (10) [§ 122.27](#)—(Silviculture);
- (11) [§ 122.28](#)—(General permits), *Provided* that States which do not seek to implement the general permit program under [§ 122.28](#) need not do so.

- (12) Section 122.41(a)(1) and (b) through (n)—(Applicable permit conditions) (Indian Tribes can satisfy enforcement authority requirements under § 123.34);
- (13) § 122.42—(Conditions applicable to specified categories of permits);
- (14) § 122.43—(Establishing permit conditions);
- (15) § 122.44—(Establishing NPDES permit conditions);
- (16) § 122.45—(Calculating permit conditions);
- (17) § 122.46—(Duration);
- (18) § 122.47(a)—(Schedules of compliance);
- (19) § 122.48—(Monitoring requirements);
- (20) § 122.50—(Disposal into wells);
- (21) § 122.61—(Permit transfer);
- (22) § 122.62—(Permit modification);
- (23) § 122.64—(Permit termination);
- (24) § 124.3(a)—(Application for a permit);
- (25) § 124.5(a), (c), (d), and (f)—(Modification of permits);
- (26) § 124.6(a), (c), (d), and (e)—(Draft permit);
- (27) § 124.8—(Fact sheets);
- (28) § 124.10(a)(1)(ii), (a)(1)(iii), (a)(1)(v), (b), (c), (d), and (e)—(Public notice);

- (29) § 124.11—(Public comments and requests for hearings);
- (30) § 124.12(a)—(Public hearings); and
- (31) § 124.17(a) and (c)—(Response to comments);
- (32) § 124.56—(Fact sheets);
- (33) § 124.57(a)—(Public notice);
- (34) § 124.59—(Comments from government agencies);
- (35) § 124.62—(Decision on variances);
- (36) Subparts A, B, D, H, I, J, and N of part 125 of this chapter;
- (37) 40 CFR parts 129, 133, and subchapter N;
- (38) For a Great Lakes State or Tribe (as defined in 40 CFR 132.2), 40 CFR part 132 (NPDES permitting implementation procedures only);
- (39) § 122.30 (What are the objectives of the storm water regulations for small MS4s?);
- (40) § 122.31 (For Indian Tribes only) (As a Tribe, what is my role under the NPDES storm water program?);
- (41) § 122.32 (As an operator of a small MS4, am I regulated under the NPDES storm water program?);
- (42) § 122.33 (If I am an operator of a regulated small MS4, how do I apply for an NPDES permit? When do I have to apply?);
- (43) § 122.34 (As an operator of a regulated small MS4, what will my NPDES MS4 storm water permit require?);
- (44) § 122.35 (As an operator of a regulated small MS4, may I share the responsibility to implement the minimum control measures with other entities?);
- (45) § 122.36 (As an operator of a regulated small MS4, what happens if I don't comply with the application or permit requirements in §§ 122.33 through 122.35?); and

(46) 40 CFR part 3 (Cross-Media Electronic Reporting Regulation) and 40 CFR part 127 (NPDES Electronic Reporting Requirements).

Note to paragraph (a): Except for paragraph (a)(46) of this section, states need not implement provisions identical to the above listed provisions. Implemented provisions must, however, establish requirements at least as stringent as the corresponding listed provisions. While States may impose more stringent requirements, they may not make one requirement more lenient as a tradeoff for making another requirement more stringent; for example, by requiring that public hearings be held prior to issuing any permit while reducing the amount of advance notice of such a hearing.

State programs may, if they have adequate legal authority, implement any of the provisions of parts 122 and 124. See, for example, §§ 122.5(d) (continuation of permits) and 124.4 (consolidation of permit processing) of this chapter.

For example, a State may impose more stringent requirements in an NPDES program by omitting the upset provision of § 122.41 of this chapter or by requiring more prompt notice of an upset.

(47) For a Great Lakes State, § 122.38.

(b) State NPDES programs shall have an approved continuing planning process under 40 CFR 130.5 and shall assure that the approved planning process is at all times consistent with the CWA.

(c) State NPDES programs shall ensure that any board or body which approves all or portions of permits shall not include as a member any person who receives, or has during the previous 2 years received, a significant portion of income directly or indirectly from permit holders or applicants for a permit.

(1) For the purposes of this paragraph:

(i) Board or body includes any individual, including the Director, who has or shares authority to approve all or portions of permits either in the first instance, as modified or reissued, or on appeal.

(ii) Significant portion of income means 10 percent or more of gross personal income for a calendar year, except that it means 50 percent or more of gross personal income for a calendar year if the recipient is over 60 years of age and is receiving that portion under retirement, pension, or similar arrangement.

(iii) Permit holders or applicants for a permit does not include any department or agency of a State government, such as a Department of Parks or a Department of Fish and Wildlife.

(iv) Income includes retirement benefits, consultant fees, and stock dividends.

(2) For the purposes of paragraph (c) of this section, income is not received “directly or indirectly from permit holders or applicants for a permit” when it is derived from mutual fund payments, or from other diversified investments for which the recipient does not know the identity of the primary sources of income.

Credits

[[50 FR 6941](#), Feb. 19, 1985; [50 FR 7912](#), Feb. 27, 1985; [54 FR 18784](#), May 2, 1989; [55 FR 48075](#), Nov. 16, 1990; [58 FR 9414](#), Feb. 19, 1993; [58 FR 67981](#), Dec. 22, 1993; [60 FR 15386](#), March 23, 1995; [63 FR 45122](#), Aug. 24, 1998; [64 FR 42470](#), Aug. 4, 1999; [64 FR 43426](#), Aug. 10, 1999; [64 FR 68849](#), Dec. 8, 1999; [65 FR 30909](#), May 15, 2000; [66 FR 65338](#), Dec. 18, 2001; [69 FR 41682](#), July 9, 2004; [70 FR 59888](#), Oct. 13, 2005; [71 FR 35040](#), June 16, 2006; [80 FR 64099](#), Oct. 22, 2015; [83 FR 732](#), Jan. 8, 2018]

SOURCE: [45 FR 33456](#), May 19, 1980, as amended at [48 FR 14178](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(17\)](#)

Current through May 24, 2018; [83 FR 24044](#).

End of Document

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ATTACHMENT A-19

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 123. State Program Requirements (Refs & Annos)
Subpart C. Transfer of Information and Permit Review

40 C.F.R. § 123.44

§ 123.44 EPA review of and objections to State permits.

Currentness

(a)(1) The Memorandum of Agreement shall provide a period of time (up to 90 days from receipt of proposed permits) to which the Regional Administrator may make general comments upon, objections to, or recommendations with respect to proposed permits. EPA reserves the right to take 90 days to supply specific grounds for objection, notwithstanding any shorter period specified in the Memorandum of Agreement, when a general objection is filed within the review period specified in the Memorandum of Agreement. The Regional Administrator shall send a copy of any comment, objection or recommendation to the permit applicant.

(2) In the case of general permits, EPA shall have 90 days from the date of receipt of the proposed general permit to comment upon, object to or make recommendations with respect to the proposed general permit, and is not bound by any shorter time limits set by the Memorandum of Agreement for general comments, objections or recommendations.

(b)(1) Within the period of time provided under the Memorandum of Agreement for making general comments upon, objections to or recommendations with respect to proposed permits, the Regional Administrator shall notify the State Director of any objection to issuance of a proposed permit (except as provided in paragraph (a)(2) of this section for proposed general permits). This notification shall set forth in writing the general nature of the objection.

(2) Within 90 days following receipt of a proposed permit to which he or she has objected under paragraph (b)(1) of this section, or in the case of general permits within 90 days after receipt of the proposed general permit, the Regional Administrator shall set forth in writing and transmit to the State Director:

(i) A statement of the reasons for the objection (including the section of CWA or regulations that support the objection), and

(ii) The actions that must be taken by the State Director to eliminate the objection (including the effluent limitations and conditions which the permit would include if it were issued by the Regional Administrator.)

Note: Paragraphs (a) and (b) of this section, in effect, modify any existing agreement between EPA and the State which provides less than 90 days for EPA to supply the specific grounds for an objection. However, when an agreement provides for an EPA review period of less than 90 days, EPA must file a general objection, in accordance with paragraph (b) (1) of this section within the time specified in the agreement. This general objection must be followed by a specific

objection within the 90-day period. This modification to MOA's allows EPA to provide detailed information concerning acceptable permit conditions, as required by section 402(d) of CWA. To avoid possible confusion, MOA's should be changed to reflect this arrangement.

(c) The Regional Administrator's objection to the issuance of a proposed permit must be based upon one or more of the following grounds:

(1) The permit fails to apply, or to ensure compliance with, any applicable requirement of this part;

Note: For example, the Regional Administrator may object to a permit not requiring the achievement of required effluent limitations by applicable statutory deadlines.

(2) In the case of a proposed permit for which notification to the Administrator is required under [section 402\(b\)\(5\)](#) of CWA, the written recommendations of an affected State have not been accepted by the permitting State and the Regional Administrator finds the reasons for rejecting the recommendations are inadequate;

(3) The procedures followed in connection with formulation of the proposed permit failed in a material respect to comply with procedures required by CWA or by regulations thereunder or by the Memorandum of Agreement;

(4) Any finding made by the State Director in connection with the proposed permit misinterprets CWA or any guidelines or regulations under CWA, or misapplies them to the facts;

(5) Any provisions of the proposed permit relating to the maintenance of records, reporting, monitoring, sampling, or the provision of any other information by the permittee are inadequate, in the judgment of the Regional Administrator, to assure compliance with permit conditions, including effluent standards and limitations or standards for sewage sludge use and disposal required by CWA, by the guidelines and regulations issued under CWA, or by the proposed permit;

(6) In the case of any proposed permit with respect to which applicable effluent standards and limitations or standards for sewage sludge use and disposal under [sections 301, 302, 306, 307, 318, 403, and 405](#) of CWA have not yet been promulgated by the Agency, the proposed permit, in the judgment of the Regional Administrator, fails to carry out the provisions of CWA or of any regulations issued under CWA; the provisions of this paragraph apply to determinations made pursuant to § 125.3(c)(2) in the absence of applicable guidelines, to best management practices under [section 304\(e\)](#) of CWA, which must be incorporated into permits as requirements under [section 301, 306, 307, 318, 403 or 405](#), and to sewage sludge use and disposal requirements developed on a case-by-case basis pursuant to [section 405\(d\)](#) of CWA, as the case may be;

(7) Issuance of the proposed permit would in any other respect be outside the requirements of CWA, or regulations issued under CWA.

(8) The effluent limits of a permit fail to satisfy the requirements of [40 CFR 122.44\(d\)](#).

(9) For a permit issued by a Great Lakes State or Tribe (as defined in [40 CFR 132.2](#)), the permit does not satisfy the conditions promulgated by the State, Tribe, or EPA pursuant to 40 CFR part 132.

(d) Prior to notifying the State Director of an objection based upon any of the grounds set forth in paragraph (c) of this section, the Regional Administrator:

(1) Will consider all data transmitted pursuant to [§ 123.43](#) (or, in the case of a sewage sludge management program, [§ 501.21](#) of this chapter);

(2) May, if the information provided is inadequate to determine whether the proposed permit meets the guidelines and requirements of CWA, request the State Director to transmit to the Regional Administrator the complete record of the permit proceedings before the State, or any portions of the record that the Regional Administrator determines are necessary for review. If this request is made within 30 days of receipt of the State submittal under [§ 123.43](#) (or, in the case of a sewage sludge management program, [§ 501.21](#) of this chapter), it will constitute an interim objection to the issuance of the permit, and the full period of time specified in the Memorandum of Agreement for the Regional Administrator's review will recommence when the Regional Administrator has received such record or portions of the record; and

(3) May, in his or her discretion, and to the extent feasible within the period of time available under the Memorandum of Agreement, afford to interested persons an opportunity to comment on the basis for the objection;

(e) Within 90 days of receipt by the State Director of an objection by the Regional Administrator, the State or interstate agency or any interested person may request that a public hearing be held by the Regional Administrator on the objection. A public hearing in accordance with the procedures of [§ 124.12\(c\)](#) and [\(d\)](#) of this chapter (or, in the case of a sewage sludge management program, [§ 501.15\(d\)\(7\)](#) of this chapter) will be held, and public notice provided in accordance with [§ 124.10](#) of this chapter, (or, in the case of a sewage sludge management program, [§ 501.15\(d\)\(5\)](#) of this chapter), whenever requested by the State or the interstate agency which proposed the permit or if warranted by significant public interest based on requests received.

(f) A public hearing held under paragraph (e) of this section shall be conducted by the Regional Administrator, and, at the Regional Administrator's discretion, with the assistance of an EPA panel designated by the Regional Administrator, in an orderly and expeditious manner.

(g) Following the public hearing, the Regional Administrator shall reaffirm the original objection, modify the terms of the objection, or withdraw the objection, and shall notify the State of this decision.

(h)(1) If no public hearing is held under paragraph (e) of this section and the State does not resubmit a permit revised to meet the Regional Administrator's objection within 90 days of receipt of the objection, the Regional Administrator may issue the permit in accordance with parts 121, 122, and 124 of this chapter and any other guidelines and requirements of CWA.

(2) If a public hearing is held under paragraph (e) of this section, the Regional Administrator does not withdraw the objection, and the State does not resubmit a permit revised to meet the Regional Administrator's objection or modified objection within 30 days of the date of the Regional Administrator's notification under paragraph (g) of this section, the Regional Administrator may issue the permit in accordance with parts 121, 122, and 124 of this chapter and any other guidelines and requirements of CWA.

(3) Exclusive authority to issue the permit passes to EPA when the times set out in this paragraph expire.

(i) [Reserved]

(j) The Regional Administrator may agree, in the Memorandum of Agreement under § 123.24 (or, in the case of a sewage sludge management program, § 501.14 of this chapter), to review draft permits rather than proposed permits. In such a case, a proposed permit need not be prepared by the State and transmitted to the Regional Administrator for review in accordance with this section unless the State proposes to issue a permit which differs from the draft permit reviewed by the Regional Administrator, the Regional Administrator has objected to the draft permit, or there is significant public comment.

Credits

[[54 FR 18785](#), May 2, 1989; [54 FR 23896](#), June 2, 1989; [60 FR 15386](#), March 23, 1995; [63 FR 45122](#), Aug. 24, 1998; [65 FR 30910](#), May 15, 2000; [65 FR 43661](#), July 13, 2000; [66 FR 53048](#), Oct. 18, 2001; [68 FR 13608](#), March 19, 2003]

SOURCE: [45 FR 33456](#), May 19, 1980, as amended at [48 FR 14178](#), Apr. 1, 1983, unless otherwise noted.

AUTHORITY: Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(65\)](#)

Current through May 24, 2018; [83 FR 24044](#).

ATTACHMENT A-20

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 130. Water Quality Planning and Management (Refs & Annos)

40 C.F.R. § 130.2

§ 130.2 Definitions.

Currentness

- (a) The Act. The Clean Water Act, as amended, [33 U.S.C. 1251 et seq.](#)
- (b) Indian Tribe. Any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation.
- (c) Pollution. The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.
- (d) Water quality standards (WQS). Provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.
- (e) Load or loading. An amount of matter or thermal energy that is introduced into a receiving water; to introduce matter or thermal energy into a receiving water. Loading may be either man-caused (pollutant loading) or natural (natural background loading).
- (f) Loading capacity. The greatest amount of loading that a water can receive without violating water quality standards.
- (g) Load allocation (LA). The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Wherever possible, natural and nonpoint source loads should be distinguished.
- (h) Wasteload allocation (WLA). The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.
- (i) Total maximum daily load (TMDL). The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or

adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs.

(j) Water quality limited segment. Any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required by sections 301(b) and 306 of the Act.

(k) Water quality management (WQM) plan. A State or areawide waste treatment management plan developed and updated in accordance with the provisions of sections 205(j), 208 and 303 of the Act and this regulation.

(l) Areawide agency. An agency designated under section 208 of the Act, which has responsibilities for WQM planning within a specified area of a State.

(m) Best Management Practice (BMP). Methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.

(n) Designated management agency (DMA). An agency identified by a WQM plan and designated by the Governor to implement specific control recommendations.

Credits

[[54 FR 14359](#), April 11, 1989; [65 FR 43662](#), July 13, 2000; [68 FR 13608](#), March 19, 2003]

SOURCE: [50 FR 1779](#), Jan. 11, 1985; [66 FR 53048](#), Oct. 18, 2001; [68 FR 13608](#), March 19, 2003, unless otherwise noted.

AUTHORITY: [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(5\)](#)

Current through May 24, 2018; [83 FR 24044](#).

ATTACHMENT A-21

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 130. Water Quality Planning and Management (Refs & Annos)

40 C.F.R. § 130.6

§ 130.6 Water quality management plans.

Currentness

(a) Water quality management (WQM) plans. WQM plans consist of initial plans produced in accordance with sections 208 and 303(e) of the Act and certified and approved updates to those plans. Continuing water quality planning shall be based upon WQM plans and water quality problems identified in the latest 305(b) reports. State water quality planning should focus annually on priority issues and geographic areas and on the development of water quality controls leading to implementation measures. Water quality planning directed at the removal of conditions placed on previously certified and approved WQM plans should focus on removal of conditions which will lead to control decisions.

(b) Use of WQM plans. WQM plans are used to direct implementation. WQM plans draw upon the water quality assessments to identify priority point and nonpoint water quality problems, consider alternative solutions and recommend control measures, including the financial and institutional measures necessary for implementing recommended solutions. State annual work programs shall be based upon the priority issues identified in the State WQM plan.

(c) WQM plan elements. Sections 205(j), 208 and 303 of the Act specify water quality planning requirements. The following plan elements shall be included in the WQM plan or referenced as part of the WQM plan if contained in separate documents when they are needed to address water quality problems.

(1) Total maximum daily loads. TMDLs in accordance with sections 303(d) and (e)(3)(C) of the Act and § 130.7 of this part.

(2) Effluent limitations. Effluent limitations including water quality based effluent limitations and schedules of compliance in accordance with section 303(e)(3)(A) of the Act and § 130.5 of this part.

(3) Municipal and industrial waste treatment. Identification of anticipated municipal and industrial waste treatment works, including facilities for treatment of stormwater-induced combined sewer overflows; programs to provide necessary financial arrangements for such works; establishment of construction priorities and schedules for initiation and completion of such treatment works including an identification of open space and recreation opportunities from improved water quality in accordance with section 208(b)(2) (A) and (B) of the Act.

(4) Nonpoint source management and control.

(i) The plan shall describe the regulatory and non-regulatory programs, activities and Best Management Practices (BMPs) which the agency has selected as the means to control nonpoint source pollution where necessary to protect or achieve approved water uses. Economic, institutional, and technical factors shall be considered in a continuing process of identifying control needs and evaluating and modifying the BMPs as necessary to achieve water quality goals.

(ii) Regulatory programs shall be identified where they are determined to be necessary by the State to attain or maintain an approved water use or where non-regulatory approaches are inappropriate in accomplishing that objective.

(iii) BMPs shall be identified for the nonpoint sources identified in section 208(b)(2)(F)–(K) of the Act and other nonpoint sources as follows:

(A) Residual waste. Identification of a process to control the disposition of all residual waste in the area which could affect water quality in accordance with section 208(b)(2)(J) of the Act.

(B) Land disposal. Identification of a process to control the disposal of pollutants on land or in subsurface excavations to protect ground and surface water quality in accordance with section 208(b)(2)(K) of the Act.

(C) Agricultural and silvicultural. Identification of procedures to control agricultural and silvicultural sources of pollution in accordance with section 208(b)(2)(F) of the Act.

(D) Mines. Identification of procedures to control mine-related sources of pollution in accordance with section 208(b)(2)(G) of the Act.

(E) Construction. Identification of procedures to control construction related sources of pollution in accordance with section 208(b)(2)(H) of the Act.

(F) Saltwater intrusion. Identification of procedures to control saltwater intrusion in accordance with section 208(b)(2)(I) of the Act.

(G) Urban stormwater. Identification of BMPs for urban stormwater control to achieve water quality goals and fiscal analysis of the necessary capital and operations and maintenance expenditures in accordance with section 208(b)(2)(A) of the Act.

(iv) The nonpoint source plan elements outlined in § 130.6(c) (4)(iii)(A)(G) of this regulation shall be the basis of water quality activities implemented through agreements or memoranda of understanding between EPA and other departments, agencies or instrumentalities of the United States in accordance with section 304(k) of the Act.

(5) Management agencies. Identification of agencies necessary to carry out the plan and provision for adequate authority for intergovernmental cooperation in accordance with sections 208(b)(2)(D) and 303(e)(3)(E) of the Act.

Management agencies must demonstrate the legal, institutional, managerial and financial capability and specific activities necessary to carry out their responsibilities in accordance with section 208(c)(2)(A) through (I) of the Act.

(6) Implementation measures. Identification of implementation measures necessary to carry out the plan, including financing, the time needed to carry out the plan, and the economic, social and environmental impact of carrying out the plan in accordance with [section 208\(b\)\(2\)\(E\)](#).

(7) Dredge or fill program. Identification and development of programs for the control of dredge or fill material in accordance with section 208(b)(4)(B) of the Act.

(8) Basin plans. Identification of any relationship to applicable basin plans developed under section 209 of the Act.

(9) Ground water. Identification and development of programs for control of ground-water pollution including the provisions of section 208(b)(2)(K) of the Act. States are not required to develop ground-water WQM plan elements beyond the requirements of section 208(b)(2)(K) of the Act, but may develop a ground-water plan element if they determine it is necessary to address a ground-water quality problem. If a State chooses to develop a ground-water plan element, it should describe the essentials of a State program and should include, but is not limited to:

(i) Overall goals, policies and legislative authorities for protection of ground-water.

(ii) Monitoring and resource assessment programs in accordance with section 106(e)(1) of the Act.

(iii) Programs to control sources of contamination of ground-water including Federal programs delegated to the State and additional programs authorized in State statutes.

(iv) Procedures for coordination of ground-water protection programs among State agencies and with local and Federal agencies.

(v) Procedures for program management and administration including provision of program financing, training and technical assistance, public participation, and emergency management.

(d) Indian Tribes. An Indian Tribe is eligible for the purposes of this rule and the Clean Water Act assistance programs under 40 CFR part 35, subparts A and H if:

(1) The Indian Tribe has a governing body carrying out substantial governmental duties and powers;

(2) The functions to be exercised by the Indian Tribe pertain to the management and protection of water resources which are held by an Indian Tribe, held by the United States in trust for Indians, held by a member of an Indian Tribe if such property interest is subject to a trust restriction on alienation, or otherwise within the borders of an Indian reservation; and

(3) The Indian Tribe is reasonably expected to be capable, in the Regional Administrator's judgment, of carrying out the functions to be exercised in a manner consistent with the terms and purposes of the Clean Water Act and applicable regulations.

(e) Update and certification. State and/or areawide agency WQM plans shall be updated as needed to reflect changing water quality conditions, results of implementation actions, new requirements or to remove conditions in prior conditional or partial plan approvals. Regional Administrators may require that State WQM plans be updated as needed. State Continuing Planning Processes (CPPs) shall specify the process and schedule used to revise WQM plans. The State shall ensure that State and areawide WQM plans together include all necessary plan elements and that such plans are consistent with one another. The Governor or the Governor's designee shall certify by letter to the Regional Administrator for EPA approval that WQM plan updates are consistent with all other parts of the plan. The certification may be contained in the annual State work program.

(f) Consistency. Construction grant and permit decisions must be made in accordance with certified and approved WQM plans as described in § 130.12(a) and § 130.12(b).

Credits

[[54 FR 14360](#), April 11, 1989; [59 FR 13818](#), March 23, 1994; [65 FR 43662](#), July 13, 2000; [68 FR 13608](#), March 19, 2003]

SOURCE: [50 FR 1779](#), Jan. 11, 1985; [66 FR 53048](#), Oct. 18, 2001; [68 FR 13608](#), March 19, 2003, unless otherwise noted.

AUTHORITY: [33 U.S.C. 1251 et seq.](#)

Current through May 24, 2018; 83 FR 24044.

ATTACHMENT A-22

Code of Federal Regulations

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter D. Water Programs

Part 130. Water Quality Planning and Management (Refs & Annos)

40 C.F.R. § 130.7

§ 130.7 Total maximum daily loads (TMDL) and individual water quality-based effluent limitations.

Currentness

(a) General. The process for identifying water quality limited segments still requiring wasteload allocations, load allocations and total maximum daily loads (WLA/LAs and TMDLs), setting priorities for developing these loads; establishing these loads for segments identified, including water quality monitoring, modeling, data analysis, calculation methods, and list of pollutants to be regulated; submitting the State's list of segments identified, priority ranking, and loads established (WLA/LAs/TMDLs) to EPA for approval; incorporating the approved loads into the State's WQM plans and NPDES permits; and involving the public, affected dischargers, designated areawide agencies, and local governments in this process shall be clearly described in the State Continuing Planning Process (CPP).

(b) Identification and priority setting for water quality-limited segments still requiring TMDLs.

(1) Each State shall identify those water quality-limited segments still requiring TMDLs within its boundaries for which:

(i) Technology-based effluent limitations required by [sections 301\(b\)](#), [306](#), [307](#), or other sections of the Act;

(ii) More stringent effluent limitations (including prohibitions) required by either State or local authority preserved by [section 510](#) of the Act, or Federal authority (law, regulation, or treaty); and

(iii) Other pollution control requirements (e.g., best management practices) required by local, State, or Federal authority are not stringent enough to implement any water quality standards (WQS) applicable to such waters.

(2) Each State shall also identify on the same list developed under paragraph (b)(1) of this section those water quality-limited segments still requiring TMDLs or parts thereof within its boundaries for which controls on thermal discharges under [section 301](#) or State or local requirements are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish and wildlife.

(3) For the purposes of listing waters under § 130.7(b), the term “water quality standard applicable to such waters” and “applicable water quality standards” refer to those water quality standards established under [section 303](#) of the Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements.

(4) The list required under §§ 130.7(b)(1) and 130.7(b)(2) of this section shall include a priority ranking for all listed water quality-limited segments still requiring TMDLs, taking into account the severity of the pollution and the uses to be made of such waters and shall identify the pollutants causing or expected to cause violations of the applicable water quality standards. The priority ranking shall specifically include the identification of waters targeted for TMDL development in the next two years.

(5) Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§ 130.7(b)(1) and 130.7(b)(2). At a minimum “all existing and readily available water quality-related data and information” includes but is not limited to all of the existing and readily available data and information about the following categories of waters:

(i) Waters identified by the State in its most recent [section 305\(b\)](#) report as “partially meeting” or “not meeting” designated uses or as “threatened”;

(ii) Waters for which dilution calculations or predictive models indicate nonattainment of applicable water quality standards;

(iii) Waters for which water quality problems have been reported by local, state, or federal agencies; members of the public; or academic institutions. These organizations and groups should be actively solicited for research they may be conducting or reporting. For example, university researchers, the United States Department of Agriculture, the National Oceanic and Atmospheric Administration, the United States Geological Survey, and the United States Fish and Wildlife Service are good sources of field data; and

(iv) Waters identified by the State as impaired or threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.

(6) Each State shall provide documentation to the Regional Administrator to support the State's determination to list or not to list its waters as required by §§ 130.7(b)(1) and 130.7(b)(2). This documentation shall be submitted to the Regional Administrator together with the list required by §§ 130.7(b)(1) and 130.7(b)(2) and shall include at a minimum:

(i) A description of the methodology used to develop the list; and

(ii) A description of the data and information used to identify waters, including a description of the data and information used by the State as required by § 130.7(b)(5); and

(iii) A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in § 130.7(b)(5); and

(iv) Any other reasonable information requested by the Regional Administrator. Upon request by the Regional Administrator, each State must demonstrate good cause for not including a water or waters on the list. Good cause

includes, but is not limited to, more recent or accurate data; more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed in the categories in § 130.7(b)(5); or changes in conditions, e.g., new control equipment, or elimination of discharges.

(c) Development of TMDLs and individual water quality based effluent limitations.

(1) Each State shall establish TMDLs for the water quality limited segments identified in paragraph (b)(1) of this section, and in accordance with the priority ranking. For pollutants other than heat, TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. Determinations of TMDLs shall take into account critical conditions for stream flow, loading, and water quality parameters.

(i) TMDLs may be established using a pollutant-by-pollutant or biomonitoring approach. In many cases both techniques may be needed. Site-specific information should be used wherever possible.

(ii) TMDLs shall be established for all pollutants preventing or expected to prevent attainment of water quality standards as identified pursuant to paragraph (b)(1) of this section. Calculations to establish TMDLs shall be subject to public review as defined in the State CPP.

(2) Each State shall estimate for the water quality limited segments still requiring TMDLs identified in paragraph (b)(2) of this section, the total maximum daily thermal load which cannot be exceeded in order to assure protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife. Such estimates shall take into account the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters or parts thereof. Such estimates shall include a calculation of the maximum heat input that can be made into each such part and shall include a margin of safety which takes into account any lack of knowledge concerning the development of thermal water quality criteria for protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in the identified waters or parts thereof.

(d) Submission and EPA approval.

(1) Each State shall submit biennially to the Regional Administrator beginning in 1992 the list of waters, pollutants causing impairment, and the priority ranking including waters targeted for TMDL development within the next two years as required under paragraph (b) of this section. For the 1992 biennial submission, these lists are due no later than October 22, 1992. Thereafter, each State shall submit to EPA lists required under paragraph (b) of this section on April 1 of every even-numbered year. For the year 2000 submission, a State must submit a list required under paragraph (b) of this section only if a court order or consent decree, or commitment in a settlement agreement dated prior to January 1, 2000, expressly requires EPA to take action related to that State's year 2000 list. For the year 2002 submission, a State must submit a list required under paragraph (b) of this section by October 1, 2002, unless a court order, consent decree or commitment in a settlement agreement expressly requires EPA to take an action related to that State's 2002 list prior to October 1, 2002, in which case, the State must submit a list by April 1, 2002. The list of waters may be submitted as part of the State's biennial water quality report required by § 130.8 of this part and section 305(b) of the CWA or submitted under separate cover. All WLAs/LAs and TMDLs established under

paragraph (c) for water quality limited segments shall continue to be submitted to EPA for review and approval. Schedules for submission of TMDLs shall be determined by the Regional Administrator and the State.

(2) The Regional Administrator shall either approve or disapprove such listing and loadings not later than 30 days after the date of submission. The Regional Administrator shall approve a list developed under § 130.7(b) that is submitted after the effective date of this rule only if it meets the requirements of § 130.7(b). If the Regional Administrator approves such listing and loadings, the State shall incorporate them into its current WQM plan. If the Regional Administrator disapproves such listing and loadings, he shall, not later than 30 days after the date of such disapproval, identify such waters in such State and establish such loads for such waters as determined necessary to implement applicable WQS. The Regional Administrator shall promptly issue a public notice seeking comment on such listing and loadings. After considering public comment and making any revisions he deems appropriate, the Regional Administrator shall transmit the listing and loads to the State, which shall incorporate them into its current WQM plan.

(e) For the specific purpose of developing information and as resources allow, each State shall identify all segments within its boundaries which it has not identified under paragraph (b) of this section and estimate for such waters the TMDLs with seasonal variations and margins of safety, for those pollutants which the Regional Administrator identifies under [section 304\(a\)\(2\)](#) as suitable for such calculation and for thermal discharges, at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish and wildlife. However, there is no requirement for such loads to be submitted to EPA for approval, and establishing TMDLs for those waters identified in paragraph (b) of this section shall be given higher priority.

Credits

[[57 FR 33049](#), July 24, 1992; [65 FR 17170](#), March 31, 2000; [65 FR 43663](#), July 13, 2000; [66 FR 53048](#), Oct. 18, 2001; [68 FR 13608](#), March 19, 2003]

SOURCE: [50 FR 1779](#), Jan. 11, 1985; [66 FR 53048](#), Oct. 18, 2001; [68 FR 13608](#), March 19, 2003, unless otherwise noted.

AUTHORITY: [33 U.S.C. 1251 et seq.](#)

[Notes of Decisions \(13\)](#)

Current through May 24, 2018; [83 FR 24044](#).

ATTACHMENT A-23

81 FR 89320-01, 2016 WL 7158878(F.R.)
RULES and REGULATIONS
ENVIRONMENTAL PROTECTION AGENCY
40 CFR Part 122
[EPA-HQ-OW-2015-0671; FRL-9955-11-OW]
RIN 2040-AF57

National Pollutant Discharge Elimination System (NPDES) Municipal
Separate Storm Sewer System General Permit Remand Rule

Friday, December 9, 2016

AGENCY: Environmental Protection Agency (EPA).

***89320 ACTION:** Final rule.

SUMMARY: The Environmental Protection Agency (EPA) is revising the regulations governing regulated small municipal separate storm sewer system (MS4) permits to respond to a remand from the United States Court of Appeals for the Ninth Circuit in [Environmental Defense Center, et al. v. EPA, 344 F.3d 832 \(9th Cir. 2003\)](#). In that decision, the court determined that the regulations for providing coverage under small MS4 general permits did not provide for adequate public notice and opportunity to request a hearing. Additionally, the court found that EPA failed to require permitting authority review of the best management practices (BMPs) to be used at a particular MS4 to ensure that the small MS4 permittee reduces pollutants in the discharge from their systems to the “maximum extent practicable” (MEP), the standard established by the Clean Water Act (CWA) for such permits. The final rule establishes two alternative approaches a permitting authority can use to issue National Pollutant Discharge Elimination (NPDES) general permits for small MS4s and meet the requirements of the court remand. The first option is to establish all necessary permit terms and conditions to require the MS4 operator to reduce the discharge of pollutants from its MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act (“MS4 permit standard”) upfront in one comprehensive permit. The second option allows the permitting authority to establish the necessary permit terms and conditions in two steps: A first step to issue a base general permit that contains terms and conditions applicable to all small MS4s covered by the permit and a second step to establish necessary permit terms and conditions for individual MS4s that are not in the base general permit. Public notice and comment and opportunity to request a hearing would be necessary for both steps of this two-step general permit. This final rule does not establish any new substantive requirements for small MS4 permits.

DATES: This final rule is effective on January 9, 2017.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-HQ-OW-2015-0671. All documents in the docket are listed on the <http://www.regulations.gov> Web site. Although listed in the index, some information is not publicly available, e.g., confidential business information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available electronically through <http://www.regulations.gov>.

FOR FURTHER INFORMATION CONTACT: Greg Schaner, Office of Wastewater Management, Water Permits Division (4203M), Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460; telephone number: (202) 564-0721; email address: schaner.greg@epa.gov. Refer also to EPA's Web site for further information related to the final rule at <https://www.epa.gov/npdes/stormwater-rules-and-notices1B> proposed.

SUPPLEMENTARY INFORMATION: The Federal Register published EPA's proposed rule on January 6, 2016 ([81 FR 415](#)).

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I. National Technology Transfer and Advancement Act

J. [Executive Order 12898](#): Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

***89321** K. Congressional Review Act

I. General Information**A. Does this action apply to me?**

Entities regulated [or affected] by this rule include:

Category	Examples of regulated entities	North American industry classification system (NAICS) code
Part IV		
Federal and state government	EPA or state NPDES stormwater permitting authorities; operators of small municipal separate storm sewer systems	924110
Local governments	Operators of small municipal separate storm sewer systems	924110

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could potentially be regulated or otherwise affected by this action. Other types of entities not listed in the table could also be regulated. To determine whether your entity is regulated by this action, you should carefully examine the applicability criteria found in [40 CFR 122.32](#), and the discussion in the preamble. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the FOR FURTHER INFORMATION CONTACT section.

B. What action is the Agency taking?

EPA is issuing a final rule to revise its regulations governing the way in which small municipal separate storm sewer systems (MS4s) obtain coverage under National Pollutant Discharge Elimination System (NPDES) general permits and how required permit conditions are established. The rule results from a decision by the U.S. Court of Appeals for the Ninth Circuit in [Environmental Defense Center, et al. v. EPA, at 344 F.3d 832 \(9th Cir. 2003\)](#) (“EDC decision”), which found that EPA regulations for obtaining coverage under a small MS4 general permit did not provide for adequate public notice, the opportunity to request a hearing, or permitting authority review to determine whether the best management practices (BMPs) selected by each MS4 in its stormwater management program (SWMP) meets the CWA requirements including the requirement to “reduce pollutants to the maximum extent practicable.” The Federal Register published EPA’s proposed rule on January 6, 2016 ([81 FR 415](#)). EPA proposed and solicited public comment on three options for addressing the remand. One option (called the “Traditional General Permit Approach”) would require the permitting authority to establish within the general permit all requirements necessary for the regulated small MS4s to meet the applicable permit standard (to reduce pollutants to the maximum extent practicable (MEP), to protect water quality,

and to satisfy the appropriate water quality requirements of the CWA), which would be subject to public notice and comment and an opportunity to request a hearing. The second proposed option (called the “Procedural Approach”) would require the permitting authority to incorporate an additional review and public comment step into the existing Phase II regulatory framework for permitting small MS4s through general permits. More specifically, once an MS4 operator submitted its Notice of Intent (NOI) requesting coverage under the general permit, an additional step would take place in which the permitting authority would review, and the public would be given an opportunity to comment and request a hearing on, the merits of the MS4’s proposed BMPs and measurable goals for complying with the requirement to reduce discharges to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the CWA. A third proposed option (called the “State Choice Approach”) would enable the permitting authority to choose between the Traditional General Permit and Procedural Approaches, or to implement a combination of these approaches in issuing and authorizing coverage under a general permit. Today, EPA is issuing a rule that promulgates the “State Choice Approach” and has renamed it as the “Permitting Authority Choice Approach.”

C. What is the Agency’s authority for taking this action?

The authority for this rule is the Federal Water Pollution Control Act, [33 U.S.C. 1251 et seq.](#), including sections 402 and 501.

D. What are the incremental costs of this action?

The Economic Analysis estimates the incremental costs to implement the final rule. EPA assumed that all other costs accrued as a result of the existing small MS4 program, which were accounted for in the Economic Analysis accompanying the 1999 final Phase II MS4 regulations, remain the same and are not germane to the Economic Analysis, unless the rule change would affect the baseline program costs. In this respect, EPA focused only on new costs that may be imposed as a result of implementing the final rule. It is, therefore, unnecessary to reevaluate the total program costs of the Phase II rule, since those costs were part of the original economic analysis conducted for the 1999 Phase II rule (see [64 FR 68722](#), December 8, 1999). For further information, refer to the Economic Analysis that is included in the rule docket.

EPA estimates the annualized cost of the final rule to be between \$558,025 and \$604,770, depending on the assumed discount rate. This can be thought of as the annual budgeted amounts each permitting authority would need to make available each year in order to be able to cover the increase in permitting authority efforts that would result every 5 years. The total net present value of the compliance cost ranges from \$5.5 million to \$8.4 million, depending on the assumed discount rate. These estimates are all below the threshold level established by statute and various executive orders for determining that a rule has an economically significant or substantial impact on affected entities. See further discussion in Section X of this preamble.

The Economic Analysis assumes that permitting authorities are the only entities that are expected to be impacted from this rule because the requirements modified by the rule focus only on the administrative manner in which general ***89322** permits are issued and how coverage under those permits is granted. EPA emphasizes that this final rule does not change the stringency of the underlying requirements in the statute or Phase II regulations to which small MS4 permittees are subject, nor does it establish new substantive requirements for MS4 permittees. Therefore, the Economic Analysis does not attribute new costs to regulated small MS4s beyond what they are already subject to under the statute and Phase II regulations. EPA acknowledges that many permitting authorities consider permitting a cost-neutral function, therefore some may increase permit fees to cover the increased costs associated with this rule.

EPA used conservative assumptions about impacts on state workloads, meaning that the actual economic costs of complying with the final rule and implementing any new procedural changes are most likely lower than what is actually presented. EPA considers the cost assumptions to be conservative because as more permitting authorities issue general permits consistent with the new rule, other permitting authorities can use and build on those examples, reducing the amount of time it takes to draft the permit requirements, and permitting authorities will likely learn from experience as

they move forward how to work more efficiently to issue and administer their general permits. EPA has issued guidance to permitting authorities on how to write better MS4 permits (MS4 Permit Improvement Guide (EPA, 2010); Compendium of MS4 Permitting Approaches—Part 2: Post Construction Standards (EPA, 2016); Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016)), and additional examples of permit provisions that are written in a “clear, specific, and measurable” manner for the six minimum control measures are included in the preamble to this rule. EPA also anticipates issuing further guidance once the rule is promulgated to assist permitting authorities in implementing the new rule requirements, which will in turn hopefully make permit writing more efficient. These gained efficiencies were not, however, accounted for in the option-specific cost assumptions.

II. Background

A. Statutory and Regulatory Overview

Stormwater discharges are a significant cause of water quality impairment because they can contain a variety of pollutants such as sediment, nutrients, chlorides, pathogens, metals, and trash that are mobilized and ultimately discharged to storm sewers or directly to water bodies. Furthermore, the increased volume and velocity of stormwater discharges that result from the creation of impervious cover can alter streams and rivers by causing scouring and erosion. These surface water impacts can threaten public health and safety due to the increased risk of flooding and increased level of pollutants; can lead to economic losses to property and fishing industries; can increase drinking water treatment costs; and can decrease opportunities for recreation, swimming, and wildlife uses.

Stormwater discharges are subject to regulation under section 402(p) of the CWA. Under this provision, Congress required the following stormwater discharges initially to be subject to NPDES permitting requirements: Stormwater discharges for which NPDES permits were issued prior to February 4, 1987; discharges “associated with industrial activity”; discharges from MS4s serving populations of 100,000 or more; and any stormwater discharge determined by EPA or a state to “contribute . . . to a violation of a water quality standard or to be a significant contributor of pollutants to waters of the United States.” Congress further directed EPA to study other stormwater discharges and determine which needed additional controls. With respect to MS4s, section 402(p)(3)(B) provides that NPDES permits may be issued on a system-wide or jurisdiction-wide basis, and requires that MS4 NPDES permits “include a requirement to effectively prohibit non-stormwater discharges into the storm sewers” and require “controls to reduce the discharge of pollutants to the maximum extent practicable . . . and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

EPA developed the stormwater regulations under section 402(p) of the CWA in two phases, as directed by the statute. In the first phase, under section 402(p)(4) of the CWA, EPA promulgated regulations establishing application and other NPDES permit requirements for stormwater discharges from medium (serving populations of 100,000 to 250,000) and large (serving populations of 250,000 or more) MS4s, and stormwater discharges associated with industrial activity. EPA published the final Phase I rule on November 16, 1990 ([55 FR 47990](#)). The Phase I rule, among other things, defined “municipal separate storm sewer” as publicly-owned conveyances or systems of conveyances that discharge to waters of the U.S. and are designed or used for collecting or conveying stormwater, are not combined sewers, and are not part of a publicly-owned treatment works at § 122.26(b)(8). EPA included construction sites disturbing five acres or more in the definition of “stormwater discharges associated with industrial activity” at § 122.26(b)(14)(x).

In the second phase, section 402(p)(5) and (6) of the CWA required EPA to conduct a study to identify other stormwater discharges that needed further controls “to protect water quality,” report to Congress on the results of the study, and to designate for regulation additional categories of stormwater discharges not regulated in Phase I on the basis of the study and in consultation with state and local officials. EPA promulgated the Phase II rule on December 8, 1999, designating discharges from certain small MS4s and from small construction sites (disturbing equal to or greater than one acre and less than five acres) and requiring NPDES permits for these discharges ([64 FR 68722](#), December 8, 1999). A regulated small MS4 is generally defined as any MS4 that is not already covered by the Phase I program and that is located

within the urbanized area boundary as determined by the latest U.S. Decennial Census. Separate storm sewer systems such as those serving military bases, universities, large hospitals or prison complexes, and highways are also included in the definition of “small MS4.” See § 122.26(b)(16). In addition, the Phase II rule includes authority for EPA (or states authorized to administer the NPDES program) to require NPDES permits for currently unregulated stormwater discharges through a designation process. See § 122.26(a)(9)(i)(C) and (D). Other small MS4s located outside of an urbanized area may be designated as a regulated small MS4 if the NPDES permitting authority determines that its discharges cause, or have the potential to cause, an adverse impact on water quality. See §§ 122.32(a)(2) and 123.35(b)(3).

B. MS4 Permitting Requirements

The Phase I regulations are primarily comprised of requirements that must be addressed in applications for individual permits from large and medium MS4s. The regulations at § 122.26(d)(2)(iv) require these MS4s to develop a proposed stormwater management program (SWMP), which is considered by EPA or the authorized state permitting authority when establishing permit conditions to reduce pollutants to the “maximum extent practicable” (MEP).

***89323** Like the Phase I rule, the Phase II rule requires regulated small MS4s to develop and implement SWMPs. The regulations at § 122.34(a) requires that SWMPs be designed to reduce pollutants discharged from the MS4 “to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act,” and requires that the SWMPs include six “minimum control measures.” The minimum control measures are: Public education and outreach, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post construction runoff control, pollution prevention and good housekeeping. See § 122.34(b). Under the Phase II rule, a regulated small MS4 may seek coverage under an available general permit or may apply for an individual permit. To be authorized to discharge under a general permit, the rule requires submission of a Notice of Intent (NOI) to be covered by the general permit containing a description of the best management practices (BMPs) to be implemented and the measurable goals for each of the BMPs, including timing and frequency, as appropriate. See §§ 122.33(a)(1), 122.34(d)(1).

EPA anticipated that under the first two or three permit cycles, whether required in individual permits or in general permits, BMP-based controls implementing the six minimum control measures would, if properly implemented, “be sufficiently stringent to protect water quality, including water quality standards, so that additional, more stringent and/or more prescriptive water quality based effluent limitations will be unnecessary.” (64 FR 68753, December 8, 1999). In the final Phase II rule preamble, EPA also stated that it “has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. MS4s need the flexibility to optimize reductions in storm water pollutants on a location-by-location basis. . . . Therefore, each permittee will determine appropriate BMPs to satisfy each of the six minimum control measures through an evaluative process.” (64 FR 68754, December 8, 1999).

The agency described the approach to meet the MS4 permit standard in the preamble to the Phase II rule as an “iterative process” of developing, implementing, and improving stormwater control measures contained in SWMPs. As EPA further stated in the preamble to the Phase II rule, “MEP should continually adapt to current conditions and BMP effectiveness and should strive to attain water quality standards. Successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards. . . . If, after implementing the six minimum control measures there is still water quality impairment associated with discharges from the MS4, after successive permit terms the permittee will need to expand or better tailor its BMPs within the scope of the six minimum control measures for each subsequent permit.” (64 FR 68754, December 8, 1999).

C. Judicial Review of the Phase II Rule and Partial Remand

The Phase II rule was challenged in petitions for review filed by environmental groups, municipal organizations, and industry groups, resulting in a partial remand of the rule. [Environmental Defense Center v. U.S. Environmental Protection Agency](#), 344 F.3d. 832 (9th Cir. 2003) (EDC). The court remanded the Phase II rule's provisions for small MS4

general permits because they lacked procedures for permitting authority review and public notice and the opportunity to request a hearing on NOIs submitted under general MS4 permits.

In reviewing how the Phase II rule provided for general permit coverage for small MS4s, the court found that the way in which NOIs function under the rule was not the same as in other NPDES general permits. Other general permits contain within the body of the general permit the specific effluent limitations and conditions applicable to the class of dischargers for which the permit is available. In this situation, authorization to discharge under a general permit is obtained by filing an NOI in which the discharger agrees to comply with the terms of the general permit and in which the operator provides some basic information (e.g., site location, receiving waters) to help determine eligibility. In contrast, the court held that under the Phase II rule, because the NOI submitted by the MS4 contains the information describing what the MS4 will do to reduce pollutants to the MEP, it is the “functional equivalent” of an individual permit application. *See EDC, 344 F.3d. at 857.* Because the CWA requires public notice and the opportunity to request a public hearing for all permit applications, the court held that failure to require public notice and the opportunity for a public hearing for NOIs under the Phase II rule is contrary to the Act. *See EDC, 344 F.3d. at 858.*

Similarly, the court found the Phase II rule allows the MS4 to identify the BMPs that it will undertake in its SWMP without any permitting authority review. The court held that the lack of review “to ensure that the measures that any given operator of a small MS4 has decided to undertake will in fact reduce discharges of pollutants to the maximum extent practicable” also does not comport with CWA requirements. The court stated, “That the Rule allows a permitting authority to review an NOI is not enough; every permit must comply with the standards articulated by the Clean Water Act, and unless every NOI issued under general permit is reviewed, there is no way to ensure that such compliance has been achieved.” *See EDC, 344 F.3d. at 855 n.32.* The court therefore vacated and remanded “those portions of the Phase II Rule that address these procedural issues . . . so that EPA may take appropriate action to comply with Clean Water Act.” *See EDC, 344 F.3d. at 858.*

III. Summary of the Proposed Rule and Comments Received

A. Scope of the Proposed Rule

EPA proposed revisions to the Phase II MS4 NPDES permitting requirements on January 6, 2016 (81 FR 415) to respond to the Ninth Circuit's remand in *Environmental Defense Center v. U.S. Environmental Protection Agency*, 344 F.3d. 832 (9th Cir. 2003). To address the remand, the regulations must ensure that permitting authorities determine what permit requirements are needed to reduce pollutants from each permitted small MS4 “to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act” (referred to hereinafter as the “MS4 permit standard”). The rule must also require NPDES permitting authorities to provide the public with the opportunity to review, submit comments, and request a public hearing on these permit requirements. EPA did not propose modifications to any of the substantive requirements that were promulgated in the Phase II rule (nor did EPA reopen or seek comment on any aspect of the Phase I rule, which was described in the preamble of the proposed rule for informational purposes only).

In the remand decision, the court established in broad and clear terms what is needed for general permits that cover regulated small MS4s and therefore provided EPA with what minimum attributes should be part of any revisions to the Phase II regulations. The court stated that “every permit must comply with the standards articulated by the Clean Water Act, and *89324 unless every NOI issued under a general permit is reviewed, there is no way to ensure that such compliance has been achieved.” *See EDC, 344 F.3d at 855, n. 32.* In the court's view, the NOI served as the document that established how the MEP standard would be met: “Because a Phase II NOI establishes what the discharger will do to reduce discharges to the ‘maximum extent practicable,’ the Phase II NOI crosses the threshold from being an item of procedural correspondence to being a substantive component of a regulatory scheme.” *See EDC, 344 F.3d at 853.* Since review of the NOI by the permitting authority was not specified in the regulation, and § 122.34(a) stated that compliance with the storm water management program developed by the permittee constituted compliance with the MEP standard,

the court also expressed concern that the regulation put the MS4 in charge of establishing its own requirements. “[U]nder the Phase II Rule nothing prevents the operator of a small MS4 from misunderstanding or misrepresenting its own stormwater situation and proposing a set of minimum measures for itself that would reduce discharges by far less than the maximum extent practicable.” See EDC, 344 F.3d at 855. Further, the court found that the failure to require public notice or opportunity to submit comments or request a public hearing for each NOI violated requirements applicable to all CWA permits in accordance with section 402(b)(3). See EDC, 344 F.3d at 857.

B. Description of Options Proposed

EPA proposed for comment the following three options to address the regulatory shortcomings found in the remand decision.

1. Option 1 (“Traditional General Permit Approach”)

Under the proposed Traditional General Permit Approach, the permitting authority must establish in any small MS4 general permit the full set of requirements that are deemed necessary to meet the MS4 permit standard (“reduce pollutants to the maximum extent practicable, protect water quality and satisfy the appropriate water quality requirements of the Clean Water Act”), and the administrative record would include an explanation of the rationale for its determination. (This approach contrasts with the original regulations, which appeared to the court to provide the permittee with the ability to establish its own requirements.) Once the permit is issued, and the terms and conditions in the permit are fixed for the term of the permit, neither the development of a SWMP document nor the submittal of an NOI for coverage would represent new permit requirements. Thus, because the permit contains all of the requirements that will be used to assess permittee compliance, the permitting authority would no longer need to rely on the MS4’s NOI as the mechanism for ascertaining what will occur during the permit term. Under this approach, the function of the NOI would be more similar to that of any other general permit NOI, and more specifically other stormwater general permits, whereby the NOI is used to establish certain minimum facts about the discharger, including the operator’s contact details, the discharge location(s), and confirmation that the operator is eligible for permit coverage and has agreed to comply with the terms of the permit. By removing the possibility that effluent limits could be proposed in the NOI (and for that matter in the SWMP) and made part of the permit once permit coverage is provided, the NOI would no longer look and function like an individual permit application, as the court found with respect to MS4 NOIs under the Phase II regulations currently in effect. Therefore, it would not be necessary to carry out the type of additional permitting authority review and public participation procedures contemplated by the Ninth Circuit court in the remand decision. These requirements would be met during the process of issuing the general permit.

2. Option 2 (“Procedural Approach”)

Under the proposed Procedural Approach, the permitting authority would establish applicable permit requirements to meet the MS4 permit standard by going through a second permitting step following the issuance of the general permit (referred to as the “base general permit”), similar to the procedures used to issue individual NPDES permits. Eligible MS4 operators would be required to submit NOIs with the same information that has always been required under the Phase II regulations, that is, a description of the BMPs to be implemented by the MS4 operator during the permit term, and the measurable goals associated with each BMP. Following the receipt of the NOI, the permitting authority would review the NOI to assess whether the proposed BMPs and measurable goals meet the MS4 permit standard. If not, the permitting authority would request supplemental information or revisions as necessary to ensure that the submission satisfies the regulatory requirements. Once satisfied with the submission, the permitting authority would be required to propose incorporating the BMPs and measurable goals in the NOI as permit requirements and to provide public notice of the NOI and an opportunity to submit comments and to request a hearing in accordance with §§ 124.10 through 124.13. After consideration of comments received and a hearing, if held, the permitting authority would provide notice of its decision to authorize coverage under the general permit, along with any MS4-specific requirements established during

this second process. Upon completion of this process, the MS4 would be required to comply with the requirements set forth in the base general permit and the additional terms and conditions established through the second-step process.

3. Option 3 (“State Choice Approach”)

The proposed rule also requested comment on a State Choice Approach, which would allow permitting authorities to choose either the Traditional General Permit Approach or the Procedural Approach, or some combination of the two as would best suit their needs and circumstances. As described in the proposed rule, the permitting authority could, for example, choose to use Option 1 for small MS4s that have fully established programs and uniform core requirements, and Option 2 for MS4s that it finds would benefit from the additional flexibility to address unique circumstances, such as those encountered by non-traditional MS4s (e.g., state departments of transportation, public universities, military bases). Alternatively, a state could apply a hybrid of the two approaches within one permit by defining some elements within the general permit, which, consistent with the Option 1 approach, are deemed to meet the MS4 permit standard, and establishing additional permit requirements through the Option 2 procedural approach for each MS4 seeking coverage under the General Permit. Under a hybrid approach, any requirements established in the general permit that fully articulate what is required to meet the MS4 permit standard would require no further permitting authority review and public notice proceedings; however, for any terms and conditions established for individual MS4s based in part on information submitted with the NOI would need to follow the Option 2 approach for incorporating these requirements into the permit as enforceable requirements.

***89325 C. General Summary of Comments Received**

EPA received about 70 unique comments on the proposed rule from the MS4 community, states, environmental groups, industry associations, and engineering firms. Most commenters favored Option 3—the “State Choice” option. While several expressed support for their states using the Traditional General Permit or Procedural Approach, a number of these same commenters acknowledged that these approaches would likely not work in all situations if EPA were to adopt either one as the sole option under the final rule. EPA notes that while most of the environmental organization commenters expressed support for a hybrid option, which technically falls under the State Choice option, they also strongly recommended mandating that the Traditional General Permit Approach be used for permit requirements related to the six minimum control measures and that the Procedural Approach be used for water quality-based requirements, such as requirements for implementing total maximum daily loads (TMDLs).

A common reason given for supporting the State Choice approach included the flexibility it would give authorized states to use different options to address different situations and that it would minimize disruption to existing programs. Several states that now use a traditional general permit approach or a procedural approach stressed the importance of providing choices for other states. EPA notes that no commenter expressly opposed the State Choice approach. EPA discusses these comments in the context of its decision to adopt the State Choice approach in the final rule in Section IV of the preamble below.

EPA received a significant number of comments concerning its proposed changes to the way in which permit terms and conditions must be expressed, particularly with respect to the proposed deletion of the word “narrative” in § 122.34(a). These comments focused on the concern that EPA was moving away from support of the use of BMPs to comply with stormwater permits and from the longstanding “iterative approach” to meeting MS4 permit requirements. EPA discusses these comments and the changes made in response to these comments in the final rule in Section V of the preamble.

In addition to responding to major comments in the preamble, EPA has prepared a Response to Comment document, which can be found in the docket for this rulemaking.

IV. Summary of the Final Rule

A. Selection of the “Permitting Authority Choice” Approach

EPA is selecting proposed Option 3 (the “State Choice Approach”) for the final rule, described in Section III.B.3. The new name for this option better captures the universe of entities that will implement the rule, i.e., any NPDES permitting authority including EPA Regions and authorized states. Under this approach, the NPDES permitting authority may choose between two alternative means of establishing permit requirements in general permits for small MS4s. The final rule amends § 122.28(d) to require permitting authorities to choose one of these two types of general permits whenever issuing a small MS4 general permit. Permitting authorities are required to select either the “Comprehensive General Permit” or “Two-Step General Permit”. The “Comprehensive General Permit” is essentially the “Traditional General Permit”, or “Option 1”, from the proposed rule. The “Two-Step General Permit” encompasses both the “Procedural Approach”, or “Option 2” and the “hybrid approach” that was described as part of “Option 3” from the proposed rule. The Two-Step General Permit allows the permitting authority to establish some requirements in the general permit and others applicable to individual MS4s through a second proposal and public comment process.

B. Description of the Two Permitting Alternatives Under the Permitting Authority Choice Approach

As described in Section IV.A, the Permitting Authority Choice Approach requires permitting authorities to choose between two alternative approaches to issue general permits for small MS4s. These two types of general permits are described briefly as follows:

- **Comprehensive General Permit**—For this type of general permit, the permitting authority issues a small MS4 general permit that includes the full set of requirements necessary to meet the MS4 permit standard of “reducing pollutant discharges from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the CWA.” Under the Comprehensive General Permit, all requirements are contained within the general permit, and no additional requirements are established after permit issuance, as is the case with the “Two-Step General Permit” described below. For this reason, to provide coverage to eligible small MS4s, the permitting authority can use a traditional general permit NOI as described in § 122.28(b)(2)(ii), and does not need to require additional information from each operator concerning how they will comply with the permit, for instance the BMPs that will be implemented and the measurable goals for each control measure, as a prerequisite to authorizing the discharge. See further discussion of the role of the NOI in Section IV.E.
- **Two-Step General Permit (combination of the proposed Procedural and Hybrid Approaches)**— For the Two-Step General Permit, after issuing a base general permit, the permitting authority establishes through the completion of a second permitting step additional permit terms and conditions that are necessary to meet the MS4 permit standard for each MS4 seeking authorization to discharge under the general permit. These additional terms and conditions supplement the requirements of the general permit for individual MS4 permittees. It is in the second permitting step where the permitting authority satisfies its obligation to review the NOI for adequacy, determine what additional requirements are needed for the MS4 to meet the MS4 permit standard, and provide public notice and an opportunity for the public to submit comments and to request a hearing. See discussion of the second permitting step in Section V.B. Upon completion of this process, the MS4 permittee is authorized to discharge subject to the terms of the general permit and the additional requirements that apply individually to that MS4.

The Two-Step General Permit encompasses the “hybrid” approach described in the proposed rule (see Section VI.C), where the permitting authority includes specific permit terms and conditions within the base general permit, but also establishes additional requirements to meet the MS4 permit standard through a second permitting step. For the final rule, EPA intentionally used rule language that would enable permitting authorities to use a Two-Step General Permit to implement a hybrid approach by referring to both “required permit terms and conditions in the general permit applicable to all eligible small MS4s” and “additional terms and conditions to satisfy one or more of the permit requirements in § 122.34 for individual small MS4 operators.” See § 122.28(d)(2).

The final rule requires that the permitting authority indicate which ***89326** type of general permit it is using for any small MS4 general permit. This statement or explanation may be included in the general permit itself or in the permit fact sheet. EPA notes that the permitting authority may choose to change the permitting approach for subsequent permits. Questions concerning when the final rule change takes effect are discussed in Section VIII.A.

C. Summary of Regulatory Changes To Adopt the Permitting Authority Choice Approach

The final rule implements the Permitting Authority Choice option in several different sections of the NPDES regulations. Below is a brief summary of the most significant changes and where they can be found in the final rule:

- **Permitting Authority Choice Approach (§ 122.28(d)):** The final rule adds a new paragraph (d) to § 122.28 that requires the permitting authority to select between two alternative general permits. This section describes both types of general permits (the “Comprehensive General Permit” and the “Two-Step General Permit”) and the minimum requirements associated with each. EPA chose to include the Permitting Authority Choice in a different section of the regulations than was proposed. EPA determined upon further consideration that rather than including all of the requirements within the application and NOI section of the Phase II regulations now at § 122.33, the two alternatives comprising the Permitting Authority Choice Approach fit better within the general permit regulations as a unique set of requirements affecting general permits for regulated small MS4s.
- **Changes to the NOI requirements (§ 122.33):** The final rule includes modifications to the requirements for what must be included in NOIs submitted for coverage under small MS4 general permits. The required contents of the NOI vary depending on the type of general permit used. For permitting authorities choosing a Comprehensive General Permit, the final rule enables the permitting authority to reduce the information required in NOIs to the minimum information required for any general permit NOI in § 122.28(b)(2)(ii). See § 122.33(b)(1)(i). For permitting authorities choosing the Two-Step General Permit, the final rule provides the permitting authority with the ability to determine what information it deems necessary to establish individual requirements for MS4 operators that meet the MS4 permit standard. See § 122.33(b)(1)(ii), and additional discussion of these and other changes to § 122.33 in Section V.D.1.
- **Clarifications to the requirements for small MS4 permits (§ 122.34):** Regardless of the permitting approach chosen by the NPDES authority, the terms and conditions of the resulting general permits must adhere to the requirements of § 122.34. The final rule retains modifications from the proposed rule that clarify that it is the permitting authority's responsibility, and not that of the small MS4 permittee, to establish permit terms and conditions that meet the MS4 regulatory standard and to delineate the requirements for implementing the six minimum control measures, other terms and conditions deemed necessary by the permitting authority to protect water quality, as well as any other requirement. The final rule also emphasizes that permit requirements must be expressed in “clear, specific, and measurable” terms. These modifications do not alter the existing, substantive requirements of the six minimum control measures in § 122.34(b). See further discussion of these changes in Section VI.

D. Commonalities Among the Two Types of General Permits

The two options available to the permitting authority under the final rule involve different steps and require differing levels of administrative oversight; however, at a basic level, they share the same underlying characteristics. Each type of general permit shares in common that through the permitting process, the permitting authority must determine which requirements a small MS4 must meet in order to satisfy the MS4 permit standard. Both types of general permits also require that the specific actions that comprise what is necessary to meet the MS4 permit standard be established through the permitting process. The key distinction between the two types of permits is that they establish permit terms and conditions at different points in time during the permitting process. For Comprehensive General Permits, the determination as to what requirements are needed to satisfy the MS4 permit standard is made as part of the issuance of the general permit. By contrast, for Two-Step General Permits, the permitting authority makes this determination both

in the process of issuing the general permit and in the process of establishing additional permit requirements applicable on an individual basis to each MS4 covered under the general permit, based on information in the NOI.

The final rule also places both types of general permits on a level playing field with respect to the requirements that must be addressed in any general permit issued to a small MS4. Regardless of which type of general permit is used to establish permit terms and conditions, every small MS4 general permit must include requirements that address the minimum control measures (§ 122.34(b)), water quality-based requirements where needed (§ 122.34(c)), and evaluation and assessment requirements (§ 122.34(d)). The final rule clarifies that all such terms and conditions must be expressed in terms that are “clear, specific, and measurable.” The important attribute here is that permit requirements must be enforceable, and must provide a set of performance expectations and schedules that are readily understood by the permittee, the public, and the permitting authority alike. For both types of general permits, requirements may be expressed in narrative or numeric form, as long as they are clear, specific, and measurable. This requirement for clear, specific, and measurable requirements applies to any permit term or condition established under § 122.34, including requirements addressing the minimum control measures, any water quality-based requirements, and the evaluation, recordkeeping, and reporting requirements. Section VII of this preamble contains a detailed discussion about establishing permit terms and conditions.

Importantly, the final rule also ensures that the process for issuing both types of general permit addresses the deficiencies found by the Ninth Circuit to exist in the Phase II regulations. While the court's opinion focused on the role of the NOI in the Phase II rule for MS4 general permits, the court made it clear that under the CWA, the permitting authority must determine which MS4 permit requirements are adequate to meet the MS4 permit standard, and that the public must have the opportunity to review and comment on those permit requirements and to request a hearing. All of these core CWA requirements are present in the final rule. For Comprehensive General Permits, once the permit is issued it has gone through permitting authority review, public notice and comment, and the opportunity to request a hearing. Permitting authority review and public comment and opportunity for a hearing occurs in the process of drafting permit conditions and soliciting comment on the draft general permit. Permitting authority determination of what an MS4 must do to meet the MS4 permit standard occurs in the process of issuing ***89327** the final permit after consideration of comments. By comparison, for Two-Step General Permits, permitting authority review, public notice and comment, and the opportunity to request a hearing occur first on the draft general permit and again on the additional terms and conditions applicable to each MS4 authorized to discharge under the general permit. Under the Two-Step process, the CWA requirements for permitting authority review and public comment and opportunity for hearing are only fully addressed after the completion of the discharge authorization process for each individual small MS4 operator seeking coverage under the general permit. To ensure that these CWA requirements are met, the final rule supplements the administrative steps necessary to issue the base general permit with procedures that ensure that any decision to authorize an individual MS4 to discharge based on information included in the NOI is subject to review by the permitting authority, and the public has the opportunity to review and submit comments, and to request a hearing on the terms and conditions that will be incorporated as enforceable permit terms.

E. Role of the NOI Under the Permitting Authority Choice Approach

The two permitting options available under the final rule include important changes in the relationship between the MS4 operator's NOI and the general permit. Under the 1999 Phase II regulations, any MS4 operator seeking coverage under a small MS4 general permit has been required to submit information in the NOI describing, at a minimum, the BMPs that would be implemented for each minimum control measure during the permit term, and the measurable goals associated with each BMP. These NOIs differ significantly from the typical general permit NOI, which is required to include far less information, and “represents no more than a formal acceptance of [permit] terms elaborated elsewhere” in the general permit. See *EDC*, 344 F. 3d. at 852. Under the NPDES regulations at § 122.28(b)(2)(ii), the NOI is a procedural mechanism to document operator eligibility, to certify that the information submitted by the operator is accurate and truthful, and to confirm the operator's intention to be covered by the terms and conditions of the general permit.

The Ninth Circuit court, in its remand decision, likened the NOI under the remanded regulations to being “functionally equivalent to a detailed application for an individualized permit,” since the MS4 operator was in essence proposing to the permitting authority what it intended to accomplish to satisfy the MS4 permit standard. The court found it to differ markedly from the NOI utilized for most general permits, that is, limited to “an item of procedural correspondence.” 344 F. 3d. at 853. The similarity in the court's view between the NOI under the Phase II regulations and an individual permit application, combined with the failure of the regulations to require permitting authority review or to provide the opportunity for the public to comment and request a hearing on the NOI, were key factors in the Ninth Circuit finding that the regulations had violated the CWA.

The final rule modifies the way in which the NOI functions in important respects so that it addresses the problems found by the Ninth Circuit. For a Comprehensive General Permit, because the permit contains all of the requirements that will be used to assess permittee compliance, the permitting authority no longer needs to rely on the MS4's NOI as the mechanism for ascertaining what will occur during the permit term. In this way, the function of the NOI is the same as that of any other general permit NOI, and more specifically other stormwater general permits, where the NOI is used to establish certain minimum facts about the discharger, including the operator's contact details, the discharge location(s), and confirmation that the operator is eligible for permit coverage and has agreed to comply with the terms of the permit. It is for this reason, therefore, that the final rule establishes no additional requirements for the information required to be included in NOIs beyond what is already required for other general permits in § 122.28(b)(2)(ii). See § 122.33(b)(1) in the final rule. By removing the possibility that permit requirements could be proposed in the NOI (or in the SWMP) and made part of the permit once permit coverage is provided under the Comprehensive General Permit approach, the NOI will no longer look and function like an individual permit application, as the court found with respect to MS4 NOIs under the original Phase II regulations. Similarly, because the NOI no longer bears the similarity of an individual permit application, it is no longer necessary to carry out the type of additional permitting authority review and public participation steps contemplated by the Ninth Circuit.

By contrast, for coverage under a Two-Step General Permit, the NOI needs to include information to assist the permitting authority in developing the additional permit requirements for each permittee. For this NOI, the permitting authority requires more detailed information from the MS4 operator so that it can determine what additional permit terms and conditions are necessary in order to satisfy the MS4 permit standard. The NOI in the Two-Step General Permit is likely to include much of the same information that has been required of MS4 operators under the regulations since they were promulgated in 1999. The major difference now is that the permitting authority reviews the NOI materials to determine what additional permit terms and conditions are necessary for the individual MS4 to meet the MS4 permit standard, and to provide an opportunity for the public to comment and request a hearing on this determination.

The proposed rule would have required the full set of information required for individual permit applications in § 122.33(b)(2)(i), including the proposed BMPs to be implemented for the minimum control measures, measurable goals for each BMP (as required by § 122.34(d) of the original regulations), the persons responsible for implementing the stormwater management program, the square mileage served by the MS4, and any other information deemed necessary. In the final rule, EPA is taking a slightly different approach and giving the permitting authority the flexibility to determine what information it needs to request in its Two-Step General Permit NOI rather than requiring by default that all of the individual permit application information be submitted. This will give the permitting authority the ability to request what information it needs to establish the necessary additional terms and conditions for each individual MS4 to meet the MS4 permit standard. If the permitting authority needs information from all of its MS4s on the BMPs and measurable goals they propose for the permit term in order to establish suitable permit requirements, then it has the discretion to require this information. See §§ 122.28(d)(2)(i) and 122.33(b)(1)(ii), which states that the information requested by the permitting authority “may include, but is not limited to, the information required under § 122.33(b)(2)(i).”

Alternatively, under the final rule, if the general permit terms and conditions already define what is required to meet the MS4 permit standard for several of the minimum control measures then the permitting authority could decide that it is no longer necessary to require the submittal of information on the BMPs and measurable goals associated with *89328 those minimum control measures. As noted by a commenter, requiring information from MS4s related to permit terms and conditions that have already been established is likely to be redundant and represent an unnecessary burden. At the same time, the permitting authority must be able to obtain sufficient information to establish clear, specific, and measurable permit terms and conditions. Under the final rule, there is no minimum requirement with respect to what information is needed. In short, the permitting authority must request the information it needs to be able to make an informed decision when establishing clear, specific, and measurable permit terms and conditions for the permittee to ensure that it will meet the MS4 permit standard. The final rule enables the permitting authority to determine what the right amount of information is needed to meet this requirement.

F. Permitting Authority Flexibility To Choose the Most Suitable Approach

The final rule provides permitting authorities with full discretion to choose which option is best suited for its permitting needs and specific circumstances. While there are significant considerations, advantages, and disadvantages to selecting either of the two permitting approaches, EPA is leaving the decision of which method to adopt for each general permit up to the permitting authority. In providing full discretion to the permitting authority to choose which approach to use, EPA agreed with commenters that recommended against adopting conditions or constraints on the selection of either of the two options. EPA also expects that the decision as to which approach to adopt for any given small MS4 general permit may change from one permit term to the next. Therefore, if the permitting authority elects to issue its next general permit by implementing the “Comprehensive General Permit Approach” there is nothing preventing the permitting authority from switching approaches to the “Two-Step General Permit Approach” in subsequent permit terms, or vice versa.

EPA requested comment on whether the agency should constrain the permitting authority's discretion under Option 3 by requiring the use of the “Traditional General Permit Approach” (now the “Comprehensive General Permit”) for some types of permit terms and conditions, while allowing the “Procedural Approach (now the “Two-Step General Permit”) to be used for other requirements. Several commenters recommended that EPA require permitting authorities to use the proposed “Traditional General Permit Approach” to establish permit requirements for the minimum control measures in § 122.34(b) and to allow the use of the proposed “Procedural Approach” for the establishment of water quality-based effluent limits, such as those implementing total maximum daily loads (TMDLs). EPA refers to this approach below as a “fixed hybrid approach.” Other commenters were opposed to a fixed hybrid approach and urged EPA to provide permitting authorities with maximum discretion to choose which option works best without stipulating which option must be used for specific types of permit requirements.

After consideration of these comments, EPA has determined that it is unnecessary to mandate which permitting approach is used for specific types of requirements. Primarily, EPA does not wish to prejudice what approach permitting authorities use to arrive at clear, specific, and measurable requirements that result in achieving the MS4 permit standard. As an overall matter, EPA views both of the approaches in the final rule as equally valid ways of establishing the required permit terms and conditions and meeting the remand requirements.

Having said this, however, EPA recognizes that some types of requirements are more easily established through the general permit than others. For instance, clear, specific, and measurable permit requirements that address the minimum control measures, due to their broad applicability to all MS4s, may be easier to develop and include within the general permit, than requirements addressing TMDLs. EPA's MS4 Permit Improvement Guide (EPA, 2010) and the MS4 permit compendia [FN1] provide a number of ready examples for how permits may establish clear, specific, and measurable requirements that implement the six minimum control measures. On the other hand, the necessarily site- and watershed-specific nature of TMDLs, combined with the fact that effective implementation of TMDLs is enhanced through involvement of the public at the local level, makes these types of requirements more amenable to being developed through the procedural requirements of the second permitting step within the Two-Step General Permit. To illustrate this point,

a number of states have already adopted approaches that enable the MS4s to first develop and propose something like a TMDL implementation plan, followed by a step where the state permitting authority reviews and approves the plan to make it an enforceable part of the permit. See related examples in EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016).[FN2] In this situation, under the final rule, the permitting authority would establish the MS4's TMDL implementation requirements as part of the second step of the general permit and follow the procedures applicable to the Two-Step General Permit in § 122.28(d)(2).

EPA anticipates that some permitting authorities may over time appreciate the benefits of not having to go through a second process step for individual review and individualized public notices for each MS4, and may as an alternative choose to establish the required permit terms and conditions necessary to meet the MS4 permit standard in the general permit. Under the Two-Step General Permit, the permitting authority must provide public notice for each MS4's NOI and the proposed additional permit terms and conditions to be applied to the MS4, and review and process comments and any requests for a public hearing before finalizing the permit terms and conditions. By comparison, there is only one public notice for an opportunity to comment and request a hearing for a Comprehensive General Permit. Even if deciding that a Comprehensive General Permit is not the best fit, some permitting authorities may find it easier over time to move more requirements into the base general permit so that the number of permitting provisions subject to the additional individualized review and public notice is reduced.

G. Why EPA Did Not Choose Proposed Option 1 or 2 as Stand-Alone Options

By adopting the proposed State Choice Approach (Option 3) (now called the “Permit Authority Choice Approach”) for the final rule, EPA is making a decision to not adopt Option 1 (the “Traditional General Permit Approach”) or Option 2 (the “Procedural Approach”) from the proposal as the sole approach by which permitting authorities issue and administer their small MS4 general permits. As stated in Section V.B., the public comments were heavily in favor of adopting Option 3, although there were also proponents for finalizing *89329 proposed Option 1 and for finalizing an approach that would require use of proposed Option 1 for the minimum control measures and proposed Option 2 for water quality-based requirements. EPA ultimately found most persuasive the comments arguing in favor of choosing Option 3 to give permitting authorities flexibility and discretion to determine how it would develop different permit requirements.

A major theme among comments favoring Option 3 was the emphasis on the flexibility it would provide permitting authorities to choose which approach works best in their state. This flexibility will be important, according to a number of commenters, to continue to be able to administer a program that includes local governments with divergent geography, land resources and uses, and financial and resource capacities. According to a number of commenters, Option 3 would also give permitting authorities a range of options for crafting permit conditions for non-traditional MS4s (e.g., universities, hospitals, military bases, road and highway systems), which in many cases require different types of permit provisions than traditional MS4s due to their lack of regulatory, land use, and/or police powers and more limited audiences. Other comments focused on the significant burden that would be placed on states and regulated MS4s if required to adopt one uniform approach, especially in cases where the permitting authority is already implementing approaches that are similar to either proposed Option 1 or 2. In some cases, the way in which permitting authorities write and administer their small MS4 general permits is a direct result of state case law or concern about the risk of state litigation, and these states argue forcefully in their comments about the importance of retaining their approach in light of this history. According to these comments, those permitting authorities that have chosen one or the other of Option 1 or 2 should be able to continue implementing that approach.

Another related common theme among the comments was an argument against adopting either proposed Option 1 or Option 2 as a national, one size fits all approach. These comments emphasized the difficulties associated with forcing all permit terms and conditions into one general permit for all MS4 types and all water quality considerations using the proposed Option 1 approach, and underscored the resource demands associated with implementing an Option 2

approach. Many of these commenters concluded that Option 3 would be the best way of preserving the permitting authority's flexibility to tailor their approach based on what would work best for each state's circumstances.

Based on these comments, EPA chose Option 3, the Permitting Authority Choice option, because both options are valid ways of addressing the court's remand and there is no reason to compel permitting authorities to adopt one or the other of the approaches in proposed Option 1 or Option 2. EPA also appreciates that those state permitting authorities that are already moving their small MS4 permitting approaches in the direction of either Option 1 or 2 are doing so for a number of legitimate reasons that relate to these states' individual circumstances. By enabling permitting authorities to choose which option works best, EPA is avoiding disrupting already established state preferences. This is not to say that permitting authorities will not have to make changes to conform their procedures to the requirements of the final rule.

EPA also received comments urging the Agency not to adopt Option 2 as the only permitting choice available to permitting authorities because of the resource burdens associated with the Option 2 approach, especially the requirement to individually review and approve terms and conditions for their small MS4s. EPA does not dispute the fact that Option 2, which has been finalized as the "Two-Step General Permit", is resource intensive; this approach requires significant administrative oversight by design. The process of conducting an individual review of each MS4 operator's NOI, developing a proposal for comment of unique terms and conditions based on the NOI, and processing any public comments or requests for public hearings will require additional resources of the permitting authority if it is not already implementing this type of approach. Any permitting authority choosing this approach will need to carefully consider whether it has the resource capacity to handle the large amount of administrative oversight and review responsibilities that the Two-Step General Permit requires. EPA expects that the resource requirements alone will provide sufficient enough reason for a number of permitting authorities to choose the Comprehensive General Permit, or to minimize the number of terms and conditions it develops for individual MS4 to lessen the administrative burden associated with the Two-Step General Permit.

EPA understands that a permitting authority's decision to adopt the Two-Step General Permit will mean that members of the public interested in commenting on small MS4 permit conditions may end up needing to review not only the draft general permit but also the public notice that proposes the additional terms and conditions for each MS4 that seeks coverage under the general permit. Some commenters considered this a disadvantage because it would be burdensome for the public as well. EPA does not see this as sufficient reason for EPA to choose Option 1 as the only option and deprive permitting authorities of the flexibility to use a two-step procedure. The Two-Step General Permit closely resembles, after all, the approach suggested in the EDC remand decision, which emphasized the need for permitting authority review and public participation procedures prior to the establishment of enforceable permit requirements. EPA appreciates the level of interest and concern there is among the public for ensuring that MS4 discharges are being adequately controlled and are making improvements in water quality. EPA notes that any permitting authority that takes on the Two-Step permitting process will need to be prepared to review and respond to any comments that it receives in response to the individual public notices it publishes, and will need to provide a rationale for any final permit terms and conditions established through the process. While states currently using a two-step type of procedure report that they receive few, if any public comments about requirements for individual MS4s, this will not necessarily hold true for the future. With this in mind, EPA found it important to clarify in the final rule that permitting authorities may switch to a Comprehensive General Permit for the next permit term simply by explaining which option they will use to provide coverage under the general permit.

V. How the Two General Permit Options Work

A. Comprehensive General Permit Approach

Permitting authorities opting to issue Comprehensive General Permits must establish the full set of requirements that are deemed necessary to meet the MS4 permit standard in § 122.34. (See § 122.28(d)(1), which requires that "the Director includes all required permit terms and conditions in the general permit.") The permit must therefore include terms and

conditions that define what is required to meet the MS4 permit standard for the minimum control measures (§ 122.34(b)), *89330 additional permit terms and conditions based on an approved total maximum daily load (TMDL) or other appropriate requirements to protect water quality (§ 122.34(c)), and requirements to evaluate and report on compliance with the permit (§ 122.34(d)). As a result, the Comprehensive General Permit is no different than other general permits in that all applicable effluent limitations and other conditions are included within the permit itself, and the NOI is used primarily to determine whether a specific MS4 is eligible and to secure coverage for that MS4 under the permit subject to its limits and conditions.

While a number of comments expressed support for the proposed Option 1 approach (now called the “Comprehensive General Permit” in the final rule), there were also comments expressing concern about the difficulty of putting together a permit that would comprehensively establish terms and conditions that would be suitable for and achievable by all eligible MS4s, including both traditional and non-traditional MS4s. Others questioned the ability of permitting authorities to write a single permit that would establish uniform requirements that would contain appropriate requirements for MS4s that have been regulated since the beginning of the Phase II program as well as for MS4s brought into the Phase II program by the latest Census, not to mention a permit that would be able to establish watershed-specific requirements addressing TMDLs. EPA acknowledges the challenge that permitting authorities will face in developing and issuing a Comprehensive General Permit. Synthesizing the collective understanding of MS4 capabilities across an entire state, and translating this into effective and achievable permit requirements, will require a greater effort up front in developing one of these permits. However, as described in further detail below, there are ways of addressing challenges such as these, for example, by subcategorizing MS4s by experience, size, or other factors, and creating different requirements for each subcategory.

To assist permitting authorities in developing permit conditions for a Comprehensive General Permit, EPA has compiled examples of permit provisions from existing permits that implement the minimum control measures, which are written in a “clear, specific, and measurable” manner. These examples are included in a document entitled *Compendium of MS4 Permitting Approaches—Part 1: Six Minimum Control Measure Provisions* (EPA, 2016). EPA has also included in a separate compendium examples of permit provisions to consider when addressing approved TMDLs.[FN3] A number of commenters requested that EPA continue to provide these types of examples to help permitting authorities implement the final rule. EPA agrees with these comments, and plans to regularly update these compendia and provide other similar types of technical assistance.

There are a variety of permitting approaches that should be considered to address the concerns raised about developing a Comprehensive General Permit for the large number and variety of regulated MS4s, and which address the array of localized or watershed-based issues. One approach that may work is to issue two different comprehensive general permits or to subdivide the permitted universe, establish in the main body of the permit requirements that apply to all MS4s, and to provide a separate appendix that establishes MS4-specific terms and conditions, which apply uniquely to different categories of MS4s. For instance, the state of Washington has issued two MS4 general permits, one for the eastern part of the state and the other for the western part of the state. Further, the Western Washington Small MS4 General Permit includes a TMDL appendix, which establishes additional permit requirements for specific MS4s based on the watershed in which they are located and the waterbody to which they discharge. These additional requirements are each translated from the approved TMDL for that watershed and the specific waterbody. Another approach that permitting authorities can consider is to establish different requirements for each minimum control measure for separate sub-categories of MS4s based on type of MS4 or other factors.[FN4] Permits could also include separate sections for traditional versus non-traditional MS4s,[FN5] or alternatively separate permits may be issued for these different categories of MS4s, as several states are doing for departments of transportation MS4s. The main benefit of these different approaches is that they provide the permitting authority with a way of dividing up the universe of small MS4s into smaller categories, which are composed of municipalities with a greater degree of similarity among them.

B. Two-Step General Permit Approach

Inherent in the Two-Step General Permit approach is the fact that the general permit requirements are not on their own adequate to meet the MS4 permit standard in § 122.34. In order to fill in the gaps, the permitting authority must individually review information submitted with each eligible MS4 operator's NOI, and propose additional permit requirements to apply to the MS4 individually that, together with the base general permit requirements, meet the MS4 permit standard for that MS4. These proposed additional permit requirements and the information on which it is based is then subject to public notice and comment, and the opportunity to request a hearing.

The first step of the Two-Step General Permit is to develop and issue the final small MS4 general permit, or “base general permit.” The need for the second step arises because the base general permit does not include all of the terms and conditions necessary to meet the MS4 permit standard, and therefore has left the development of the additional requirements to a second process. NOIs for general permits using this approach must include more information than NOIs for typical general permits.

The proposed rule described the steps that would be involved in the second step of the permitting process in Section VI.B of the preamble (81 FR 427, January 6, 2016). EPA requested comment on modifying the applicable parts of the NPDES regulations to enable permitting authorities to incorporate additional, enforceable elements of the Two-Step General Permit for individual MS4s following a process that would require public notice, the opportunity to request a public hearing, and a final permitting determination. The model that EPA proposed for this procedure was based on several of the key components of the permitting framework adopted for Concentrated Animal Feeding Operations (CAFOs) in § 122.23(h). EPA proposed that the new “Option 2” process would be contained in § 122.33(b)(1), where the NOI requirements for small MS4 general permits are located. The proposal described the rule provisions as follows:

- At a minimum, the operator must include in the NOI the BMPs that it proposes to implement to comply with the permit, the measurable goals for each BMP, the person or persons responsible for implementing the SWMP, and any additional information *89331 required in the NOI by the general permit. The Director must review the NOI to ensure that it includes adequate information to determine if the proposed BMPs, timelines, and any other actions are adequate to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. When the Director finds that additional information is necessary to complete the NOI or clarify, modify, or supplement previously submitted material, the Director may request such additional information from the MS4 operator.
- If the Director makes a preliminary determination that the NOI contains the required information and that the proposed BMPs, schedules, and any other actions necessary to reduce the discharge of pollutants from the MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act, the permitting authority must notify the public of its proposal to authorize the MS4 to discharge under the general permit and, consistent with § 124.10, make available for public review and comment and opportunity for public hearing the NOI, and the specific BMPs, milestones, and schedules from the NOI that the Director proposes to be incorporated into the permit as enforceable requirements. The process for submitting public comments and hearing requests, and the hearing process if a hearing is granted, must follow the procedures applicable to draft permits in §§ 124.11 through 124.13. The permitting authority must respond to significant comments received during the comment period, as provided in § 124.17, and, if necessary revise the proposed BMPs and/or timelines to be included as terms of the permit.
- When the Director authorizes coverage for the MS4 to discharge under the general permit, the specific elements identified in the NOI are incorporated as terms and conditions of the general permit for that MS4. The permitting authority must, consistent with § 124.15, notify the MS4 operator and inform the public that coverage has been authorized and of the elements from the NOI that are incorporated as terms and conditions of the general permit applicable to the MS4 (81 FR at 427-420, January 6, 2016).

The final rule matches closely with what was proposed as the steps necessary to implement Option 2. These steps, which are part of what was finalized as the “Two-Step General Permit,” are described as follows in § 122.28(d)(2):

- (1) The MS4 operator submits the NOI with the information about its activities as specified in the general permit.
- (2) The permitting authority reviews the NOI to determine if the information is complete and to develop proposed additional permit requirements necessary to meet the MS4 permit standard;
- (3) If the permitting authority makes a preliminary determination to authorize the small MS4 operator to discharge it must give the public notice of and opportunity to comment and request a public hearing on the proposed additional permit terms and conditions, and the basis for these additional requirements, including the NOI and other relevant information submitted by the MS4. These procedures must be carried out in accordance with 40 CFR part 124.
- (4) Upon completion of the procedures in step (3), the permitting authority may authorize the discharge from the MS4 subject to the requirements of the base general permit and the final requirements established in the second step. Using this approach, the permitting authority may choose to rely fully on the completion of this process to establish most of required permit terms and conditions for a particular MS4, or it may rely on a hybrid approach wherein some of the necessary requirements are established within the base general permit at permit issuance while the remaining set of requirements are developed during the process of authorizing individual MS4 discharges in the second step.

Where EPA has modified the Two-Step General Permit from the proposed rule, it is to clarify a point made in the proposed rule. For instance, EPA makes a clarification in the final rule regarding the requirements for NOI review in the Two-Step approach. The proposed rule explained that the purpose of the permitting authority's review is to determine whether the NOI is complete and whether the operator's proposed set of BMPs and measurable goals are adequate to meet the MS4 permit standard. The final rule places emphasis on the fact that the information submitted by the MS4 operator with its NOI is for the purpose of informing the permitting authority's determination as to what “additional terms and conditions necessary to meet the requirements of § 122.34.” See § 122.28(d)(2)(ii). What the operator submits in the NOI is determined by the permitting authority when establishing the base general permit. The permitting authority may request descriptions of BMPs to be implemented and measurable goals as the MS4's proposal for what it considers to be adequate to “reduce pollutants to the maximum extent practicable, protect water quality and satisfy the appropriate water quality requirements of the Clean Water Act.” Under the Two-Part General Permit in the final rule, the permitting authority reviews this information to craft what it determines are the necessary permit terms and conditions to meet this MS4 permit standard; these terms and conditions are then subject to the permitting procedures for public comment and the opportunity to request a hearing. The specific requirements developed out of this process may bear a substantial similarity to the operator's proposed BMPs and measurable goals, but they also may be modified or further refined based on the permitting authority's own determination as to the specific requirements that it deems necessary to meet the MS4 permit standard. For instance, instead of proposing to adopt all of the BMP details that are submitted by the MS4 operator with the NOI as enforceable permit requirements, the permitting authority may instead develop proposed requirements that focus in on the specific actions and milestones that it believes would represent significant progress during the permit term. This is a clarification from the proposed rule description of the NOI review process, which did not clearly articulate the permitting authority's role in reviewing the operator's BMP and measurable goal information, or other information requested in the base general permit (or fact sheet).

Another clarification made to the proposed Two-Step process relates to the 40 CFR part 124 procedures to follow during the second step. The final rule incorporates by reference several specific sections of part 124. These specific references are consistent with the proposed rule's reference generally to part 124, however, in the final rule EPA focused in on the specific procedural requirements that ensure that the public participation aspects of the Two-Step General Permit are consistent with the NPDES regulations. These part 124 requirements are necessary because the permitting authority is proposing to add additional terms and conditions to the general permit applicable to individual MS4 permittees. EPA

likens these additional terms and conditions to the development of a “draft permit” under § 124.6, and, as such, these draft requirements must undergo minimum permitting procedures for public notice, *89332 comments, and hearings before they are established in final form. The following procedural requirements are referenced directly:

Public Notice of Permit Actions and Public Comment Period (§ 124.10, Excluding (c)(2))

—By incorporating these provisions of § 124.10 for the Two-Part General Permit, this means that the permitting authority's notice must adhere to the following minimum public notice requirements for the draft permit conditions:

- The notice must provide a minimum of 30 days for the public to provide comment on the draft permit terms and conditions. The permitting authority must provide notice to the public at least 30 days prior to holding a public hearing on these draft requirements. See § 124.10(b).

- The permitting authority must provide public notice to the MS4 operator who submitted the NOI, to any relevant agencies or other entities referenced in § 124.10(c)(1), and members of the public on the permitting authority's mailing list pursuant to § 124.10(c)(1)(ix). The public notice must also be sent in a manner constituting legal notice to the public under state law (if the permit program is administered by an approved state), and by using “any other method reasonably calculated to give actual notice” of the draft terms and conditions being added to the permit. See § 124.10(c)(3) and (4).

- The public notice must consist of: (1) The name and address of the office processing the NOI and draft terms and conditions for the MS4 operator; (2) name, address, and telephone number of a person from whom interested persons may obtain further information, including copies of the draft terms and conditions, statement of basis or fact sheet, and the NOI; (3) a brief description of the comment procedures required by §§ 124.11 and 124.12 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing, and any other procedures by which the public may participate in the final authorization decision; (4) for EPA-issued permits, the location of the administrative record required by § 124.9, the times when the record will be open for public inspection, and a statement that all data submitted by the operator is available as part of the administrative record; (5) a general description of the location of each discharge point and the name of the receiving water; and (6) any additional information considered “necessary or proper.” The public notice of a hearing under § 124.12 must include: (1) Reference to the date of previous public notices relating to the same MS4; (2) date, time, and place of the hearing; and (3) a brief description of the nature and purpose of the hearing, including the applicable rules and procedures. See § 124.10(d).

- In addition to the public notice, the permitting authority must mail a copy of the fact sheet or statement of basis, the NOI, and the draft terms and conditions to the operator and other agencies and entities listed in § 124.10(c)(1)(ii) and (iii). See § 124.10(e).

A cross-reference to § 124.10(c)(2) is not included in the final rule. Although these requirements apply to general permits, EPA distinguishes in the Two-Step General Permit between the base general permit and the terms and conditions that are added through the second permitting step for individual MS4 permittees. The permitting authority is required to comply with § 124.10(c)(2) when issuing the general permit (i.e., the base general permit). However, because the additional MS4-specific terms and conditions are developed in a manner that is similar to the way in which terms in an individual permit would be developed, EPA concluded that the public notice requirements that apply to individual permits are more appropriate for the second step in the process of authorizing an MS4 to discharge under a Two-Step General Permit. For this reason, EPA does not apply the specific requirements of § 124.10(c)(2) to the proposed additional terms and conditions, but does apply the other applicable public notice requirements of § 124.10.

Public Comments and Public Hearings (§§ 124.11 and 124.17)

Consistent with § 124.11, during the public comment period for the draft permit conditions, any member of the public may submit comments and may request a hearing, if none has already been scheduled. The permitting authority is required

to consider comments received during the comment period in making the decision to authorize the discharge. When the permitting authority has made a final determination to authorize an individual small MS4 to discharge under the general permit, subject to the additional incorporated requirements, it must also make available to the public its responses to comments received, subject to the applicable requirements of § 124.17.

Public Hearings (§ 124.12)

If the permitting authority holds a public hearing on the draft permit conditions, public notice of the hearing must be provided as specified in § 124.10 and the hearing must be conducted in accordance with the requirements of § 124.12.

Obligation To Raise Issues During the Public Comment Period (§ 124.13)

During the public comment period for the draft permit conditions, commenters are obligated to raise “all reasonably ascertainable issues and submit all reasonably available arguments supporting their position” as required in § 124.13.

Upon completion of these procedures, in which permitting authority review, public notice and comment, and any public hearings take place in accordance with the appropriate sections of part 124, the permitting authority may authorize the MS4 to discharge under the terms of the permit. When authorization occurs, the final terms and conditions that were the subject of the public comment and hearing process described above become enforceable permit terms and conditions for that MS4 permittee. No significant changes were made to this step from the proposed rule. EPA clarifies that the permitting authority may choose the method by which the permittee is notified of the final decision to authorize the discharge and the final permit conditions, and by which the public is informed of the same. EPA oversight of state-issued NPDES permits must also be taken into account. Under the Two-Step General Permit, EPA has authority to review all terms and conditions of the permit, whether established in a base general permit or in the second step that establishes terms and conditions for individual MS4s. See § 123.44.

C. Permittee Publication of Public Notice

A question arose during the development of the proposed rule as to whether the MS4 could carry out public notice requirements for the Procedural Approach (now referred to as the “Two-Step General Permit”). Several states currently require MS4 permittees to provide public notice of individual MS4 NOIs (and their proposed SWMPs in many states), including information on how the public can submit comments to the state and to request a public hearing. EPA requested comment on whether permitting authorities that have relied on the MS4 to place public notices in the past should be able to use this ***89333** approach to satisfy their public notice requirements for individual NOIs under the Two-Part General Permit. EPA did not propose this approach to be adopted as part of the rulemaking effort, and is not including in the final rule any specific requirements related to this practice.

EPA received several comments in response to this question. State permitting authorities and one statewide MS4 association voiced their support for allowing permitting authorities to require MS4 permittees to publish public notices, and to establish procedures within the final rule to accommodate this practice. One state suggested that if a permitting authority is allowed to rely on the MS4 to publish the public notice of the NOI, such public notice must follow all of the minimum requirements related to the contents and methods of providing notice, and any public comments received should be acknowledged and considered by the state and documented in the final permit decision. Another commenter recommended that the permitting authority be the only entity authorized to conduct public notice and comment procedures given the differences of opinion that may arise during the process, but suggested that as an alternative EPA could allow states to establish their own process for these procedures as long as they are consistent with the regulations.

Other commenters were opposed to allowing permitting authorities to rely on the MS4 permittee to carry out applicable public participation requirements. These commenters emphasized the clear requirement in the regulations for the permitting authority to conduct these activities, pointing to the fact that the NOI should be treated no differently than

any permit application. These comments noted that members of the public wishing to review and potentially submit comments and request a hearing on NOIs should have a centralized place to refer to for reviewing public notices of NOIs, and feared that allowing a decentralized approach where the MS4 handles the public notice would be unlikely to reach the intended audience. Another point made was that in keeping with the permitting authority's responsibility to review and determine the adequacy of each MS4's NOI, the public notice and comment proceedings that are associated with the NOIs should be managed by the same entity. These commenters also questioned whether delegating these responsibilities to the MS4 made sense given the fact that it is the state that is most familiar with how to meet its own administrative rules and protocols, and that is best equipped from a technical and physical capacity standpoint to receive and process comments, many of which will be submitted electronically, and potentially hold hearings. Additionally, some commenters worried about the effect of placing more burden on the municipalities.

The final rule does not address the issue of whether the permitting authority may rely on its MS4 permittees to carry out public notice responsibilities on its behalf in the final rule, but instead incorporates by reference the existing set of requirements that apply to all draft permits in § 124.10. As to whether permitting authorities may rely on the permittee to publish the public notice, it is EPA's view that they may do so as long as the public notice meets all of the applicable requirements in § 124.10. The public notice responsibilities in the NPDES regulations apply to the permitting authority, therefore these are requirements that it must ensure are met. The state must conduct any public hearing, consider the comments received, respond to them, and make decisions as to what changes are necessary as a result of the comments.

VI. Requirements for Permit Terms and Conditions

EPA proposed several clarifying changes to the regulatory language in § 122.34 regarding the expression of permit limits for small MS4s. First, EPA proposed to clarify that the permitting authority is responsible for establishing permit requirements that meet the MS4 permit standard. Second, proposed changes would address issues of clarity in permit terms and the different ways in which permit requirements can be expressed. Third, the proposal would reinforce the expectation that the MS4 standard must be independently met for each 5-year permit term. Each of these categories of regulatory changes is discussed below. The final rule incorporates these proposed changes, with some modification to the proposed rule language in response to comments and for additional clarity.

A. Permitting Authority as the Ultimate Decision-Maker

To directly address the clear message from the Ninth Circuit remand that the regulations need to preclude the small MS4 from determining on its own what actions are sufficient to meet the MS4 standard “to reduce pollutants to the maximum extent practicable, protect water quality and satisfy the appropriate water quality requirements of the CWA,” EPA proposed revisions throughout § 122.34 to make it clear that the permitting authority is responsible for establishing permit requirements that meet the standard. For this reason, EPA proposed to shift the focus of the requirements in § 122.34 to the “NPDES permitting authority” rather than the regulated small MS4. Similarly, the proposed rule modified the guidance provisions to focus on permitting authorities as well as MS4s. In most cases, this meant substituting the term “NPDES permitting authority” for “you” or “your” (referring to the regulated small MS4) and referring to the regulated small MS4 as the “operator.” A related change tied to the remand was the proposed deletion of the sentence “Implementation of best management practices consistent with the provisions of the storm water management program required pursuant to this section and the provisions of the permit required pursuant to § 122.33 constitutes compliance with the standard of reducing pollutants to the ‘maximum extent practicable.’” The Ninth Circuit court specifically raised this sentence as a demonstration that “nothing in the Phase II regulations requires that NPDES permitting authorities review these Minimum Measures to ensure that the measures that any given operator of a small MS4 has decided to undertake will in fact reduce discharges to the maximum extent practicable.” See EDC, 344 F.3d at 832, 854. The proposal to remove this sentence, combined with the other changes, would reinforce the fact that the permitting authority is the entity responsible for establishing the terms and conditions of the permit necessary to meet the MS4 permit standard. These changes also would shift the focus of § 122.34 to the development of permit requirements and away from the identification of what the MS4 should include in its SWMP.

EPA received a relatively small number of comments responding to these proposed changes. Some commenters expressed a preference to continue to have the MS4 in charge of defining the MS4 standard for itself or requested that the deleted sentence (“Implementation of best management practices consistent with the provisions of the stormwater management plan. . . .”) be retained. Other commenters pointed out that the proposed changes should apply to all regulated small MS4 permits, regardless of the type of permit (e.g., Traditional General Permit, Procedural General Permit, or individual), and requested that EPA clarify this in the final rule.

The final rule retains the proposed rule changes that emphasize that it is ***89334** the permitting authority with the ultimate authority to determine what small MS4s must do to meet the MS4 permit standard. These changes respond to the Ninth Circuit's finding in the EDC decision that the Phase II rule did not, contrary to the CWA, require the permitting authority to determine whether the MS4 permittee's proposed program would in fact meet the MS4 permit standard. Indeed, while the EDC decision specifically addressed the general permit process, the underlying rationale for the court's rejection of the general permitting process—the failure of the rule to ensure that the permitting authority, not the permittee, determine what is needed to meet the standard applicable to MS4 permits under the CWA—applies whether the MS4 permit is a general permit or an individual permit. Therefore, EPA is amending § 122.34 to apply to any permit issued to regulated small MS4s (except those small MS4s applying for an individual permit under § 122.33(b)(2)(ii)).

These changes, including the deletion of the sentence “Implementation of best management practices consistent with the provisions of the storm water management program required pursuant to this section and the provisions of the permit required pursuant to § 122.33 constitutes compliance with the standard of reducing pollutants to the maximum extent practicable,” more clearly establish the permit as the enforceable document, not the stormwater management program or what has been described in the SWMP. (See VI.E of this preamble for a discussion of the function of the “SWMP” under EPA's small MS4 regulation.)

B. “Clear, Specific, and Measurable” Permit Requirements

EPA also proposed rule revisions related to the expression of permit terms. Consistent with current EPA guidance, the proposed rule specified that permit requirements be expressed in “clear, specific, and measurable” terms. The preamble to the proposed rule contained a detailed discussion about what “clear, specific, and measurable” meant and EPA put in the rulemaking docket a draft compendium of example language from actual permits to further illustrate the meaning of “clear specific, and measurable.” See updated permit compendium in the final rule docket, MS4 Compendium of Permitting Approaches: Part 1: Six Minimum Control Measures (EPA, 2016). EPA also included in the preamble to the proposed rule, examples of permit language that do not appear to have the type of detail that would be needed.

In addition to specifying that permit terms and conditions must be “clear, specific, and measurable,” the proposed rule text clarified that effluent limitations may be in the form of BMPs, and provided non-exclusive examples of how these BMP requirements may appear in the permit, such as in the form of specific tasks, BMP design requirements, performance requirements or benchmarks, schedules for implementation and maintenance, and the frequency of actions. This language was proposed to substitute for existing language that states: “Narrative effluent limitations requiring implementation of best management practices (BMPs) are generally the most appropriate form of effluent limitations when designed to satisfy technology requirements . . . and to protect water quality.”

EPA also proposed to delete a related guidance paragraph in § 123.34(e)(2). As explained in the proposed rule preamble, the guidance no longer reflects current practice.[FN6] The deletion of this paragraph is also consistent with EPA guidance developed since 1999 regarding the types of requirements that are recommended for MS4 permits.[FN7]

EPA received numerous comments on these proposed changes. For the most part, commenters from all stakeholder groups expressed approval for the “clear, specific, and measurable” language. However, a variety of commenters read the

deletion of “narrative” to mean that numeric effluent limitations (e.g., end-of-pipe pollutant concentration limitations) would be required in small MS4 permits or that “narrative” limits would no longer be acceptable. As stated in the preamble, EPA did not intend to make substantive changes to § 122.34 beyond what would be required to address the court remand. The term “narrative” was proposed to be deleted to recognize that other expressions of effluent limitations may be appropriate, not to preclude the use of narrative effluent limitations. To avoid misinterpretation of the regulation, however, the final rule instead describes appropriate requirements as being “narrative, numeric, or other requirements.” EPA intends for the final rule text to more broadly encompass the various types of controls for stormwater discharges that could be required of small MS4s.

Regarding the insertion of “clear, specific, and measurable” to describe permit requirements, most commenters perceived benefits for permittees, permitting authorities, and the public, particularly because it will be more clearly stated in the permit what is expected for compliance. Some commenters observed that “clear, specific, and measurable” terms would enable better enforcement of the MS4 permit requirements, and would provide a more effective path to improved water quality. Some small MS4s themselves pointed out that greater certainty in permit terms could put them into a better position to plan and to garner local political support and critical funding for their programs. Other MS4s, however, voiced uncertainty as to how the terms “clear, specific, and measurable” would be implemented and what would actually be required of them by their permits and concern that their flexibility would be unduly restricted. Some commenters also suggested that regulatory provisions associated with the expression of permit limits, while discussed in the preamble to the proposed rule in the context of Option 1, should apply regardless of the option chosen. Several groups requested that “clear, specific, and measurable” be changed instead to “focused, flexible, and effective.” Other commenters requested that “enforceable” be added to this phrase. Some groups representing MS4 permittees and industry expressed concern that “measurable” meant that permits would now contain water quality monitoring requirements or that “measurable,” together with the deletion of “narrative” to describe effluent limitations, meant that EPA was opening the door for small MS4 permits to now be required to contain numeric effluent limitations, e.g., end-of-pipe pollutant concentration limits for each outfall in the system. A concern that “clear, specific, and measurable” would preclude or reduce MS4 flexibility to change program elements as a program encountered successes or failures (i.e., adaptations made during the permit term or to meet MS4-specific circumstances) was also stated as a disadvantage associated with this language. In a related vein, several commenters warned against permit terms that were too specific and left very little discretion to the MS4. Some commenters requested that the regulatory text indicate that the expectation that permit requirements be “clear, specific, and measurable” apply *89335 to each BMP and other requirements in the permit, and accompanied by reporting requirements that related to measurable requirements, rather than measureable goals as in the current regulation.

The final rule retains the proposed rule requirement for “clear, specific, and measurable” permit terms and conditions. Accompanying the promulgation of this requirement, EPA is also publishing an updated version of its compendium of permit examples from the proposed rule (i.e., MS4 Compendium of Permitting Approaches: Part 1: Six Minimum Control Measures (EPA, 2016)), which includes provisions from EPA and state MS4 general permits that provide examples of clear, specific, and measurable requirements. EPA also retains the examples provided in the proposed rule preamble of permit language that would generally not qualify as clear, specific, and measurable, which is included here, with minor edits:

- Permit provisions that simply copy the language of the Phase II regulations verbatim without providing further detail on the level of effort required or that do not include the minimum actions that must be carried out during the permit term. For instance, where a permit includes the language in § 122.34(b)(4)(ii)(B) (i.e., requiring “. . . construction site operators to implement appropriate erosion and sediment control best management practices”) and does not provide further details on the minimum set of accepted practices, the requirement would not provide clear, specific, and measurable requirements within the intended meaning of the proposed Traditional General Permit Approach. The same would also be true if the permit just copies the language from the other minimum control measure provisions in § 122.34(b) without further detailing the particular actions and schedules that must be achieved during the permit term.

- Permit requirements that include “caveat” language, such as “if feasible,” “if practicable,” “to the maximum extent practicable,” and “as necessary” or “as appropriate” unless defined. Without defining parameters for such terms (for example, “infeasible” means “not technologically possible or not economically practicable and achievable in light of best industry practices”), this type of language creates uncertainty as to what specific actions the permittee is expected to take, and is therefore difficult to comply with and assess compliance.
- Permit provisions that preface the requirement with non-mandatory words, such as “should” or “the permittee is encouraged to” This type of permit language makes it difficult to assess compliance since it is ultimately left to the judgment of the permittee as to whether it will comply. EPA notes that the Phase II regulations include “guidance” in places (e.g., § 122.34(b)(1)(ii), (b)(2)(ii), and (b)(3)(iv)) that suggest practices for adoption by MS4s and within permits, but does not mandate that they be adopted. This guidance language is intended for permitting authorities to consider in establishing their permit requirements. Permitting authorities may find it helpful to their permittees to include guidance language within their permits in order to provide suggestions to their permittees, and it may be included. However, guidance language phrased as suggested guidelines would not qualify as an enforceable permit requirement under the final rule.
- Permit requirements that lack a measurable component. For instance, permit language implementing the construction minimum control measure that requires inspections “at a frequency determined by the permittee” based on a number of factors. This type of provision includes no minimum frequency that can be used to measure adequacy and, therefore, would not constitute a measurable requirement for the purposes of the rule.
- Provisions that require the development of a plan to implement one of the minimum control measures, but does not include details on the minimum contents or requirements for the plan, or the required outcomes, deadlines, and corresponding milestones. For example, permit language requiring the MS4 to develop a plan to implement the public education minimum control measure, which informs the public about steps they can take to reduce stormwater pollution. The requirement leaves all of the decisions on what specific actions will be taken during the permit term to comply with this provision to the MS4 permittee, thus enabling almost any type of activity, no matter how minor or insubstantial, to be considered in compliance with the permit.

Regarding the suggestion to add “enforceable,” in EPA’s view, clear, specific and measurable terms and conditions together define what makes a permit requirement enforceable. Therefore, adding “enforceable” to this list of attributes would not add to the enforceability of permit terms and conditions. With respect to the suggestion to replace “clear, specific, and measurable” with “focused, flexible, and effective,” EPA clarifies that nothing in the final rule prevents a permitting authority from developing permit requirements that are focused, flexible, and effective, as long as those requirements are articulated in clear, specific, and measurable terms.

The word “specific” also generated a number of comments. EPA proposed “specific” to indicate what activities an MS4 would be required to undertake to implement the various required elements of the minimum control measures described in § 122.34(b) or to achieve a specified level of performance that would constitute compliance with the permit. Some commenters advocated for more specificity in permits, while others cautioned against too much specificity. Still others simply asked for more guidance about how “specific” a general permit would need to be. EPA intends for “specific” to mean that a permitting authority describes in enough in detail that an MS4 can determine from permit terms and conditions what activity they need to undertake, when or how often they must undertake it, and whether they must undertake it in a particular way. It must be clear what does and does not constitute compliance. As noted in the preamble to the proposed regulation, a verbatim repetition of the minimum control measures described in § 122.34(b) does not provide a sufficient level of specificity.

At the same time, EPA intends for the permitting authority to retain discretion in determining how much specificity is needed for different permit requirements. The level of specificity may change over time, for example, to reflect a more robust understanding of more effective stormwater management controls or to meet specific state needs. There is a wide range of ways to implement a stormwater management program and the permitting authority will need to determine how to craft permit terms and conditions that establish clear expectations that implement the various requirements in § 122.34 in specific terms, and this can be done while also providing flexibility to MS4s to choose how they will comply with permit terms. For example, a requirement to “Develop a public education program about the effect of stormwater on water quality” is not a sufficiently specific permit requirement. To provide greater specificity, some permitting authorities have provided a menu of specific public education activities in the permit, and the MS4 must choose from among them indicating how they will comply with the permit. For a hypothetical example, the permit might require that the MS4 *89336 undertake four public education activities each year from a list of activities specified in the permit and include at least one each year that is directed at students in all public schools within the MS4 area, using an existing or new curriculum, to explain ways in which stormwater can harm water quality. In this hypothetical example, the MS4 has the flexibility to choose from a list of activities the permitting authority has determined are acceptable and, for the required activity involving public schools, and to choose a curriculum that already exists or develop a new one that is tailored to specific stormwater problems in the community. The specific (clear and measurable) permit terms are:

(1) To undertake four education activities per year from a specified list of allowable activities; and (2) to ensure that at least one of the activities involves education about stormwater at all public schools. Compliance would be completion of four activities each year. One type of activity is specified in the permit, but the MS4 can choose the audience, the medium, and the specific message for the other three required activities. Even within the more specific requirement related to public schools, the permittee would have discretion in determining the form and content of the curriculum. In this hypothetical example, the permit contained requirements of varying specificity, but the boundaries of what constitutes compliance is readily apparent and it is clear what the MS4 must do and the timeframe for compliance.

What is not specified in a permit implicitly defines the level of discretion the MS4 has to meet the terms and conditions of the permit. EPA recognizes that it can be useful for MS4s to retain the ability to change specific stormwater control activities during the term of the permit without the need to seek a permit modification for every change. In the above hypothetical example, if the MS4 finds that, after the second year of the permit term that the curriculum it chose was not effective, it could develop a different one or choose another curriculum, e.g., one that involves field work rather than just classroom instruction. The change in curriculum would not require a permit modification because the permit did not specify the particular curriculum that must be used. The permit terms in this case also provide the public with sufficient information to offer comments on the activities available, their number and frequency, and the degree of discretion left to the MS4. EPA emphasizes that it is not necessary that every detail be spelled out in a permit as an enforceable requirement under the CWA. See further discussion of the considerations related to permit modifications in Section VI.E.

In the above hypothetical example, the permitting authority could have chosen more specific terms. For example, it could have required that the MS4s undertake activities A and B in the first year, activities C and D in the second year, and so on. It could have specified the medium to be used, e.g., television or social media and each of the audiences that must be addressed in the outreach plan (e.g., businesses, commercial establishments, developers). EPA notes that increased specificity does not necessarily mean that the permit is more stringent. It does, however, decrease the flexibility left to the MS4 to determine how to meet the permit requirement. Conversely, the permitting authority in the above hypothetical example could have been less specific, for instance, by not requiring one activity each year to be carried out in public schools. Permitting authorities need to consider what level of specificity is appropriate based on the particular factors at play in their permit area. The level of specificity may change over time, and should be evaluated in each successive permit. There may be differences of opinion about the degree of specificity needed, but that call would be open for public comment on the general permit or, if the Two-Part General Permit is used, on the public notice for the additional terms and conditions applicable to individual MS4s.

Another example of how the permit can provide greater specificity is to include distinct requirements based on type of MS4. For example, Section 3.2.1.3 of the Arkansas general permit states: “The stormwater public education and outreach program shall include more than one mechanism and target at least five different stormwater themes or messages over the permit term. At a minimum, at least one theme or message shall be targeted to the land development community. For non-traditional MS4s, the land development community refers to landscaping and construction contractors working within its boundaries (emphasis added). The stormwater public education and outreach program shall reach at least 50 percent of the population over the permit term.” Here, the permitting authority further specifies the target audience as applied to non-traditional MS4s.

Alternatively, specific permit terms could be established uniformly for all eligible small MS4s, which would have the benefit of leveling the playing field among small MS4s. The final rule gives permitting authorities some discretion to decide how much specificity to include in the permit and how much flexibility to leave to the MS4 when working out the details of how it will comply with permit terms. The public would have an opportunity to provide comments on such preliminary decisions about the level of specificity in permit terms and conditions needed during the public comment period on the general permit or on the second step of a Two-Step General Permit, or in some cases on both.

EPA also received comments on the term “measurable.” In response to comments, EPA clarifies that “measurable” does not necessarily mean that water quality monitoring must be required in every instance to assess compliance. Likewise, it does not mean that numeric, end-of-pipe pollutant concentrations or loadings must be included in permits. While these examples do represent a type of measurable requirement, they are not required to be in every MS4 permit. Rather, the term “measurable” means that the permit requirement has been articulated in such a way that compliance with it can be assessed in a straightforward manner. For example, a permit provision that requires inspections at construction sites to be conducted once per week until final stabilization has been verified is a measurable requirement. To help assess compliance, the permit should also contain a way to track whether the requirement has been met, such as requiring the permittee to keep a log of each inspection, including the date and any relevant findings. On the other hand, a requirement that construction sites be inspected “after storms as needed” would not be a measurable requirement. For this requirement, the permittee would have to determine whether a “storm” occurred and, if so, whether an inspection was called for, both of which are determinations that are left completely up to the permittee to determine. A permitting authority could not easily assess that this requirement was or was not met.

Like the term “measurable,” “numeric” is another term that is often misunderstood to require numeric end-of-pipe concentration and/or mass pollutant limitations similar to those that commonly appear in permits issued to other types of point source dischargers (e.g., industrial process discharges and discharges from sewage treatment plants). EPA intends numeric to be read more broadly to include an objective, quantifiable value related to the performance of different requirements for small MS4 programs. For example, “numeric” can refer to the number or frequency of required actions to be taken such as a requirement to “clean 25% of the catch basins in your service area on a yearly basis” or “complete 6 of 10 public education events specified in the following table on an annual basis.” “Numeric” can also refer to a specified numeric performance levels, such as a retention standard for post-construction discharges from new development and re-development sites, e.g., “The first inch of any precipitation must be retained on-site.” Another example of a numeric performance requirement is exemplified by the following provision from the 2016 Vermont Small MS4 general permit: “The control measure(s) is designed to treat at a minimum the 80th percentile storm event. The control measure(s) shall be designed to treat stormwater runoff in a manner expected to reduce the event mean concentration of total suspended solids (TSS) to a median value of 30 mg/L or less.” See Section E.4.a.iv.B.

A commenter requested that EPA require measurable conditions for each BMP. EPA interprets this comment as recommending that permit terms implementing the minimum control measures, which are often articulated as narrative requirements, each be expressed in a measurable manner. EPA agrees that permit terms and conditions that are established to satisfy a minimum control measure need to have measurable (as well as clear and specific) requirements

associated with them that assist the MS4 and permitting authority in determining whether required elements of the minimum control measures or other permit terms and conditions have been achieved.

In the final rule, EPA has decided to substitute the term “terms and conditions” for “effluent limitations” because stakeholders asserted the term effluent limitations connotes end-of-pipe numeric limits even though EPA is not insisting that these types of limitations be used. In sum, EPA intends that terms and conditions are a type of effluent limitations and that they are interchangeable and both mean permit requirements. As defined in the Clean Water Act, “effluent limitation” means “any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.” See CWA section 502(11). The Clean Water Act also authorizes inclusion of permit conditions. See CWA section 402(a)(1) and (2). Both “effluent limitations or other limitations” under section 301 of the Act and “any permit or condition thereof” are an enforceable “effluent standard or limitation” under the citizen suit provision, section 505(f) of the Clean Water Act, and the general enforcement provisions, section 309 of the Act. EPA uses these terms interchangeably when referring to actions designed to reduce pollutant discharges. For the purposes of this final rule, changing the small MS4 regulations to refer instead to “terms and conditions” is intended to be read as consistent with the meaning of “effluent limitations” in the regulations and CWA.

C. Narrative, Numeric, and Other Forms of Permit Requirements

As explained in the previous section of this preamble, EPA has clarified that permit limits need not be expressed only as “narrative” limits but can consist of “narrative, numeric, and other types” of permit requirements. The final rule provides a non-exclusive list of the types of narrative, numeric, and other types of terms and conditions that would be appropriate for small MS4 permits by stating that allowable terms and conditions could include, among other things “implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions.” These examples are the same as those proposed, with the exception of removing the term “benchmarks” and adding in its place, “adaptive management requirements.” Several commenters noted that the term “benchmarks” is used in EPA’s and many states’ Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, or “MSGP,” to mean numeric pollutant concentration levels that must be measured, and if exceeded, trigger further monitoring or corrective action requirements. To eliminate any confusion, the commenters requested that a different term be used. EPA did not intend “benchmarks” to be precisely defined, but instead to generally refer to various types of identified measurements of performance and to undertake different actions or controls if performance is not at the measured level. To avoid confusion, EPA is replacing “benchmarks” with the phrase “adaptive management requirements,” since adaptive management approaches are used widely in the MS4 communities. Adaptive management enables MS4 permittees to iteratively improve their stormwater control strategies and practices as they implement their programs and learn from experience to better control pollutant discharges.

With respect to establishing permit terms and conditions, use of the term “BMP” in § 122.34(a) is intended to take on a broad meaning and could encompass both the enforceable terms and conditions of the permit as well as particular activities and practices selected by the permittee that will be undertaken to meet the permit requirements but that are not themselves enforceable. BMPs are defined in § 122.2. The term is defined to include schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce water pollution. The regulatory definition also includes treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge, or waste disposal, or drainage from raw material storages as BMPs. The defined regulatory term was developed to describe requirements to undertake certain activities to reduce the amount of pollutants discharged that are not described as numeric pollutant effluent discharge limitations or represent specific performance levels. See § 122.44(k). EPA intends, in § 122.34(a) of the final rule, to use BMP in its broadest sense to refer to any type of structural or non-structural practice or activity undertaken by the MS4 in the course of implementing its SWMP. Whether a BMP is an enforceable requirement depends on whether the permitting authority has established it as a term and condition of the

permit. The term BMP in § 122.34(a) is not intended to be used interchangeably with enforceable requirements necessary to demonstrate compliance with the permit. Instead, it refers to any type of activity that is used to reduce pollutants in the MS4's discharge. This distinction is important because, as discussed elsewhere in the preamble, some BMPs may be changed without first requiring a permit modification, but only if they are not included as enforceable requirements of the permit.

D. Considerations in Developing Requirements for Successive Permits

A final change to § 122.34(a) that EPA proposed was to reflect the iterative nature of the MS4 permit standard and require that what is considered adequate to meet the MS4 permit standard, including what constitutes “maximum *89338 extent practicable,” needs to be determined for each new permit term. The final rule provision is retained from the proposed rule, which requires that for each successive permit, the permitting authority must include terms and conditions that meet the requirements of § 122.34 based on its evaluation of the current permit requirements, record of permittee compliance and program implementation progress, current water quality conditions, and other relevant information. The preamble to the proposed rule explained: “A foundational principle of MS4 permits is that from permit term to permit term iterative progress will be made towards meeting water quality objectives, and that adjustments in the form of modified permit requirements will be made where necessary to reflect current water quality conditions, BMP effectiveness, and other current relevant information.” (81 FR 422, Jan. 6, 2015). The preamble further listed possible sources to inform the evaluation such as past annual reports, current SWMP documents, audit reports, receiving water monitoring results, existing permit requirements, and applicable TMDLs.

EPA received numerous comments on the language regarding the development of each successive permit. One commenter asked EPA to include additional factors in the rule text that would need to be considered when developing a new small MS4 permit, including impairment status of the waterbody and applicable TMDLs, and permits developed by other states. Other factors requested to be included in the text were discussed in the preamble to the proposed rule include: how long the MS4 has been permitted, the degree of progress made by the small MS4 permittees as a whole and by individual MS4s, the reasons for any lack of progress, and the capability of these MS4s to achieve more focused requirements. Another commenter stated that while it is appropriate to re-examine the permit requirements for continued applicability and effectiveness, EPA should not presume that successive permits would always require more stringent requirements. Instead, the commenter continues, the permit could only require adjustments of existing BMPs. EPA also received general comments about the nature of “maximum extent practicable” that were reflected in comments concerning the new language about successive permits.

EPA has retained substantially the same text as it proposed. In § 122.34(a)(2), permitting authorities are required to revisit permit terms and conditions during the permit issuance process, and to make any necessary changes in order to ensure that the subsequent permit continues to meet the MS4 permit standard. Thus, in advance of issuing any new small MS4 general permit, the permitting authority will need to review, among other things, available information on the relative progress made by permittees to meet any applicable milestones under the expiring permit, compliance problems that may have arisen, the effectiveness of the required activities and selected BMPs under the existing permit, and any improvements or degradation in water quality. This requirement applies regardless of the type of permit (individual or general) or the specific general permitting approach that is chosen by the permitting authority.

As commenters pointed out, there are other factors that the permitting authority can consider in establishing the permit requirements in successive permits that meet the MS4 permit standard. This provision, however, is intended to state a general requirement to update each permit and therefore uses broader, more general terms rather than trying to name all of the factors and considerations that may bear on the development of specific permit terms and conditions in successive permits. The crux of this requirement is that permitting authorities cannot simply reissue the same permit term after term without considering whether more progress can or should be made to meet water quality objectives or that other changes to the permit are in order. As is the case with NPDES permits generally, the permitting authority considers anew what is appropriate each time it issues a permit. For example, new stormwater management techniques may have arisen or

become affordable during the expiring permit term that should be taken into consideration. The factors identified by commenters and discussed in the proposed rule preamble are all relevant considerations. First and foremost, as noted by one commenter, “the understanding of which pollution control measures and standards are the most effective and practicable can evolve, requiring corresponding changes in permit conditions to meet the ‘MEP’ standard.” Likewise, the stressors affecting water quality can change over time. The water quality of the receiving water and any applicable TMDLs are factors that should be considered, but additional rule language is unnecessary since these factors are already encompassed within the final rule's reference to “current water quality conditions.” (Also see, § 122.34(c) which requires permit conditions based on applicable TMDLs.) How long an MS4 has been permitted also could point to establishing different or “tiered” requirements based on whether the MS4 is on its third or fourth permit with a mature program or is a newly regulated MS4 that must build its program “from scratch.” Using broad, general terms to describe considerations that may change over time provides critical flexibility, while ensuring that the assessment of current circumstances and information is done.

Contrary to the assumption that EPA presumes that each successive permit will contain more stringent conditions for each permit requirement, EPA recognizes that this is not the case. It is possible that some permit conditions remain relatively static in a successive permit. If a permit, however, contained a less stringent requirement or less specific language than had been included in the previous permit this would require an explanation, backed by empirical evidence or other objective rationale that the requirement was no longer practicable or that another approach is more effective, and that making this requirement less stringent would not result in greater levels of pollutant discharges. This would be especially true where the MS4 is discharging pollutants to an impaired water due to an excess of those pollutants. How quickly pollutants must be reduced and which elements of a program need greater or less emphasis are certainly considerations that an MS4 (or others) can raise during the comment period. Likewise, an MS4 that is seeking an individual permit or coverage under a Two-Step General Permit, can propose BMPs or other management measures to the permitting authority that reflect its judgment about how and to what extent permit terms and conditions should change or stay the same.

One commenter asserted that EPA should require consideration of other states' permits in determining permit conditions. The commenter reasoned that if one state adopts a requirement that achieves greater pollutant reduction than another state, the other state should have to adopt the more effective permit condition or explain why it is not practicable for MS4s in its state. The commenter also noted that EPA has taken similar positions with respect to technology-based requirements for other types of discharges. Finally, the commenter urged EPA to continue to provide and update examples of permit conditions developed by various states. EPA does not find it necessary to expressly require the rule to compel ***89339** permitting authorities to consider the terms and conditions of permits in other jurisdictions in determining the need to modify their own permits. Each permitting authority is required to issue permits that independently meet the MS4 permit standard based on an evaluation of, among other things, how well the past permit conditions worked and what more can be reasonably achieved in the next permit term. This evaluation involves factors that are necessarily unique to the permitting jurisdiction. Furthermore, the factors that led to one state permit's adoption of stricter requirements than another state makes a straightforward analysis between the two difficult, and potentially misleading. While EPA does not agree that permitting authorities should be required to consider other state permits, EPA agrees that much can be learned from other states' permitting approaches and it may be a relevant factor to consider in a particular permitting proceeding.

Commenters suggest that EPA's publication of its MS4 permit compendia (EPA, 2016), as well as EPA's MS4 Permit Improvement Guide (EPA, 2010), providing examples of permit provisions that are written in a “clear, specific, and measurable” manner, makes it easier for permitting authorities to write better permits. EPA agrees with commenters that sharing examples among states is an effective tool for developing permit conditions and has updated the compendium of state practices to accompany the final rule for this very reason. See *Compendium of MS4 Permitting Approaches—Part 1: Six Minimum Control Measures* (EPA, 2016) in the final rule docket.[FN8] EPA plans to facilitate information transfer on a continuing basis.

E. Relationship Between the SWMP and Required Permit Terms and Conditions

a. Enforceability of SWMP Documents

In the proposed rule, EPA clarified that the SWMP document does not include enforceable effluent limitations or any other term or condition of the permit. EPA also proposed to delete the language in the Phase II regulations stating that implementation of the SWMP would constitute compliance with the MS4 permit standard. This clarification is retained in the final rule. EPA is revising § 122.34(a) to clarify that the permit, not the stormwater management program, contains the requirements, including requirements for each of the six minimum measures, for reducing pollutants to the maximum extent practicable, protecting water quality and satisfying the appropriate water quality requirements of the CWA. See also Section VIII.A for further discussion of the deleted provision in § 122.34(a). The final rule at § 122.34(b) requires each permit to require the permittee to develop a “written storm water management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure.” Requiring that portions of the SWMP be in the form of written documentation is not a new requirement, but rather a clarification. The minimum control measure requirements have always required that certain aspects of the permittee's SWMP be documented in writing, e.g., the storm sewer system map, ordinances or other regulatory mechanisms to regulate illicit non-stormwater discharges into the MS4 and to require erosion and sediment controls. The written SWMP provides the permitting authority something concrete to review to understand how the MS4 will comply with permit requirements and implement its stormwater management program. EPA included a specific requirement for written documentation to clarify, as requested by some commenters, the difference between a MS4's stormwater management program itself from the written description of the program.

EPA received several comments regarding the role of the SWMP document under the different permitting options. Among these comments were several focusing on whether the implementation details described in the SWMP document itself, including the BMPs to be implemented and measurable goals to be achieved, would be enforceable as permit requirements. One commenter noted that some states consider a SWMP document to be an integral part of the permit and recommended that EPA do nothing in the rule to limit a permitting authority's ability to enforce against an MS4 for failure to implement any particular aspect of the SWMP and to require an accurate, up-to-date SWMP document that contains the provisions required by the permit. Other commenters, representing the regulated MS4 point of view, emphasized the role of the SWMP document as a planning tool for the permittee, one that is intended to be continually updated to reflect their adaptive management approach to permit compliance. These commenters cautioned against implying directly or indirectly that the SWMP document is an “effluent limitation” that is part of the permit, and felt that under Option 1 of the proposed rule, provisions in SWMP documents could be interpreted by the public to be effluent limitations, thereby opening all details described in the SWMP document to enforcement. These commenters recommended that EPA more narrowly define “effluent limitation” and clarify that SWMPs are for planning purposes only and not subject to challenge by outside parties.

In response to these comments, EPA clarifies that, under EPA's small MS4 regulations, the details included in the permittee's SWMP document are not directly enforceable as effluent limitations of the permit. The SWMP document is intended to be a tool that describes the means by which the MS4 establishes its stormwater controls and engages in the adaptive management process during the term of the permit. While the requirement to develop a SWMP document is an enforceable condition of the permit (see § 122.34(b) of the final rule), the contents of the SWMP document and the SWMP document itself are not enforceable as effluent limitations of the permit, unless the document or the specific details within the SWMP are specifically incorporated by the permitting authority into the permit. In accordance with the final rule, therefore, if an MS4 permittee fails to develop a SWMP document that meets the requirements of its permit, this failure constitutes a permit violation. By contrast, the details of any part of the permittee's program that are described in the SWMP, unless specifically incorporated into the permit, are not enforceable under the permit, and because they are not terms of the permit, the MS4 may revise those parts of the SWMP if necessary to meet any permit requirements or to make improvements to stormwater controls during the permit term. As discussed in more detail below, the permitting

authority has discretion to determine what elements, if any, of the SWMP are to be made enforceable, but in order to do so it must follow the procedural requirements for the second step under § 122.28(d)(2).

The regulations envision that the MS4 permittee will develop a written SWMP document that provides a road map for how the permittee will comply with the permit. The SWMP document(s) can be changed based on adaptations made during the course of the permit, which ***89340** enable the permittee to react to circumstances and experiences on the ground and to make adjustments to its program to better comply with the permit. The fact that the SWMP is an external tool and not required to be part of the permit is intended to enable the MS4 permittee to be able to modify and retool its approach during the course of the permit term in order to continually improve how it complies with the permit and to do this without requiring the permitting authority to review and approve each change as a permit modification. The fact that the regulations do not require the implementation details of the SWMP document to be made enforceable under the permit does not mean that a permitting authority cannot decide to directly incorporate portions of the SWMP or the entire SWMP as enforceable terms and conditions of the permit. However, in order to adopt any part of the SWMP document as an enforceable term or condition it must go through the proper permitting steps to do so. If a permitting authority chooses to directly incorporate elements of the SWMP document as enforceable permit requirements, once completing the minimum permitting steps to propose and finalize NPDES permit conditions, those elements of the SWMP are no longer external to the permit, but instead become enforceable terms and conditions of the permit.

Lastly, EPA understands that some state permitting authorities already incorporate elements of their permittees' SWMP document using a process that is similar to the Two-Step General Permit process in the final rule. EPA emphasizes that under the final rule if a permitting authority chooses to adopt portions of their permittees' SWMPs using the Two-Step General Permit process this would be a valid way to formally incorporate these as permit terms and conditions; this is because in order to make these requirements enforceable under the permit the permitting authority provided the necessary review and public notice and comment procedures. By contrast, EPA generally would not consider general permits that state that the SWMP documents developed by the MS4 are enforceable under the permit, without first formally adopting the details of these documents to the individual permitting authority review and public participation required by the second step of the Two-Step General Permit, to be an adequate way in which to incorporate the details of the SWMP as enforceable requirements of the permit.

b. Permit Modification Considerations

EPA raised the issue in the proposed rule of whether under the Procedural Approach (now in the final rule as the “Two-Step General Permit” approach) a permit modification would be necessary during the permit term if BMPs or measurable goals were changed by the permittee from that which was submitted to the permitting authority. EPA specifically sought comment on what criteria should apply for distinguishing between when a change to BMPs is “substantial” requiring a full public participation process or “not substantial” that would be subject to public notice but not public comment under a permit modification process similar to the process in § 122.42(e)(6).

A number of commenters expressed support for treating some types of changes as non-substantial modifications to the permit. Commenters emphasized the fact that the types of plans, strategies, and practices implemented under MS4 SWMP are subject to considerable change, and that requiring these changes to undergo a review for a permit modification would stifle the process as well as innovation. Some commenters offered suggestions for what types of changes to the SWMP should constitute a substantial modification and should be reviewable by the permitting authority, and which types of changes should be considered non-substantial. Some thought that a complete change to a BMP should be reviewed by the permitting authority for a modification, while others felt that such changes should not be submitted for review if the replacement BMP would be considered to provide equal or better pollutant removal. Another commenter suggested that EPA incorporate applicable requirements from the CAFO regulations whereby the permittee submits proposed changes to the permitting authority and the permitting authority must determine whether such changes comply with applicable, substantive legal requirements, and if the changes are substantial, then the permitting authority must

require public notice, and an opportunity to provide comments or request a hearing before the determination is made on the modification.

The Two-Step approach requires the MS4 operator to provide information about what it intends to do during the permit term to satisfy some or even all of the permit requirements for meeting the MS4 permit standard. The rule then requires the permitting authority, through a review and public comment process, to establish MS4-specific permit terms and conditions that the permitting authority deems necessary to meet the MS4 permit standard. Once issued, these additional permit requirements are set for the permit term, and compliance is measured based on the permittee's ability to meet these enforceable terms and conditions. When the final permit terms and conditions are established, changes to those requirements can only be made through a formal modification process, which is subject to the requirements of § 122.62, or § 122.63 if the proposed change constitutes a minor modification.

A distinction between what constitutes a potential change in permit terms and what amounts to merely a change in implementation of the SWMP is important to consider in the context of the Two-Step General Permit. Where a permittee proposes to change a BMP that it is implementing, and the change does not require the enforceable permit conditions to be changed in any way, but rather offers an alternative means of complying with the same permit conditions, EPA would not consider this to be a permit modification. For instance, if the MS4's permit requires that it conduct field tests of 20 percent of its priority outfalls on an annual basis for illicit discharges, and the permittee changes its method of conducting such tests that is described in its SWMP document, even though a revision to the SWMP document maintained by the permittee may be necessary, no permit modification would be necessary because the 20 percent requirement is still in effect. By contrast, where a permittee proposes to substitute one of its BMPs for another one, and that change would alter the compliance expectations defined in the permit, the permittee will need to notify the permitting authority before proceeding to determine if a permit modification is necessary. For example, if the permittee's requirements specify in precise detail the field screening methodology that the MS4 will utilize for its priority outfalls, and the permittee has indicated it no longer intends to use this approach, then this proposed change will need to be evaluated by the permitting authority for whether a formal permit modification is needed. The important test here is to compare the permittee's proposed change with the terms and conditions of the permit.

EPA shares the views of commenters who emphasized the problems that would be created by any permitting scheme that would require permit modifications to be formally reviewed and approved for every SWMP change. Changes and adjustments made to the *89341 SWMP document during its implementation are a fundamental part of the Phase II program, which has always emphasized the need for adaptive management to make iterative progress towards water quality goals. Requiring every adaptive management change to undergo review and approval by the permitting authority would constrain implementation and innovation, as commenters suggested, and could greatly increase the burden on permitting authorities. Having said this, however, EPA recognizes that in some circumstances, as illustrated in the example above, the wording of a permit provision may require that a modification be made before a permittee may proceed with a proposed change to its SWMP document. If the permitting authority wants to minimize the instances when a permit modification would be needed, it could incorporate with specificity only those elements in the SWMP document that it deems essential for meeting the MS4 permit standard. For example, a permitting authority could decide that as an alternative to incorporating all of the details of the permittee's proposed outfall screening plan in its "illicit discharge detection and elimination" portion of its SWMP document into the permit, it might instead consider selecting the specific aspects of the screening plan that in its judgment would meet the MS4 permit standard, such as that the permittee will screen all "high priority" outfalls by a specific date and that all illicit discharges will be eliminated within a specified amount of time. By not incorporating every aspect of the specific plans and procedures described by the permittee in its SWMP document, the permittee can modify its implementation approach during the permit term without needing to check with the permitting authority before making any such changes and having that change approved under the permit.

Apart from the issue of whether or not proposed SWMP document changes require a permit modification is the need for permitting authorities to specify what procedures it will follow to review and process any permit modifications. EPA agrees with the commenter that suggested that such procedures are needed. Rather than establishing a unique set of procedures, however, it is EPA's view that the existing regulatory procedures in §§ 122.62 and 122.63, which apply to all NPDES permit modifications, are sufficient for modifications to a Two-Step General Permit. EPA advises permitting authorities to include in their permits a clear description of what types of proposed SWMP document changes will need to be reviewed as potential permit modifications, and the procedures for submitting and reviewing these changes.

F. Explaining How the Permit Terms and Conditions Meet the MS4 Permit Standard

Several commenters recommended that the final rule clarify, both in the preamble and in the rule language itself, that permitting authorities are required to include an explanation in the permit's administrative record as to why the adopted permit provisions meet the MS4 permit standard. The commenters specified that this requirement should apply regardless of the option EPA chooses to include in the final rule.

EPA agrees that the permitting authority's rationale for adopting specific small MS4 permit requirements should be documented consistent with the requirements for any NPDES permit requirements under § 124.8 and, if EPA is the permitting authority, § 124.9. This rationale should describe the basis for the draft permit terms and conditions, including support for why the permitting authority has determined that the requirements meet the required MS4 permit standard. EPA agrees with the commenters' suggestion that this rationale should be provided under both permitting approaches in the final rule. This position is consistent with the Ninth Circuit's remand decision, which emphasized the need for permitting authorities to determine that requirements satisfy the MS4 permit standard and that the public be given an opportunity to provide comments and to request a hearing on this determination.

For clarification purposes, EPA includes additional language in the final rule for the Two-Step General Permit approach to emphasize that the permitting authority's public notice for the second step (pursuant to § 122.28(d)(2)(ii)) must include, apart from the NOI and the proposed additional permit terms and conditions, "the basis for these additional requirements." This requirement is consistent with the requirements of § 124.8(b) for what must be included in a permit fact sheet. EPA does not find it necessary for the permitting authority to produce a full fact sheet for each individual MS4 permittee under a Two-Step General Permit, nor do the regulations require this for the type of permit requirements that are being established under the second step. A fact sheet is required for the issuance of the general permit, regardless of whether the general permit is a Comprehensive General Permit or the base general permit in a Two-Step General Permit. See § 124.8(a), which requires fact sheets to be prepared for general permits. However, the NPDES regulations do not require a separate fact sheet to be developed for the additional terms and conditions that are established for individual MS4s in the second step of the Two-Step General Permit, since these requirements are not themselves part of the base general permit, nor do they necessarily fall under any of the other types of permits listed in § 124.8(a) as requiring a fact sheet (e.g., a "major" NPDES facility or site). Short of requiring a separate fact sheet for the draft additional permit conditions, EPA finds it reasonable to expect the proposed additional permit terms and conditions to be accompanied by the supporting rationale for why these requirements satisfy the MS4 permit standard.

One commenter also suggested that permitting authorities be required to explain in the administrative record why any alternative standards recommended in public comments or included in any of EPA's MS4 permit compendia were not adopted. Permitting authorities are required to respond to significant comments received in response to the public notice for the Comprehensive General Permit and the base general permit of a Two-Step General Permit, and, in addition, to respond to the comments on the second step public notice under a Two-Step General Permit. Such comments could include alternative standards suggested for inclusion in the permit. EPA does not agree that permitting authorities should be required to explain in the administrative record why a provision included in any of the agency's MS4 permit compendia was not used in any particular permit. Again, the example permit provisions that are highlighted in the permit compendia are provided as guidance and are not intended to provide a floor for what types of provisions must be used in MS4 permits.

G. Minimum Federal Permit Requirements

Several commenters requested clarification or raised concerns about the extent to which the Phase II regulations establish minimum permit requirements. This question is often raised in the context of state laws that prohibit the permitting authority from including terms and conditions in a permit that are more stringent than the federal minimum requirements or include more than the federal minimum requirements. Some comments confuse *89342 “minimum permit requirements” with the specified elements of the minimum control measures described in § 122.34(b). In a related manner, a number of permitting authorities have shared with EPA their experiences in encountering resistance to a proposed permit requirement on the basis that it is not explicitly required in the federal regulations. In addition, some commenters asked EPA to clarify that suggestions made in the “guidance” paragraphs that are unique to the small MS4 regulations are not mandatory permit terms.

The regulations specify the elements that must be addressed in a permit. It is up to the permitting authority to establish the specific terms and conditions to meet the MS4 permit standard for each of these elements. The minimum control measures set forth in § 122.34(b), for instance, are not intended as minimum permit requirements, but rather areas of municipal stormwater management that must be addressed in permits through terms and conditions that are determined adequate to meet the MS4 permit standard. For that matter, if a permitting authority were to merely use the minimum control measure language from § 122.34(b) word-for-word and include no further enforceable permit terms and conditions, this permit would not satisfactorily meet the requirement to establish clear, specific, and measurable requirements that together ensure permittees will comply with the MS4 permit standard. EPA emphasizes that what constitutes compliance with the MS4 permit standard continues to evolve. The need to reevaluate what is meant by “maximum extent practicable” for each permit term, as well as the need to determine what is necessary to protect water quality and satisfy the appropriate water quality requirements of the CWA, means that what constitutes compliance will by necessity change over time. Therefore, in EPA's view, those that argue that the minimum federal requirements are what is included in the wording of the minimum control measures, are misconstruing the intent of the regulations, and are handicapping permits by artificially tying the MS4 permit standard to the minimum control measures.

EPA emphasizes that the minimum control measures do not restrict the permitting authority from regulating additional sources of stormwater pollutant discharges, not specifically mentioned in the minimum control measure language. For example, some states require small MS4s with very large populations to implement a program that addresses industrial sites due to the concentration of industrial sites in many of their larger urban areas. (Consider that some small MS4s can be the same size as “medium” MS4s, which are required to have a program for addressing stormwater discharges from industrial sites.) Such a requirement represents what is necessary, for those small MS4s, to reduce pollutants as necessary to meet the MS4 permit standard. This does not mean that the requirement is more stringent than the minimum control measures, but rather it constitutes what is needed in the permitting authority's view to satisfy the MS4 permit standard.

In response to the comments relating to the guidance language in § 122.34(b), EPA verifies that this “guidance” is intended to act as suggested methods of implementation, not mandatory permit terms. Having said this, EPA points out that these guidelines could form the basis of permit terms that meet the § 122.34(a) requirement to articulate requirements in a clear, specific, and measurable manner. EPA's interest in having more specific requirements in permits is to provide clarity of expectations and to hold MS4s accountable for implementing a program that continues to make progress toward achievement of water quality objectives. For a permitting authority to include requirements in a permit based on these “guidance requirements,” because in its view they are necessary to ensure MS4s meet the MS4 permit standard, does not mean that the permit has established requirements beyond the federal minimum or that the permitting authority impermissibly used guidance to develop enforceable requirements.

H. Comments Beyond the Scope of This Rulemaking

EPA received numerous public comments suggesting revisions to the substantive requirements in § 122.34. EPA clearly stated its intent in the preamble to the proposed rule that it was not proposing to change any substantive requirement and therefore the many comments suggesting the addition of specific requirements (e.g., establish or do not establish a numeric retention standard for post-construction stormwater controls) are outside the scope of this rulemaking.

VII. Revisions to Other Parts of § 122.34

A. Compliance Timeline for New MS4 Permittees

EPA proposed a minor revision to § 122.34(a) to include the word “new” before “permittees” to indicate that the five-year period allowed to develop and implement their stormwater management program applies to the initial permit for new permittees. New permittees could include small MS4s that are in urbanized areas for the first time because of demographic changes reflected in the latest decennial census, or they could be specifically designated by a permitting authority as needing an NPDES permit to protect water quality. This change is intended to preserve the flexibility included in Phase II regulations in place prior to this final rule, and to more clearly indicate that the extended time period for compliance is intended to apply to MS4s that must put a stormwater management program in place for the first time. This revision does not change the status quo; it merely recognizes that first-time small MS4 permittees have up to five years to develop and implement their SWMPs, while small MS4s that have already been permitted will have developed and implemented their SWMPs when they reapply for permit coverage under an individual permit or submit an NOI under the next small MS4 general permit. This is not to say that all actions necessary to achieve pollutant reductions must be completed in the first five years. EPA recognizes that MS4s may need more time, for example, to complete the various steps needed to get structural controls into place and operational (e.g., design project(s), secure funding, follow procurement procedures, etc. before installing structural BMPs). Therefore, EPA is retaining in the final rule the proposed clarification that permitting authorities may provide up to 5 years for small MS4s being permitted for the first time to come into compliance with the terms and conditions of the permit and to implement necessary BMPs.

B. Revisions to Evaluation and Assessment Provisions

EPA proposed to renumber existing § 122.34(g) as § 122.34(d) and to incorporate the stylistic changes described in Section VII.E of this preamble. Several commenters suggested that the terminology in this paragraph be changed to conform to the text changes made elsewhere. EPA agrees that changes to reflect the remand changes similar to the ones made elsewhere in the section are appropriate for the newly designated § 122.34(d)(1) concerning requirements for evaluation and assessment. The new § 122.34(d)(1) now states that the permit must require the permittee to evaluate compliance with the terms and conditions of the permit, the effectiveness of the components of its stormwater management program, and of achieving ***89343** the measurable requirements in the permit. Rather than evaluate the appropriateness of self-identified BMPs and measurable goals as previously required, the final rule requires permits to include terms and conditions to evaluate compliance with permit requirements, including achievement of measurable requirements established as permit requirements. This language more closely aligns the required evaluation and assessment requirements with the newly articulated requirements for developing permit conditions that are clear, specific, and measurable. It also more accurately describes the objectives of the evaluation and assessment requirements, given other revisions made in response to the remand to clarify that permitting authorities determine what constitutes compliance, not the regulated MS4s.

The proposed rule inadvertently omitted a recent amendment to § 122.34(g) (§ 122.34(d) in the final rule) that was added by the [eReporting rule \(80 FR 64064, Oct. 22, 2015\)](#). This omission is corrected in the rule text that appears in this Federal Register document. The relevant provision in § 122.34(d)(3) states that, among other things, starting on December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the small MS4 to the permitting authority or initial recipient, as defined in [40 CFR 127.2\(b\)](#), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127, and that prior to this date, and independent of part 127, the owner, operator, or the duly authorized

representative of the small MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. Section IX addresses in more detail the relationship between this final rule and the eReporting rule.

EPA received a request to revise proposed § 122.34(d)(2) regarding recordkeeping requirements to mandate that MS4s post on-line the SWMP documents required under § 122.34(b). Currently, MS4s are only required to make summaries of their SWMP available to the public upon request. EPA is of the view that on-line posting of information is an effective way to communicate stormwater program information, and encourages MS4s to post on-line documents that describe their stormwater management plans, as well as provide other information about managing stormwater for various audiences. EPA, however, declines to adopt a regulatory requirement for MS4s to post documents on-line. EPA did not propose any changes to the recordkeeping requirements, and accordingly, the request is outside the scope of the proposal. EPA notes that some permitting authorities have required on-line posting of SWMP information and educational materials to implement minimum controls measures for public education and involvement, as well as elements of other minimum control measures such as the illicit discharge detection and elimination, construction and post-construction program minimum controls, and other permit requirements.

C. Establishing Water Quality-Based Requirements

EPA made minor changes to the provisions for establishing “other applicable requirements.” See § 122.34(c). The following discussion explains these changes and describes how the section has been rearranged. It then discusses issues raised about how water quality-based requirements can be established under the two general permit options.

EPA proposed to consolidate existing paragraphs (e)(1) and (f) into one paragraph and to move this consolidated provision to § 122.34(c). EPA also proposed to delete guidance paragraph (e)(2). Existing § 122.34(e)(1) addresses the need to comply with permit requirements that are in addition to the minimum control measures based on a TMDL or equivalent analysis. Existing § 122.34(f) requires compliance with permit requirements that have been developed consistent with provisions in §§ 122.41 through 122.49, as appropriate. EPA is promulgating the proposed revisions, with minor editorial changes, as discussed below.

The new § 122.34(c)(1) states that the permit will include, as appropriate, more stringent terms and conditions, including permit requirements that modify, or are in addition to, the minimum control measures, based on an approved total maximum daily load (TMDL) or equivalent analysis, or where the NPDES permitting authority determines such terms and conditions are needed to protect water quality. EPA replaced the term “effluent limitations” with “terms and conditions” to be consistent with changes made to § 122.34(a). In a minor change from the proposal, the paragraph now more clearly indicates that the permitting authority has the discretion to require additional measures to protect water quality, not limited to requirements based on a TMDL or equivalent analysis. This change reflects the authority granted by the statute to protect water quality in section 402(p)(6) of the CWA. It also responds to a comment that due to the time it takes for TMDL development, permitting authorities should not be limited to consideration of only TMDL or equivalent analyses before imposing water quality based requirements. As a general matter, EPA agrees that other types of watershed plans that identify sources that should be controlled can provide a valid basis for establishing additional permit terms and conditions. Additionally, EPA recognizes that there may be instances where other information about the water quality impacts of the MS4 discharges may be sufficient to indicate the need for additional controls. (Of course, permitting authorities must have a rational basis and record support for determining that additional requirements serve a water quality objective.)

The final rule deletes existing § 122.34(e)(2), as was proposed. As explained in the preamble to the proposed rule, the guidance in existing § 122.34(e)(2) reflects EPA's recommendation for the initial round of permit issuance, which has already occurred for all permitting authorities. The phrasing of the guidance language no longer represents EPA policy with respect to including additional requirements. EPA has found that an increasing number of permitting authorities are already including specific requirements in their small MS4 permits that address not only wasteload allocations in TMDLs, but also other requirements that are in addition to permit provisions implementing the six minimum control

measures irrespective of the status of EPA's § 122.37 evaluation. See EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016).[FN9] Based on the advancements made by specific permitting programs, and information that points to stormwater discharges continuing to cause waterbody impairments around the country, prior to the promulgation of this final rule, EPA has advised in guidance that permitting authorities write MS4 permits with provisions that are “clear, specific, measurable, and enforceable,” incorporating such requirements as clear performance standards, and including measurable goals or quantifiable targets for *89344 implementation. [FN10] This guidance is a more accurate reflection of the agency's current views on how the Phase II regulations should be implemented than the guidance currently in § 122.34(e)(2).

EPA received few comments about the proposed removal of § 122.34(e)(2). Several commenters strongly supported the deletion of § 122.34(e)(2), while others expressed concern that MS4s may not be in a position to implement additional controls. The MS4 permit standard embodies a great deal of flexibility and gives the permitting authority discretion to address particular water quality impairments. Where a waterbody is impaired in part due to discharges from small MS4s, especially where an approved TMDL allocates wasteload reduction responsibilities to those MS4s, additional controls to achieve reasonable progress towards attainment of water quality standards will need to be considered. The permitting authority has the ability under the final rule to develop requirements tailored to a particular MS4, either by issuing an individual permit or by employing the Two-Step General Permit process in § 122.28(d)(2). Some permitting authorities have successfully created requirements for specific MS4s in a more comprehensive general permit. For example, the 2013 California Small MS4 general permit establishes additional requirements for small MS4s discharging to waters with an approved TMDL. Each set of “deliverables” or “actions required” is tailored to the individual MS4, or groupings of MS4s, based on the pollutant of concern and the particular wasteload allocation. See Appendix G of the 2013 California Small MS4 general permit.

D. Establishing Water Quality-Based Requirements Under the Two General Permit Options

EPA received a number of questions and suggestions concerning how requirements to implement applicable TMDLs should be incorporated into general permits under any of the proposed options. Some comments asserted that there is incompatibility between the proposed Option 1 approach and the need to establish permit terms and conditions that address TMDLs, which require watershed- and MS4-specific provisions. One commenter questioned whether a general permit can incorporate different water quality-based effluent limitations for different MS4s asserting that the NPDES regulations require that general permits include the same water quality-based effluent limits for sources within the same category. Several commenters also suggested that requirements addressing TMDLs are ones that are amenable to using the Option 2 approach given their inherently watershed-specific nature and the fact that TMDL implementation plans often need to be developed with the involvement of the community so that issues such as implementation schedules and BMP approaches reflect the interests of the affected public and are attainable.

EPA clarifies that in order to comply fully with the Comprehensive General Permit approach, all terms and conditions established based on approved TMDLs must be included within the permit itself. Use of the Comprehensive General Permit approach means that the permit needs to spell out the requirements necessary for permittees “to achieve reasonable further progress toward attainment of water quality standards.” (64 FR 68753, December 8, 1999) Therefore, where a TMDL establishes wasteload allocations specifically or categorically for MS4 discharges to the impaired water, the permittee should expect to find “clear, specific, and measurable” requirements within the permit that delineate their responsibilities during the permit term relative to that TMDL and associated wasteload allocation(s). There are a variety of approaches for incorporating these TMDL-related requirements into general permits for specific MS4s. One noteworthy approach places all applicable water quality-based effluent limitations in an appendix to the general permit (e.g., Appendix 2 of the 2012 Western Washington Small MS4 General Permit). For this particular permit, the state evaluated all relevant TMDLs addressing discharges from small MS4s eligible for coverage under the permit and assigned additional requirements focused on reducing the discharge of the impairment pollutant. See EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016), which will be posted on EPA's Web site at <https://www.epa.gov/npdes/stormwater-discharges-municipal-sources> | Resources, for additional examples.

EPA does not view any of these approaches as inconsistent with the NPDES regulatory requirement that “where sources within a specific category or subcategory of dischargers are subject to water quality-based limits . . . the sources in that specific category or subcategory shall be subject to the same water quality-based effluent limitations.” See § 122.28(a)(3). It is certainly true that, due to the watershed-specific nature of TMDLs, requirements in general permit based on TMDLs can vary for individual MS4s based on the impaired water to which they discharge and the specific details of the applicable TMDL. EPA, however, does not view these differing water quality-based limit requirements within the same general permit as running afoul of the § 122.28(a)(3) requirement. EPA considers the different water quality-based requirements that are unique to a TMDL and/or to MS4s that are subject to the TMDL to be the equivalent of dividing the MS4 permittee universe into subcategories based on these requirements. This categorization is not dissimilar to the way in which EPA and many states issue their Multi-Sector General Permits for Stormwater Discharges Associated with Industrial Activity, in which there are requirements common to all facilities and a separate set of requirements that apply to different industrial sectors or subsectors. By establishing different permittee subcategories based on TMDLs, the permit remains consistent with the requirement in § 122.28(a)(3).

Use of a Two-Step General Permit similarly requires that where requirements are necessary under § 122.34(c) to address TMDLs that they be expressed in a clear, specific, and measurable manner. These requirements can be included in the base general permit or they can be developed through the second permitting step of the Two-Step General Permit approach where additional terms and conditions are established for individual MS4s. EPA agrees with the commenters that, given the watershed-specific nature of TMDLs and the strategies needed to address them, in many cases it may be that a Two-Step General Permit is the approach that provides the greatest amount of flexibility to account for these differences. The advantage of this approach is that it allows each MS4 to develop and propose stormwater control strategies that are supported by the community and that can then be reviewed by the permitting authority for adequacy. EPA notes that there are several states that have already set up permit approaches that require MS4s to first develop TMDL implementation plans that are then reviewed and approved by the permitting authority. These approaches may provide useful models to draw from especially for those permitting authorities that choose to establish water quality-based requirements through a Two-Step ***89345** General Permit. See examples in EPA's compendium document, *Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements* (EPA, 2016), which will be posted on EPA's Web site at <https://www.epa.gov/npdes/stormwater-discharges-municipal-sources> | Resources.

E. Restructuring, Consolidating, Conforming, and Other Editorial Revisions

EPA proposed a restructuring of certain provisions in § 122.34(c) through (e) and making a number of minor editorial revisions to reflect the changes made elsewhere to meet remand requirements and to change the style of regulatory text, as discussed earlier in this preamble. EPA proposed to update the cross-references in § 122.35 to conform to the rearrangement of provisions in § 122.34. The preamble at Section VIII.B addresses changes to address water quality-based permit provisions currently in § 122.34(e) and to consolidate existing paragraphs (e) and (f) into new paragraph (c). This section explains other revisions. For the most part, EPA is promulgating these proposed revisions and has added similar revisions to additional provisions that were identified in comments. The following discussion briefly explains those changes.

First, the current § 122.34(c) of the regulations concerning “qualifying local programs” has been moved to § 122.34(e) as proposed. The only changes to the text of the existing language are to remove the words “you” and replace it with “the permittee.” EPA received no comments on this proposed revision.

Second, the current § 122.34(d) that addresses information requirements for obtaining NPDES permit coverage under a general or individual permit has been moved to § 122.33(b)(2). All basic information requirements necessary to obtain permit coverage under the two types of individual permits and two types of general permits are now consolidated in § 122.33. EPA clarifies that these information requirements apply to individual permits, while the information required to be included in NOIs for general permits is to be determined by the permitting authority based on what it needs in

order to establish the permit terms and conditions necessary to meet the MS4 permit standard. See further discussion in Sections IV.C and E.

Third, EPA also proposed to delete paragraphs (d)(2) and (3) in § 122.34 that required the permitting authority to provide a menu of BMPs for each minimum control measure, and, where such a menu of BMPs had not been provided, stated that a small MS4 need not be held to any “measurable goal” for that BMP. The final rule deletes these paragraphs as no longer necessary. EPA provided a menu of BMPs that has been available on its Web site for a number of years. EPA expects that this menu and any similar state menus will continue to be available. In addition, the function of “measurable goals” in the permitting process is clarified under the final rule. In order to address the EDC court's concerns about the lack of permitting authority review of the NOI, which contains information such as the MS4 operator's proposed measurable goals, the final rule clarifies that measurable goals are submitted in proposed form and must be reviewed and approved, and modified where necessary, by the permitting authority prior to becoming effective as enforceable requirements. Therefore, in the final rule, “measurable goals” are now “proposed measurable goals” that are submitted by an MS4 seeking an individual permit to implement the requirements in § 122.34, and at the discretion of the permitting authority, if included as required to be submitted in an NOI for coverage under a Two-Step General Permit under § 122.28(d)(2) as information necessary to establish permit conditions.

Some commenters favored keeping the requirements for a menu of BMPs as a way to promote equitable treatment among MS4s that have similar circumstances. While EPA has deleted the proviso that MS4s will not be held accountable for their selected measurable goals if a menu of BMPs has not been developed by the permitting authority, EPA does not expect permitting authorities to eliminate existing and future BMPs menus. Under § 123.35(g), an approved state is still obligated to establish BMP menus for the minimum control measures to facilitate effective program implementation. Not making information about BMPs available would be counter to effective program implementation. EPA anticipates that equity amongst MS4s will be further enhanced by the requirement for clear, specific, and measurable permit terms and conditions. It should be clear from any proposed general permit if similar MS4s are not being treated equitably and the public will have an opportunity to voice (through comments or a public hearing, if one is held) support or objections to different permit terms and conditions among MS4s. MS4s include a broad range of entities that, as noted by several commenters, are likely to need different terms and conditions for their particular situations, e.g., state departments of transportation that generally do not have the same police powers as local governments and who serve a largely transient audience. EPA also expects that dissimilar requirements for similar MS4s would be explained in the fact sheet or other document that provides the rationale for permit terms and conditions.

Finally, in the proposed rule, EPA used the term “Director” in place of “NPDES Permitting Authority” in §§ 122.33-122.35. This proposed revision was intended to use terminology in the Phase II regulations that is used in other sections of part 122. “Director” and “NPDES Permitting Authority” mean the same thing, i.e., the Regional Administrator or the Director of an authorized State NPDES program, depending on which entity issues the NPDES permits in a particular area. EPA uses these terms interchangeably. However, for purposes of minimizing the number of changes not directly related to the remand, EPA has decided to retain the status quo with respect to how these terms are used currently. In the sections that address the small MS4 program (§§ 122.32—122.35), the final rule uses the term “NPDES permitting authority.” This is different than the terminology that was proposed. The other sections of part 122, for example, §§ 122.26 and 122.28, will continue to use the term “Director.”

VIII. Final Rule Implementation

A. When the Final Rule Must Be Implemented

EPA received comments from state permitting authorities requesting clarification on the implementation timeframe for the new rule. EPA also received comments from environmental organizations indicating that given the length of time since the Ninth Circuit found the procedural aspects of the Phase II regulations to be invalid, that permitting authorities should be required to modify their general permit procedures now to comport their program with the CWA requirements

for permitting authority review and public participation, and also recommended that EPA should require current permits to be reopened for this purposes.

To clarify, this final rule becomes effective on January 9, 2017. It is not EPA's expectation that permitting authorities be required to reopen permits currently in effect to comply with the requirements of this final rule. However, EPA does expect that permitting authorities comply with the final rule when the next permit is being *89346 issued following the expiration of the current permit. Having said this, EPA acknowledges that there are a small number of states whose permits are expiring within a few months of the final rule's effective date, and for these states it is likely too late in their process for them to make the necessary changes to fully comply with the final rule. Therefore, a permitting authority that has proposed a permit, is in the final stages of issuing a new permit (e.g., after the close of the public comment period), or has issued a final permit before this rule becomes effective will not be expected to re-open those permits. Where the permitting authority has not yet proposed a permit, EPA expects that these permits will be issued consistent with the final rule's requirements.

EPA recognizes that development of a new small MS4 general permit starts well in advance of the expiration of existing permits. Still, EPA anticipates that most states can develop clear, specific, and measurable permit terms and conditions without the need for a change to their legal authorities to implement the type(s) of general permits it plans to use. The substantive standard has not changed (i.e., the MS4 permit standard); the final rule merely clarifies the way in which permit terms and conditions that comply with the standard must be expressed and how they are established. Even where a state determines that it needs to change its regulations to establish new procedural requirements to implement the final rule, such as where a state establishes the general permit through a rulemaking process, it may be able to develop necessary permit terms and conditions consistent with the final rule based on its existing statutory authorities. In the event that states must change their legal authorities before they can act, the existing regulations at § 123.62 provides states up to one year to make the necessary changes and up to two years if a statutory change is needed.

B. Status of the 2004 Interim Guidance

This final rule, upon its effective date on January 9, 2017, establishes the requirements for issuing general permits for small MS4 discharges in response to the U.S. Court of Appeals for the Ninth Circuit's decision in *Environmental Defense Center v. EPA*. The 2004 Interim Guidance (Implementing the Partial Remand of the Stormwater Phase II Regulations Regarding Notices of Intent & NPDES General Permitting for Phase II MS4s, EPA (2004)), by its own terms, “provides interim guidance to EPA and State NPDES permitting authorities pending a rulemaking to conform the Phase II rule to the court's order.” With the promulgation of this final rule, the “interim guidance” is no longer needed.

IX. Consistency With the NPDES Electronic Reporting Rule

EPA issued a final NPDES Electronic Reporting Rule (referred to as the “eReporting Rule”) requiring that permitting authorities and regulated entities electronically submit permit and reporting information instead of submitting paper forms. (80 FR 64064, Oct. 22, 2015) The promulgation of the eReporting Rule includes “data elements” (in appendix A of the rule) that must be reported on by both Phase II small MS4s and permitting authorities related to individual NOIs submitted for general permit coverage and required program reports. The data elements included in the eReporting Rule for Phase II MS4s are based on the regulatory requirements in existence at the time that rule was promulgated. These data elements, therefore, do not reflect changes that are being made to the corresponding requirements as part of this MS4 remand rule.

EPA received two public comments, which were similarly focused on the need to ensure consistency between the final MS4 remand rule and the eReporting Rule. One commenter recommended that EPA be prepared once the MS4 remand rule is finalized to make conforming regulatory changes to the eReporting Rule so that programs are again aligned. The other commenter also gave examples of how the wording of the eReporting data elements would be inconsistent with the rule language under consideration for Option 1 of the proposed MS4 remand rule. More specifically, the commenter

questioned how permitting authorities would be able to populate the required data elements for the NOI for a general permit implemented under proposed Option 1 considering that information on the MS4 operator's BMPs and measurable goals would no longer be required as part of the NOI.

EPA agrees with the commenters on the importance of consistency between this final rule and the eReporting Rule. Because the appendix A data elements are no more than a reflection of what the NPDES regulations require for NOIs and compliance reports, where the underlying regulations change, as they are under the final MS4 remand rule, it is necessary to make conforming changes to appendix A. Now that the final MS4 remand rule language is set, there are some data elements that will need to be updated to conform to the new expectations for NOIs and program reports. EPA is aware of the following types of inconsistencies between the final MS4 remand rule and the appendix A data elements related to small MS4s:

- References to “measurable goals” in data name and data descriptions associated with minimum control measures—Under the final MS4 remand rule, the MS4 operator's measurable goals no longer take on the same role that they did under the previous regulations. See related discussion in Section VII.E. Under the new regulations, the final terms and conditions in the general permit and any additional requirements developed through the Two-Step process, are what is relevant. References in appendix A to the permittee's measurable goals will need to be substituted with appropriate references to the final terms and conditions of the permit. Additional updates are also needed in some places in appendix A to change the reference from “measurable goals” to the applicable schedule or deadline for compliance with the specific permit requirement.
- References to the permittee's intended actions during the permit term—The data elements in appendix A, Table 2 describe a number of the minimum control measure elements as reflecting what the permittee intends to accomplish during the permit term. Under the final MS4 remand rule, the MS4's intended actions are not what the permittee is held to, but rather the final permit terms and conditions. Therefore, EPA will need to update any references to intended actions to reflect the fact that the terms and conditions of the permit are what is necessary to report as a data element.
- Regulatory citations—Updates are also necessary to the citations in appendix A to reflect changes made to the Phase II regulations by the final MS4 remand rule.
- NPDES Data Group Number (appendix A, Table 2)—This number corresponds to the entity that is required to provide information on the data element under the eReporting Rule. Table 1 of appendix A assigns a “Data Provider” number to various entities, which is reflected in Table 2. In the portion of appendix A related to information from the NOIs, the “Data Provider” for most of the minimum control measure data elements is indicated as the “Authorized NPDES Program” (or permitting authority) and/or the “NPDES Permittee.” Because the permitting authority under the final MS4 remand rule is solely responsible for establishing final permit terms and conditions, EPA will need to update the *89347 Data Provider to remove references to the NPDES Permittee, where applicable.

EPA has also discovered in reviewing this issue that it inadvertently omitted two data elements from the final eReporting Rule. These data elements correspond to the schedules, deadlines, and milestones that are specified in the permit for the pollution prevention and good housekeeping for municipal operations requirements established under § 122.34(b)(6), and any additional requirements that may be established under § 122.34(c).

EPA is interested in taking the time needed to ensure that the edits required to appendix A are made precisely. Due to the time constraints associated with finalizing the MS4 remand rule, EPA has determined that the updates needed in appendix A require a separate regulatory action outside of this rulemaking. In addition, EPA notes that the deadline for implementation of the affected eReporting rule provisions is December 21, 2020, therefore there should be sufficient time to make the necessary changes before electronic reporting is required under the regulations. EPA will initiate the

rulemaking process immediately and will complete it as soon as possible. In the meantime, EPA will continue to work with its state counterparts to provide appropriate guidance on applying the data elements in the near term.

X. Statutory and Executive Orders Reviews

Additional information about these statutes and Executive Orders can be found at <http://www2.epa.gov/laws-regulations/laws-and-executive-orders>.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket for this action. In addition, EPA prepared an analysis of the potential costs associated with this action. This analysis, “Economic Analysis for the Municipal Separate Storm Sewer System (MS4) General Permit Remand Rule,” is summarized in Section I.D and is available in the docket.

B. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations and has assigned OMB control number 2040-0004.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. Although small MS4s are regulated under the Phase II regulations, this rule does not change the underlying requirements to which these entities are subject. Instead, the focus of this rule is on ensuring that the process by which NPDES permitting authorities authorize discharges from small MS4s using general permits comports with the legal requirements of the Clean Water Act and the applicable NPDES regulations.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of \$100 million or more as described in UMRA, 2 U.S.C. 1531-1538. This action does not significantly or uniquely affect small governments because this rulemaking focuses on the way in which state permitting authorities administer general permit coverage to small MS4s, and does not modify the underlying permit requirements to which they are subject. Nonetheless, EPA consulted with small governments concerning the regulatory requirements that might indirectly affect them, as described in Section I.E.

E. Executive Order 13132: Federalism

This rule will not have substantial direct effects on the states, the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. The rule makes changes to the way in which NPDES permitting authorities, including authorized state government agencies, provide general permit coverage to small MS4s. The impact to states which are NPDES permitting authorities may range from \$558,025 and \$604,770 annually, depending upon the rule option that is finalized. Details of this analysis are presented in “Economic Analysis for the Final Municipal Separate Storm Sewer System General Permit Remand Rule,” which is available in the docket for the rule at <http://www.regulations.gov> under Docket ID No. EPA-HQ-OW-2015-0671.

Keeping with the spirit of E.O. 13132 and consistent with EPA's policy to promote communications between EPA and state and local governments, EPA met with state and local officials throughout the process of developing the proposed rule and received feedback on how proposed options would affect them. EPA engaged in extensive outreach

via conference calls to authorized states (e.g., individual state permitting authorities, and the Association of Clean Water Administrators) and regulated MS4s (e.g., the National Association of Clean Water Agencies, Water Environment Federation, National Association of Flood & Stormwater Management Agencies, National Municipal Stormwater Alliance) to gather input on how EPA's current regulations are affecting them, and to enable officials of affected state and local governments to have meaningful and timely input into the development of the options presented in this rule. EPA also reached out to a number of environmental organizations (e.g., American Rivers, Chesapeake Bay Foundation, Cahaba River Society, Natural Resources Defense Council, PennFuture, River Network) and regulated industry (e.g., National Association of Home Builders).

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have tribal implications as specified in [Executive Order 13175](#) since it does not have a direct substantial impact on one or more federally recognized tribes. The rule affects the way in which small MS4s are covered under a general permit for stormwater discharges and primarily affects the NPDES permitting authorities. No tribal governments are authorized NPDES permitting authorities at this time. The rule could have an indirect impact on an Indian tribe that is a regulated MS4 in that the NOI required for coverage under a general permit may be changed as a result of the rule (if finalized) or may be subject to closer scrutiny by the permitting authority and more of the requirements could be established as enforceable permit conditions. However, the substance of what an MS4 must do will not change significantly as a result of this rule. Thus, [Executive Order 13175](#) does not apply to this action.

Consistent with the EPA Policy on Consultation and Coordination with Indian Tribes, EPA conducted outreach to tribal officials during the development of this action. EPA spoke with tribal members during a conference call with the National Tribal Water Council to gather input on how tribal governments are currently affected by MS4 regulations and may be affected by [*89348](#) the options in this rule. Based on this outreach and additional, internal analysis, EPA confirmed that this action would have little tribal impact.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets [Executive Order 13045](#) as applying only to those regulatory actions that concern environmental health or safety risks that EPA has reason to believe may disproportionately affect children, per the definition of “covered regulatory action” in section 2-202 of the Executive Order. This action is not subject to [Executive Order 13045](#) because it does not concern an environmental health risk or safety risk.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

This action is not subject to [Executive Order 13211](#), because it does not significantly affect energy supply, distribution, or use.

I. National Technology Transfer and Advancement Act

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

EPA determined that the human health or environmental risk addressed by this action will not have potential disproportionately high and adverse human health or environmental effects on minority, low-income, or indigenous populations. This action affects the procedures by which NPDES permitting authorities provide general permit coverage for small MS4s, to help ensure that small MS4s “reduce the discharge of pollutants to the maximum extent practicable (MEP), to protect water quality and to satisfy the water quality requirements of the Clean Water Act.” It does not change any current human health or environmental risk standards.

K. Congressional Review Act

This action is subject to the CRA, and EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a “major rule” as defined by [5 U.S.C. 804\(2\)](#).

List of Subjects in 40 CFR Part 122

Environmental protection, Storm water, Water pollution.

Dated: November 17, 2016.

Gina McCarthy,

Administrator.

For the reasons stated in the preamble, EPA amends 40 CFR part 122 as set forth below:

PART 122—EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

1. The authority citation for part 122 continues to read as follows:

Authority: The Clean Water Act, [33 U.S.C. 1251 et seq.](#)

[40 CFR § 122.28](#)

2. Amend [§ 122.28](#) by adding paragraph (d) to read as follows:

[40 CFR § 122.28](#)

[§ 122.28](#) General permits (applicable to State NPDES programs, see [§ 123.25](#)).

* * * * *

(d) Small municipal separate storm sewer systems (MS4s) (Applicable to State programs). For general permits issued under paragraph (b) of this section for small MS4s, the Director must establish the terms and conditions necessary to meet the requirements of [§ 122.34](#) using one of the two permitting approaches in paragraph (d)(1) or (2) of this section. The Director must indicate in the permit or fact sheet which approach is being used.

(1) Comprehensive general permit. The Director includes all required permit terms and conditions in the general permit; or

(2) Two-step general permit. The Director includes required permit terms and conditions in the general permit applicable to all eligible small MS4s and, during the process of authorizing small MS4s to discharge, establishes additional terms and conditions not included in the general permit to satisfy one or more of the permit requirements in [§ 122.34](#) for individual small MS4 operators.

(i) The general permit must require that any small MS4 operator seeking authorization to discharge under the general permit submit a Notice of Intent (NOI) consistent with [§ 122.33\(b\)\(1\)\(ii\)](#).

(ii) The Director must review the NOI submitted by the small MS4 operator to determine whether the information in the NOI is complete and to establish the additional terms and conditions necessary to meet the requirements of [§ 122.34](#). The Director may require the small MS4 operator to submit additional information. If the Director makes a preliminary

decision to authorize the small MS4 operator to discharge under the general permit, the Director must give the public notice of and opportunity to comment and request a public hearing on its proposed authorization and the NOI, the proposed additional terms and conditions, and the basis for these additional requirements. The public notice, the process for submitting public comments and hearing requests, and the hearing process if a request for a hearing is granted, must follow the procedures applicable to draft permits set forth in §§ 124.10 through 124.13 (excluding § 124.10(c)(2)). The Director must respond to significant comments received during the comment period as provided in § 124.17.

(iii) Upon authorization for the MS4 to discharge under the general permit, the final additional terms and conditions applicable to the MS4 operator become effective. The Director must notify the permittee and inform the public of the decision to authorize the MS4 to discharge under the general permit and of the final additional terms and conditions specific to the MS4.

[40 CFR § 122.33](#)

3. Revise [§ 122.33](#) to read as follows:

[40 CFR § 122.33](#)

[§ 122.33](#) Requirements for obtaining permit coverage for regulated small MS4s.

(a) The operator of any regulated small MS4 under [§ 122.32](#) must seek coverage under an NPDES permit issued by the applicable NPDES permitting authority. If the small MS4 is located in an NPDES authorized State, Tribe, or Territory, then that State, Tribe, or Territory is the NPDES permitting authority. Otherwise, the NPDES permitting authority is the EPA Regional Office for the Region where the small MS4 is located.

(b) The operator of any regulated small MS4 must seek authorization to discharge under a general or individual NPDES permit, as follows:

(1) General permit. (i) If seeking coverage under a general permit issued by the NPDES permitting authority in accordance with [§ 122.28\(d\)\(1\)](#), the small MS4 operator must submit a Notice of Intent (NOI) to the NPDES permitting authority consistent with [§ 122.28\(b\)\(2\)](#). The small MS4 operator may file its own NOI, or the small MS4 operator and other municipalities or governmental entities may jointly submit an NOI. If the small MS4 operator wants to share responsibilities for meeting the minimum measures with other municipalities or governmental entities, the small MS4 operator must submit an NOI that describes which minimum measures it will implement and identify the entities that will implement the other minimum measures within the area served by the MS4. The general permit will explain any other steps necessary to obtain permit authorization.

***89349** (ii) If seeking coverage under a general permit issued by the NPDES permitting authority in accordance with [§ 122.28\(d\)\(2\)](#), the small MS4 operator must submit an NOI to the Director consisting of the minimum required information in [§ 122.28\(b\)\(2\)\(ii\)](#), and any other information the Director identifies as necessary to establish additional terms and conditions that satisfy the permit requirements of [§ 122.34](#), such as the information required under [§ 122.33\(b\)\(2\)\(i\)](#). The general permit will explain any other steps necessary to obtain permit authorization.

(2) Individual permit. (i) If seeking authorization to discharge under an individual permit to implement a program under [§ 122.34](#), the small MS4 operator must submit an application to the appropriate NPDES permitting authority that includes the information required under [§ 122.21\(f\)](#) and the following:

(A) The best management practices (BMPs) that the small MS4 operator or another entity proposes to implement for each of the storm water minimum control measures described in [§ 122.34\(b\)\(1\)](#) through (6);

(B) The proposed measurable goals for each of the BMPs including, as appropriate, the months and years in which the small MS4 operator proposes to undertake required actions, including interim milestones and the frequency of the action;

(C) The person or persons responsible for implementing or coordinating the storm water management program;

(D) An estimate of square mileage served by the small MS4;

(E) Any additional information that the NPDES permitting authority requests; and

(F) A storm sewer map that satisfies the requirement of § 122.34(b)(3)(i) satisfies the map requirement in § 122.21(f)(7).

(ii) If seeking authorization to discharge under an individual permit to implement a program that is different from the program under § 122.34, the small MS4 operator must comply with the permit application requirements in § 122.26(d). The small MS4 operator must submit both parts of the application requirements in § 122.26(d)(1) and (2). The small MS4 operator must submit the application at least 180 days before the expiration of the small MS4 operator's existing permit. Information required by § 122.26(d)(1)(ii) and (d)(2) regarding its legal authority is not required, unless the small MS4 operator intends for the permit writer to take such information into account when developing other permit conditions.

(iii) If allowed by your NPDES permitting authority, the small MS4 operator and another regulated entity may jointly apply under either paragraph (b)(2)(i) or (ii) of this section to be co-permittees under an individual permit.

(3) Co-permittee alternative. If the regulated small MS4 is in the same urbanized area as a medium or large MS4 with an NPDES storm water permit and that other MS4 is willing to have the small MS4 operator participate in its storm water program, the parties may jointly seek a modification of the other MS4 permit to include the small MS4 operator as a limited co-permittee. As a limited co-permittee, the small MS4 operator will be responsible for compliance with the permit's conditions applicable to its jurisdiction. If the small MS4 operator chooses this option it must comply with the permit application requirements of § 122.26, rather than the requirements of § 122.33(b)(2)(i). The small MS4 operator does not need to comply with the specific application requirements of § 122.26(d)(1)(iii) and (iv) and (d)(2)(iii) (discharge characterization). The small MS4 operator may satisfy the requirements in § 122.26 (d)(1)(v) and (d)(2)(iv) (identification of a management program) by referring to the other MS4's storm water management program.

(4) Guidance for paragraph (b)(3) of this section. In referencing the other MS4 operator's storm water management program, the small MS4 operator should briefly describe how the existing program will address discharges from the small MS4 or would need to be supplemented in order to adequately address the discharges. The small MS4 operator should also explain its role in coordinating storm water pollutant control activities in the MS4, and detail the resources available to the small MS4 operator to accomplish the program.

(c) If the regulated small MS4 is designated under § 122.32(a)(2), the small MS4 operator must apply for coverage under an NPDES permit, or apply for a modification of an existing NPDES permit under paragraph (b)(3) of this section, within 180 days of notice of such designation, unless the NPDES permitting authority grants a later date.

[40 CFR § 122.34](#)

4. Revise [§ 122.34](#) to read as follows:

[40 CFR § 122.34](#)

§ 122.34 Permit requirements for regulated small MS4 permits.

(a) General requirements. For any permit issued to a regulated small MS4, the NPDES permitting authority must include permit terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Terms and conditions that satisfy the requirements of this section must be expressed in clear, specific, and measurable terms. Such terms and conditions may include narrative, numeric, or other types of requirements (e.g., implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions).

(1) For permits providing coverage to any small MS4s for the first time, the NPDES permitting authority may specify a time period of up to 5 years from the date of permit issuance for the permittee to fully comply with the conditions of the permit and to implement necessary BMPs.

(2) For each successive permit, the NPDES permitting authority must include terms and conditions that meet the requirements of this section based on its evaluation of the current permit requirements, record of permittee compliance and program implementation progress, current water quality conditions, and other relevant information.

(b) Minimum control measures. The permit must include requirements that ensure the permittee implements, or continues to implement, the minimum control measures in paragraphs (b)(1) through (6) of this section during the permit term. The permit must also require a written storm water management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure.

(1) Public education and outreach on storm water impacts. (i) The permit must identify the minimum elements and require implementation of a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: The permittee may use storm water educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program ***89350** should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the permit require the permittee to tailor the public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that the permit require that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permit should encourage the permittee to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(2) Public involvement/participation. (i) The permit must identify the minimum elements and require implementation of a public involvement/participation program that complies with State, Tribal, and local public notice requirements.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit include provisions addressing the need for the public to be included in developing, implementing, and reviewing the storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

(3) Illicit discharge detection and elimination. (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to detect and eliminate illicit discharges (as defined at § 122.26(b)(2)) into the small MS4. At a minimum, the permit must require the permittee to:

(A) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

(B) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions;

(C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system; and

(D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(ii) The permit must also require the permittee to address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if the permittee identifies them as a significant contributor of pollutants to the small MS4: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at [40 CFR 35.2005\(b\)\(20\)](#)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).

(iii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit require the plan to detect and address illicit discharges include the following four components: Procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends that the permit require the permittee to visually screen outfalls during dry weather and conduct field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

(4) Construction site storm water runoff control. (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to reduce pollutants in any storm water runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Director waives requirements for storm water discharges associated with small construction activity in accordance with § 122.26(b)(15)(i), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites. At a minimum, the permit must require the permittee to develop and implement:

(A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;

(B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

***89351** (D) Procedures for site plan review which incorporate consideration of potential water quality impacts;

(E) Procedures for receipt and consideration of information submitted by the public, and

(F) Procedures for site inspection and enforcement of control measures.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. EPA recommends that the procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality. EPA also recommends that the permit require the permittee to provide appropriate educational and training measures for construction site operators, and require storm water pollution prevention plans for construction sites within the MS4's jurisdiction that discharge into the system. See § 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see § 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the NPDES permitting authority, may be responsible for implementing one or more of the minimum measures on the permittee's behalf).

(5) Post-construction storm water management in new development and redevelopment. (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the small MS4. The permit must ensure that controls are in place that would prevent or minimize water quality impacts. At a minimum, the permit must require the permittee to:

(A) Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community;

(B) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and

(C) Ensure adequate long-term operation and maintenance of BMPs.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the permit ensure that BMPs included in the program: Be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. EPA encourages the permittee to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, EPA recommends that the permit require the permittee to adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from

new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing the program, the permit should also require the permittee to assess existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, the permit should require the permittee to provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: Storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that the permit requirements be responsive to these changes, developments or improvements in control technologies.

(6) Pollution prevention/good housekeeping for municipal operations. (i) The permit must identify the minimum elements and require the development and implementation of an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the State, Tribe, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit address the following: Maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm ***89352** sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

(c) Other applicable requirements. As appropriate, the permit will include:

(1) More stringent terms and conditions, including permit requirements that modify, or are in addition to, the minimum control measures based on an approved total maximum daily load (TMDL) or equivalent analysis, or where the Director determines such terms and conditions are needed to protect water quality.

(2) Other applicable NPDES permit requirements, standards and conditions established in the individual or general permit, developed consistent with the provisions of §§ 122.41 through 122.49.

(d) Evaluation and assessment requirements—(1) Evaluation. The permit must require the permittee to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the components of its storm water management program, and the status of achieving the measurable requirements in the permit.

Note to paragraph (d)(1): The NPDES permitting authority may determine monitoring requirements for the permittee in accordance with State/Tribal monitoring plans appropriate to the watershed. Participation in a group monitoring program is encouraged.

(2) Recordkeeping. The permit must require that the permittee keep records required by the NPDES permit for at least 3 years and submit such records to the NPDES permitting authority when specifically asked to do so. The permit must require the permittee to make records, including a written description of the storm water management program, available to the public at reasonable times during regular business hours (see § 122.7 for confidentiality provision). (The permittee may assess a reasonable charge for copying. The permit may allow the permittee to require a member of the public to provide advance notice.)

(3) Reporting. Unless the permittee is relying on another entity to satisfy its NPDES permit obligations under § 122.35(a), the permittee must submit annual reports to the NPDES permitting authority for its first permit term. For subsequent permit terms, the permittee must submit reports in year two and four unless the NPDES permitting authority requires more frequent reports. As of December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the small MS4 to the NPDES permitting authority or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), § 122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the owner, operator, or the duly authorized representative of the small MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. The report must include:

- (i) The status of compliance with permit terms and conditions;
- (ii) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;
- (iii) A summary of the storm water activities the permittee proposes to undertake to comply with the permit during the next reporting cycle;
- (iv) Any changes made during the reporting period to the permittee's storm water management program; and
- (v) Notice that the permittee is relying on another governmental entity to satisfy some of the permit obligations (if applicable), consistent with § 122.35(a).

(e) Qualifying local program. If an existing qualifying local program requires the permittee to implement one or more of the minimum control measures of paragraph (b) of this section, the NPDES permitting authority may include conditions in the NPDES permit that direct the permittee to follow that qualifying program's requirements rather than the requirements of paragraph (b). A qualifying local program is a local, State or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b).

[40 CFR § 122.35](#)

5. Amend § 122.35 by revising the section heading and paragraph (a) to read as follows:

[40 CFR § 122.35](#)

§ 122.35 May the operator of a regulated small MS4 share the responsibility to implement the minimum control measures with other entities?

(a) The permittee may rely on another entity to satisfy its NPDES permit obligations to implement a minimum control measure if:

- (1) The other entity, in fact, implements the control measure;
- (2) The particular control measure, or component thereof, is at least as stringent as the corresponding NPDES permit requirement; and
- (3) The other entity agrees to implement the control measure on the permittee's behalf. In the reports, the permittee must submit under § 122.34(d)(3), the permittee must also specify that it is relying on another entity to satisfy some of the permit obligations. If the permittee is relying on another governmental entity regulated under section 122 to satisfy all of the permit obligations, including the obligation to file periodic reports required by § 122.34(d)(3), the permittee must note that fact in its NOI, but the permittee is not required to file the periodic reports. The permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure (or component thereof). Therefore, EPA encourages the permittee to enter into a legally binding agreement with that entity if the permittee wants to minimize any uncertainty about compliance with the permit.

* * * * *

[FR Doc. 2016-28426 Filed 12-8-16; 8:45 am]

BILLING CODE 6560-50-P

Footnotes

- 1 These documents can be found on EPA's Web site at <https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources>.
- 2 This document will be made available on EPA's Web site at <https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources>.
- 3 See EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016).
- 4 For example, Colorado's 2016 Small MS4 General Permit includes a different set of actions and corresponding deadlines for “new permittees” and “renewal permittees.” See Section H, <https://www.colorado.gov/pacific/sites/default/files/COR090000-PermitCertification.PDF>.
- 5 See California's 2013 Small MS4 General Permit, <http://www.waterboards.ca.gov/water—issues/programs/stormwater/docs/phs112012—5th/order—final.pdf>.
- 6 See EPA's Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016).
- 7 See EPA memorandum entitled Revisions to the November 22, 2002 Memorandum “Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs,” November 26, 2014.
- 8 This document, and two additional compendia, Compendium of MS4 Permitting Approaches—Part 2: Post Construction Standards (EPA, 2016) and Compendium of MS4 Permitting Approaches—Part 3: Water Quality-Based Requirements (EPA, 2016), will be available at EPA's Web site at <https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources>.
- 9 This document will be made available at on EPA's Web site at <https://www.epa.gov/npdes/stormwater-discharges-municipal-sources1Bresources>.
- 10 See EPA's MS4 Permit Improvement Guide (EPA, 2010).

ATTACHMENT B-1

West's Annotated California Codes
Constitution of the State of California 1879 (Refs & Annos)
Article III. State of California (Refs & Annos)

West's Ann.Cal.Const. Art. 3, § 3.5

§ 3.5. Administrative agencies; prohibition against declaring
statute unenforceable or unconstitutional; exceptions

[Currentness](#)

Sec. 3.5. An administrative agency, including an administrative agency created by the Constitution or an initiative statute, has no power:

- (a) To declare a statute unenforceable, or refuse to enforce a statute, on the basis of it being unconstitutional unless an appellate court has made a determination that such statute is unconstitutional;
- (b) To declare a statute unconstitutional;
- (c) To declare a statute unenforceable, or to refuse to enforce a statute on the basis that federal law or federal regulations prohibit the enforcement of such statute unless an appellate court has made a determination that the enforcement of such statute is prohibited by federal law or federal regulations.

Credits

(Added June 6, 1978.)

[Notes of Decisions \(35\)](#)

West's Ann. Cal. Const. Art. 3, § 3.5, CA CONST Art. 3, § 3.5
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-2



KeyCite Yellow Flag - Negative Treatment

Proposed Legislation

[West's Annotated California Codes](#)

[Constitution of the State of California 1879 \(Refs & Annos\)](#)

[Article Xiiib. Government Spending Limitation \(Refs & Annos\)](#)

West's Ann.Cal.Const. Art. 13B, § 6

§ 6. New programs or services mandated by Legislature or state agencies; subvention; appropriation of funds or suspension of operation

Effective: June 4, 2014

[Currentness](#)

SEC. 6. (a) Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service, except that the Legislature may, but need not, provide a subvention of funds for the following mandates:

- (1) Legislative mandates requested by the local agency affected.
- (2) Legislation defining a new crime or changing an existing definition of a crime.
- (3) Legislative mandates enacted prior to January 1, 1975, or executive orders or regulations initially implementing legislation enacted prior to January 1, 1975.
- (4) Legislative mandates contained in statutes within the scope of paragraph (7) of [subdivision \(b\) of Section 3 of Article I](#).

(b)(1) Except as provided in paragraph (2), for the 2005-06 fiscal year and every subsequent fiscal year, for a mandate for which the costs of a local government claimant have been determined in a preceding fiscal year to be payable by the State pursuant to law, the Legislature shall either appropriate, in the annual Budget Act, the full payable amount that has not been previously paid, or suspend the operation of the mandate for the fiscal year for which the annual Budget Act is applicable in a manner prescribed by law.

(2) Payable claims for costs incurred prior to the 2004-05 fiscal year that have not been paid prior to the 2005-06 fiscal year may be paid over a term of years, as prescribed by law.

(3) Ad valorem property tax revenues shall not be used to reimburse a local government for the costs of a new program or higher level of service.

(4) This subdivision applies to a mandate only as it affects a city, county, city and county, or special district.

(5) This subdivision shall not apply to a requirement to provide or recognize any procedural or substantive protection, right, benefit, or employment status of any local government employee or retiree, or of any local government employee organization, that arises from, affects, or directly relates to future, current, or past local government employment and that constitutes a mandate subject to this section.

(c) A mandated new program or higher level of service includes a transfer by the Legislature from the State to cities, counties, cities and counties, or special districts of complete or partial financial responsibility for a required program for which the State previously had complete or partial financial responsibility.

Credits

(Adopted Nov. 6, 1979. Amended by Stats.2004, Res. c. 133 (S.C.A.4) ([Prop. 1A, approved Nov. 2, 2004](#), eff. Nov. 3, 2004); Stats.2013, Res. c. 123 (S.C.A.3), § 2 ([Prop. 42, approved June 3, 2014](#), eff. June 4, 2014).)

[Notes of Decisions \(213\)](#)

West's Ann. Cal. Const. Art. 13B, § 6, CA CONST Art. 13B, § 6
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-3



KeyCite Yellow Flag - Negative Treatment

Proposed Legislation

[West's Annotated California Codes](#)

[Constitution of the State of California 1879 \(Refs & Annos\)](#)

[Article XIIIIC. \[Voter Approval for Local Tax Levies\] \(Refs & Annos\)](#)

West's Ann.Cal.Const. Art. 13C, § 1

§ 1. Definitions

Effective: November 3, 2010

[Currentness](#)

SECTION 1. Definitions. As used in this article:

- (a) “General tax” means any tax imposed for general governmental purposes.
- (b) “Local government” means any county, city, city and county, including a charter city or county, any special district, or any other local or regional governmental entity.
- (c) “Special district” means an agency of the State, formed pursuant to general law or a special act, for the local performance of governmental or proprietary functions with limited geographic boundaries including, but not limited to, school districts and redevelopment agencies.
- (d) “Special tax” means any tax imposed for specific purposes, including a tax imposed for specific purposes, which is placed into a general fund.
- (e) As used in this article, “tax” means any levy, charge, or exaction of any kind imposed by a local government, except the following:
- (1) A charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege.
 - (2) A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.
 - (3) A charge imposed for the reasonable regulatory costs to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof.

(4) A charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property.

(5) A fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law.

(6) A charge imposed as a condition of property development.

(7) Assessments and property-related fees imposed in accordance with the provisions of Article XIII D.

The local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity.

Credits

(Added by [Initiative Measure \(Prop. 218, § 3, approved Nov. 5, 1996\)](#). Amended by [Initiative Measure \(Prop. 26, § 3, approved Nov. 2, 2010, eff. Nov. 3, 2010\)](#).)

[Notes of Decisions \(72\)](#)

West's Ann. Cal. Const. Art. 13C, § 1, CA CONST Art. 13C, § 1
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-4

West's Annotated California Codes

Constitution of the State of California 1879 (Refs & Annos)

Article XIIIID. [Assessment and Property Related Fee Reform] (Refs & Annos)

West's Ann.Cal.Const. Art. 13D, § 6

§ 6. New or existing increased fees and charges; procedures and requirements; voter approval

[Currentness](#)

Sec. 6. Property Related Fees and Charges. (a) Procedures for New or Increased Fees and Charges. An agency shall follow the procedures pursuant to this section in imposing or increasing any fee or charge as defined pursuant to this article, including, but not limited to, the following:

(1) The parcels upon which a fee or charge is proposed for imposition shall be identified. The amount of the fee or charge proposed to be imposed upon each parcel shall be calculated. The agency shall provide written notice by mail of the proposed fee or charge to the record owner of each identified parcel upon which the fee or charge is proposed for imposition, the amount of the fee or charge proposed to be imposed upon each, the basis upon which the amount of the proposed fee or charge was calculated, the reason for the fee or charge, together with the date, time, and location of a public hearing on the proposed fee or charge.

(2) The agency shall conduct a public hearing upon the proposed fee or charge not less than 45 days after mailing the notice of the proposed fee or charge to the record owners of each identified parcel upon which the fee or charge is proposed for imposition. At the public hearing, the agency shall consider all protests against the proposed fee or charge. If written protests against the proposed fee or charge are presented by a majority of owners of the identified parcels, the agency shall not impose the fee or charge.

(b) Requirements for Existing, New or Increased Fees and Charges. A fee or charge shall not be extended, imposed, or increased by any agency unless it meets all of the following requirements:

(1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.

(2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.

(3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.

(4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees or charges based on potential or future use of a service are not permitted. Standby charges, whether characterized as charges or assessments, shall be classified as assessments and shall not be imposed without compliance with [Section 4](#).

(5) No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services, where the service is available to the public at large in substantially the same manner as it is to property owners. Reliance by an agency on any parcel map, including, but not limited to, an assessor's parcel map, may be considered a significant factor in determining whether a fee or charge is imposed as an incident of property ownership for purposes of this article. In any legal action contesting the validity of a fee or charge, the burden shall be on the agency to demonstrate compliance with this article.

(c) Voter Approval for New or Increased Fees and Charges. Except for fees or charges for sewer, water, and refuse collection services, no property related fee or charge shall be imposed or increased unless and until that fee or charge is submitted and approved by a majority vote of the property owners of the property subject to the fee or charge or, at the option of the agency, by a two-thirds vote of the electorate residing in the affected area. The election shall be conducted not less than 45 days after the public hearing. An agency may adopt procedures similar to those for increases in assessments in the conduct of elections under this subdivision.

(d) Beginning July 1, 1997, all fees or charges shall comply with this section.

Credits

(Added by [Initiative Measure \(Prop. 218, § 4, approved Nov. 5, 1996\)](#).)

[Notes of Decisions \(89\)](#)

West's Ann. Cal. Const. Art. 13D, § 6, CA CONST Art. 13D, § 6
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-5

 KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

West's Annotated California Codes
Government Code (Refs & Annos)
Title 2. Government of the State of California
Division 4. Fiscal Affairs (Refs & Annos)
Part 7. State-Mandated Local Costs (Refs & Annos)
Chapter 4. Identification and Payment of Costs Mandated by the State (Refs & Annos)
Article 1. Commission Procedure (Refs & Annos)

West's Ann.Cal.Gov.Code § 17551

§ 17551. Hearing and decision on claims

Effective: January 1, 2008

[Currentness](#)

(a) The commission, pursuant to the provisions of this chapter, shall hear and decide upon a claim by a local agency or school district that the local agency or school district is entitled to be reimbursed by the state for costs mandated by the state as required by [Section 6 of Article XIII B of the California Constitution](#).

(b) Except as provided in [Sections 17573](#) and [17574](#), commission review of claims may be had pursuant to subdivision (a) only if the test claim is filed within the time limits specified in this section.

(c) Local agency and school district test claims shall be filed not later than 12 months following the effective date of a statute or executive order, or within 12 months of incurring increased costs as a result of a statute or executive order, whichever is later.

(d) The commission, pursuant to the provisions of this chapter, shall hear and decide upon a claim by a local agency or school district filed on or after January 1, 1985, that the Controller has incorrectly reduced payments to the local agency or school district pursuant to [paragraph \(2\) of subdivision \(d\) of Section 17561](#).

Credits

(Added by Stats.1984, c. 1459, § 1. Amended by Stats.1985, c. 179, § 5, eff. July 8, 1985, operative Jan. 1, 1985; Stats.1986, c. 879, § 2; Stats.2002, c. 1124 (A.B.3000), § 30.2, eff. Sept. 30, 2002; Stats.2004, c. 890 (A.B.2856), § 11; Stats.2007, c. 329 (A.B.1222), § 3.)

[Notes of Decisions \(6\)](#)

West's Ann. Cal. Gov. Code § 17551, CA GOVT § 17551

Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-6

West's Annotated California Codes

Government Code (Refs & Annos)

Title 2. Government of the State of California

Division 4. Fiscal Affairs (Refs & Annos)

Part 7. State-Mandated Local Costs (Refs & Annos)

Chapter 4. Identification and Payment of Costs Mandated by the State (Refs & Annos)

Article 1. Commission Procedure (Refs & Annos)

West's Ann.Cal.Gov.Code § 17553

§ 17553. Procedures for receiving and hearing claims; filing of test claims; form and contents; incomplete test claims; determination of complete incorrect reduction claim

Effective: January 1, 2008

[Currentness](#)

(a) The commission shall adopt procedures for receiving claims filed pursuant to this article and [Section 17574](#) and for providing a hearing on those claims. The procedures shall do all of the following:

(1) Provide for presentation of evidence by the claimant, the Department of Finance, and any other affected department or agency, and any other interested person.

(2) Ensure that a statewide cost estimate is adopted within 12 months after receipt of a test claim, when a determination is made by the commission that a mandate exists. This deadline may be extended for up to six months upon the request of either the claimant or the commission.

(3) Permit the hearing of a claim to be postponed at the request of the claimant, without prejudice, until the next scheduled hearing.

(b) All test claims shall be filed on a form prescribed by the commission and shall contain at least the following elements and documents:

(1) A written narrative that identifies the specific sections of statutes or executive orders and the effective date and register number of regulations alleged to contain a mandate and shall include all of the following:

(A) A detailed description of the new activities and costs that arise from the mandate.

(B) A detailed description of existing activities and costs that are modified by the mandate.

(C) The actual increased costs incurred by the claimant during the fiscal year for which the claim was filed to implement the alleged mandate.

(D) The actual or estimated annual costs that will be incurred by the claimant to implement the alleged mandate during the fiscal year immediately following the fiscal year for which the claim was filed.

(E) A statewide cost estimate of increased costs that all local agencies or school districts will incur to implement the alleged mandate during the fiscal year immediately following the fiscal year for which the claim was filed.

(F) Identification of all of the following:

(i) Dedicated state funds appropriated for this program.

(ii) Dedicated federal funds appropriated for this program.

(iii) Other nonlocal agency funds dedicated for this program.

(iv) The local agency's general purpose funds for this program.

(v) Fee authority to offset the costs of this program.

(G) Identification of prior mandate determinations made by the Commission on State Mandates or a predecessor agency that may be related to the alleged mandate.

(H) Identification of a legislatively determined mandate pursuant to [Section 17573](#) that is on the same statute or executive order.

(2) The written narrative shall be supported with declarations under penalty of perjury, based on the declarant's personal knowledge, information, or belief, and signed by persons who are authorized and competent to do so, as follows:

(A) Declarations of actual or estimated increased costs that will be incurred by the claimant to implement the alleged mandate.

(B) Declarations identifying all local, state, or federal funds, or fee authority that may be used to offset the increased costs that will be incurred by the claimant to implement the alleged mandate, including direct and indirect costs.

(C) Declarations describing new activities performed to implement specified provisions of the new statute or executive order alleged to impose a reimbursable state-mandated program. Specific references shall be made to chapters, articles, sections, or page numbers alleged to impose a reimbursable state-mandated program.

(D) If applicable, declarations describing the period of reimbursement and payments received for full reimbursement of costs for a legislatively determined mandate pursuant to [Section 17573](#), and the authority to file a test claim pursuant to [paragraph \(1\) of subdivision \(c\) of Section 17574](#).

(3)(A) The written narrative shall be supported with copies of all of the following:

(i) The test claim statute that includes the bill number or executive order, alleged to impose or impact a mandate.

(ii) Relevant portions of state constitutional provisions, federal statutes, and executive orders that may impact the alleged mandate.

(iii) Administrative decisions and court decisions cited in the narrative.

(B) State mandate determinations made by the Commission on State Mandates or a predecessor agency and published court decisions on state mandate determinations made by the Commission on State Mandates are exempt from this requirement.

(4) A test claim shall be signed at the end of the document, under penalty of perjury by the claimant or its authorized representative, with the declaration that the test claim is true and complete to the best of the declarant's personal knowledge, information, or belief. The date of signing, the declarant's title, address, telephone number, facsimile machine telephone number, and electronic mail address shall be included.

(c) If a completed test claim is not received by the commission within 30 calendar days from the date that an incomplete test claim was returned by the commission, the original test claim filing date may be disallowed, and a new test claim may be accepted on the same statute or executive order.

(d) In addition, the commission shall determine whether an incorrect reduction claim is complete within 10 days after the date that the incorrect reduction claim is filed. If the commission determines that an incorrect reduction claim is not complete, the commission shall notify the local agency and school district that filed the claim stating the reasons that the claim is not complete. The local agency or school district shall have 30 days to complete the claim. The commission shall serve a copy of the complete incorrect reduction claim on the Controller. The Controller shall have no more than 90 days after the date the claim is delivered or mailed to file any rebuttal to an incorrect reduction claim. The failure of the Controller to file a rebuttal to an incorrect reduction claim shall not serve to delay the consideration of the claim by the commission.

Credits

(Added by [Stats.1995, c. 945 \(S.B.11\)](#), § 5, operative July 1, 1996. Amended by [Stats.1998, c. 681 \(A.B.1963\)](#), § 1, eff. Sept. 22, 1998; [Stats.1999, c. 643 \(A.B.1679\)](#), § 3; [Stats.2004, c. 890 \(A.B.2856\)](#), § 12; [Stats.2006, c. 538 \(S.B.1852\)](#), § 278; [Stats.2007, c. 329 \(A.B.1222\)](#), § 4.)

West's Ann. Cal. Gov. Code § 17553, CA GOVT § 17553

Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

End of Document

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ATTACHMENT B-7



KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Prior Version Held Unconstitutional by [California School Boards Ass'n v. State](#), Cal.App. 3 Dist., Mar. 09, 2009

[West's Annotated California Codes](#)

[Government Code \(Refs & Annos\)](#)

[Title 2. Government of the State of California](#)

[Division 4. Fiscal Affairs \(Refs & Annos\)](#)

[Part 7. State-Mandated Local Costs \(Refs & Annos\)](#)

[Chapter 4. Identification and Payment of Costs Mandated by the State \(Refs & Annos\)](#)

[Article 1. Commission Procedure \(Refs & Annos\)](#)

West's Ann.Cal.Gov.Code § 17556

§ 17556. Findings; costs not mandated upon certain conditions

Effective: October 19, 2010

[Currentness](#)

The commission shall not find costs mandated by the state, as defined in [Section 17514](#), in any claim submitted by a local agency or school district, if, after a hearing, the commission finds any one of the following:

- (a) The claim is submitted by a local agency or school district that requests or previously requested legislative authority for that local agency or school district to implement the program specified in the statute, and that statute imposes costs upon that local agency or school district requesting the legislative authority. A resolution from the governing body or a letter from a delegated representative of the governing body of a local agency or school district that requests authorization for that local agency or school district to implement a given program shall constitute a request within the meaning of this subdivision. This subdivision applies regardless of whether the resolution from the governing body or a letter from a delegated representative of the governing body was adopted or sent prior to or after the date on which the statute or executive order was enacted or issued.
- (b) The statute or executive order affirmed for the state a mandate that has been declared existing law or regulation by action of the courts. This subdivision applies regardless of whether the action of the courts occurred prior to or after the date on which the statute or executive order was enacted or issued.
- (c) The statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation. This subdivision applies regardless of whether the federal law or regulation was enacted or adopted prior to or after the date on which the state statute or executive order was enacted or issued.
- (d) The local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service. This subdivision applies regardless of whether the authority to levy charges, fees, or assessments was enacted or adopted prior to or after the date on which the statute or executive order was enacted or issued.

(e) The statute, executive order, or an appropriation in a Budget Act or other bill provides for offsetting savings to local agencies or school districts that result in no net costs to the local agencies or school districts, or includes additional revenue that was specifically intended to fund the costs of the state mandate in an amount sufficient to fund the cost of the state mandate. This subdivision applies regardless of whether a statute, executive order, or appropriation in the Budget Act or other bill that either provides for offsetting savings that result in no net costs or provides for additional revenue specifically intended to fund the costs of the state mandate in an amount sufficient to fund the cost of the state mandate was enacted or adopted prior to or after the date on which the statute or executive order was enacted or issued.

(f) The statute or executive order imposes duties that are necessary to implement, or are expressly included in, a ballot measure approved by the voters in a statewide or local election. This subdivision applies regardless of whether the statute or executive order was enacted or adopted before or after the date on which the ballot measure was approved by the voters.

(g) The statute created a new crime or infraction, eliminated a crime or infraction, or changed the penalty for a crime or infraction, but only for that portion of the statute relating directly to the enforcement of the crime or infraction.

Credits

(Added by Stats.1984, c. 1459, § 1. Amended by Stats.1986, c. 879, § 4; Stats.1989, c. 589, § 1; Stats.2004, c. 895 (A.B.2855), § 14; Stats.2005, c. 72 (A.B.138), § 7, eff. July 19, 2005; Stats.2006, c. 538 (S.B.1852), § 279; Stats.2010, c. 719 (S.B.856), § 31, eff. Oct. 19, 2010.)

Editors' Notes

VALIDITY

A prior version of this section was held unconstitutional as impermissibly broad, in the decision of [California School Boards Ass'n v. State \(App. 3 Dist. 2009\) 90 Cal.Rptr.3d 501, 171 Cal.App.4th 1183](#).

Notes of Decisions (14)

West's Ann. Cal. Gov. Code § 17556, CA GOVT § 17556
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-8

West's Annotated California Codes
Government Code (Refs & Annos)
Title 5. Local Agencies (Refs & Annos)
Division 2. Cities, Counties, and Other Agencies (Refs & Annos)
Part 1. Powers and Duties Common to Cities, Counties, and Other Agencies (Refs & Annos)
Chapter 4. Financial Affairs (Refs & Annos)
Article 4.6. Proposition 218 Omnibus Implementation Act (Refs & Annos)

West's Ann.Cal.Gov.Code § 53750

§ 53750. Definitions

Effective: January 1, 2018

[Currentness](#)

For purposes of Article XIII C and Article XIII D of the California Constitution and this article, the following words have the following meanings, and shall be read and interpreted in light of the findings and declarations contained in [Section 53751](#):

- (a) “Agency” means any local government as defined in [subdivision \(b\) of Section 1 of Article XIII C of the California Constitution](#).
- (b) “Assessment” means any levy or charge by an agency upon real property that is based upon the special benefit conferred upon the real property by a public improvement or service, that is imposed to pay the capital cost of the public improvement, the maintenance and operation expenses of the public improvement, or the cost of the service being provided. “Assessment” includes, but is not limited to, “special assessment,” “benefit assessment,” “maintenance assessment,” and “special assessment tax.”
- (c) “District” means an area that is determined by an agency to contain all of the parcels that will receive a special benefit from a proposed public improvement or service.
- (d) “Drainage system” means any system of public improvements that is intended to provide for erosion control, for landslide abatement, or for other types of water drainage.
- (e) “Extended,” when applied to an existing tax or fee or charge, means a decision by an agency to extend the stated effective period for the tax or fee or charge, including, but not limited to, amendment or removal of a sunset provision or expiration date.
- (f) “Flood control” means any system of public improvements that is intended to protect property from overflow by water.

(g) “Identified parcel” means a parcel of real property that an agency has identified as having a special benefit conferred upon it and upon which a proposed assessment is to be imposed, or a parcel of real property upon which a proposed property-related fee or charge is proposed to be imposed.

(h)(1) “Increased,” when applied to a tax, assessment, or property-related fee or charge, means a decision by an agency that does either of the following:

(A) Increases any applicable rate used to calculate the tax, assessment, fee, or charge.

(B) Revises the methodology by which the tax, assessment, fee, or charge is calculated, if that revision results in an increased amount being levied on any person or parcel.

(2) A tax, fee, or charge is not deemed to be “increased” by an agency action that does either or both of the following:

(A) Adjusts the amount of a tax, fee, or charge in accordance with a schedule of adjustments, including a clearly defined formula for inflation adjustment that was adopted by the agency prior to November 6, 1996.

(B) Implements or collects a previously approved tax, fee, or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved by the agency is not revised so as to result in an increase in the amount being levied on any person or parcel.

(3) A tax, assessment, fee, or charge is not deemed to be “increased” in the case in which the actual payments from a person or property are higher than would have resulted when the agency approved the tax, assessment, fee, or charge, if those higher payments are attributable to events other than an increased rate or revised methodology, such as a change in the density, intensity, or nature of the use of land.

(i) “Notice by mail” means any notice required by Article XIII C or XIII D of the California Constitution that is accomplished through a mailing, postage prepaid, deposited in the United States Postal Service and is deemed given when so deposited. Notice by mail may be included in any other mailing to the record owner that otherwise complies with Article XIII C or XIII D of the California Constitution and this article, including, but not limited to, the mailing of a bill for the collection of an assessment or a property-related fee or charge.

(j) “Record owner” means the owner of a parcel whose name and address appears on the last equalized secured property tax assessment roll, or in the case of any public entity, the State of California, or the United States, means the representative of that public entity at the address of that entity known to the agency.

(k) “Sewer” includes systems, all real estate, fixtures, and personal property owned, controlled, operated, or managed in connection with or to facilitate sewage collection, treatment, or disposition for sanitary or drainage purposes, including lateral and connecting sewers, interceptors, trunk and outfall lines, sanitary sewage treatment or disposal plants or works, drains, conduits, outlets for surface or storm waters, and any and all other works, property, or structures necessary or

convenient for the collection or disposal of sewage, industrial waste, or surface or storm waters. “Sewer system” shall not include a sewer system that merely collects sewage on the property of a single owner.

(l) “Registered professional engineer” means an engineer registered pursuant to the Professional Engineers Act (Chapter 7 (commencing with [Section 6700](#)) of Division 3 of the Business and Professions Code).

(m) “Vector control” means any system of public improvements or services that is intended to provide for the surveillance, prevention, abatement, and control of vectors as defined in [subdivision \(k\) of Section 2002 of the Health and Safety Code](#) and a pest as defined in [Section 5006 of the Food and Agricultural Code](#).

(n) “Water” means any system of public improvements intended to provide for the production, storage, supply, treatment, or distribution of water from any source.

Credits

(Added by [Stats.1997, c. 38 \(S.B.919\)](#), § 5, eff. July 1, 1997. Amended by [Stats.1998, c. 876 \(S.B.1649\)](#), § 10; [Stats.2002, c. 395 \(S.B.1588\)](#), § 3; [Stats.2014, c. 78 \(A.B.2403\)](#), § 2, eff. Jan. 1, 2015; [Stats.2017, c. 536 \(S.B.231\)](#), § 1, eff. Jan. 1, 2018.)

[Notes of Decisions \(13\)](#)

West's Ann. Cal. Gov. Code § 53750, CA GOVT § 53750
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-9

West's Annotated California Codes
Government Code (Refs & Annos)
Title 5. Local Agencies (Refs & Annos)
Division 2. Cities, Counties, and Other Agencies (Refs & Annos)
Part 1. Powers and Duties Common to Cities, Counties, and Other Agencies (Refs & Annos)
Chapter 4. Financial Affairs (Refs & Annos)
Article 4.6. Proposition 218 Omnibus Implementation Act (Refs & Annos)

West's Ann.Cal.Gov.Code § 53751

§ 53751. Legislative findings and declarations relating to sewers

Effective: January 1, 2018

[Currentness](#)

The Legislature finds and declares all of the following:

(a) The ongoing, historic drought has made clear that California must invest in a 21st century water management system capable of effectively meeting the economic, social, and environmental needs of the state.

(b) Sufficient and reliable funding to pay for local water projects is necessary to improve the state's water infrastructure.

(c) Proposition 218 was approved by the voters at the November 5, 1996, statewide general election. Some court interpretations of the law have constrained important tools that local governments need to manage storm water and drainage runoff.

(d) Storm waters are carried off in storm sewers, and careful management is necessary to ensure adequate state water supplies, especially during drought, and to reduce pollution. But a court decision has found storm water subject to the voter-approval provisions of Proposition 218 that apply to property-related fees, preventing many important projects from being built.

(e) The court of appeal in [Howard Jarvis Taxpayers Ass'n v. City of Salinas \(2002\) 98 Cal.App.4th 1351](#) concluded that the term “sewer,” as used in Proposition 218, is “ambiguous” and declined to use the statutory definition of the term “sewer system,” which was part of the then-existing law as [Section 230.5 of the Public Utilities Code](#).

(f) The court in [Howard Jarvis Taxpayers Ass'n v. City of Salinas \(2002\) 98 Cal.App.4th 1351](#) failed to follow long-standing principles of statutory construction by disregarding the plain meaning of the term “sewer.” Courts have long held that statutory construction rules apply to initiative measures, including in cases that apply specifically to Proposition 218 (see [People v. Bustamante \(1997\) 57 Cal.App.4th 693](#); [Keller v. Chowchilla Water Dist. \(2000\) 80 Cal.App.4th 1006](#)). When construing statutes, courts look first to the words of the statute, which should be given their usual, ordinary, and commonsense meaning ([People v. Mejia \(2012\) 211 Cal.App.4th 586, 611](#)). The purpose of utilizing the plain meaning of statutory language is to spare the courts the necessity of trying to divine the voters' intent by resorting to secondary or subjective indicators. The court in [Howard Jarvis Taxpayers Ass'n v. City of Salinas \(2002\) 98 Cal.App.4th 1351](#) asserted its belief as to what most voters thought when voting for Proposition 218, but did not cite the voter pamphlet or other

accepted sources for determining legislative intent. Instead, the court substituted its own judgment for the judgment of voters.

(g) Neither the words “sanitary” nor “sewerage” are used in Proposition 218, and the common meaning of the term “sewer services” is not “sanitary sewerage.” In fact, the phrase “sanitary sewerage” is uncommon.

(h) Proposition 218 exempts sewer and water services from the voter-approval requirement. Sewer and water services are commonly considered to have a broad reach, encompassing the provision of clean water and then addressing the conveyance and treatment of dirty water, whether that water is rendered unclean by coming into contact with sewage or by flowing over the built-out human environment and becoming urban runoff.

(i) Numerous sources predating Proposition 218 reject the notion that the term “sewer” applies only to sanitary sewers and sanitary sewerage, including, but not limited to:

(1) [Section 230.5 of the Public Utilities Code](#), added by Chapter 1109 of the Statutes of 1970.

(2) [Section 23010.3](#), added by Chapter 1193 of the Statutes of 1963.

(3) The Street Improvement Act of 1913.

(4) [L.A. County Flood Control Dist. v. Southern Cal. Edison Co. \(1958\) 51 Cal.2d 331](#), where the California Supreme Court stated that “no distinction has been made between sanitary sewers and storm drains or sewers.”

(5) Many other cases where the term “sewer” has been used interchangeably to refer to both sanitary and storm sewers include, but are not limited to, [County of Riverside v. Whitlock \(1972\) 22 Cal.App.3d 863](#), [Ramseier v. Oakley Sanitary Dist. \(1961\) 197 Cal.App.2d 722](#), and [Torson v. Fleming \(1928\) 91 Cal.App. 168](#).

(6) Dictionary definitions of sewer, which courts have found to be an objective source for determining common or ordinary meaning, including Webster's (1976), American Heritage (1969), and Oxford English Dictionary (1971).

(j) Prior legislation has affirmed particular interpretations of words in Proposition 218, specifically Assembly Bill 2403 of the 2013-14 Regular Session (Chapter 78 of the Statutes of 2014).

(k) In [Crawley v. Alameda Waste Management Authority \(2015\) 243 Cal.App.4th 396](#), the Court of Appeal relied on the statutory definition of “refuse collection services” to interpret the meaning of that phrase in Proposition 218, and found that this interpretation was further supported by the plain meaning of refuse. Consistent with this decision, in determining the definition of “sewer,” the plain meaning rule shall apply in conjunction with the definitions of terms as provided in [Section 53750](#).

(l) The Legislature reaffirms and reiterates that the definition found in [Section 230.5 of the Public Utilities Code](#) is the definition of “sewer” or “sewer service” that should be used in the Proposition 218 Omnibus Implementation Act.

(m) Courts have read the Legislature's definition of “water” in the Proposition 218 Omnibus Implementation Act to include related services. In [Griffith v. Pajaro Valley Water Management Agency \(2013\) 220 Cal.App.4th 586](#), the Court of Appeal concurred with the Legislature's view that “water service means more than just supplying water,” based upon the definition of water provided by the Proposition 218 Omnibus Implementation Act, and found that actions necessary to provide water can be funded through fees for water service. Consistent with this decision, “sewer” should be interpreted to include services necessary to collect, treat, or dispose of sewage, industrial waste, or surface or storm waters, and any entity that collects, treats, or disposes of any of these necessarily provides sewer service.

Credits

(Added by [Stats.2017, c. 536 \(S.B.231\)](#), § 2, eff. Jan. 1, 2018.)

West's Ann. Cal. Gov. Code § 53751, CA GOVT § 53751
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-10

 KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Limitation Recognized by [City of Arcadia v. State Water Resources Control Bd.](#), Cal.App. 4 Dist., Dec. 14, 2010

 KeyCite Yellow Flag - Negative Treatment

Proposed Legislation

[West's Annotated California Codes](#)

[Water Code \(Refs & Annos\)](#)

[Division 7. Water Quality \(Refs & Annos\)](#)

[Chapter 4. Regional Water Quality Control \(Refs & Annos\)](#)

[Article 4. Waste Discharge Requirements \(Refs & Annos\)](#)

West's Ann.Cal.Water Code § 13263

§ 13263. Discharge requirements; considerations by regional board; review of requirements; notice of requirements; no vested right; master reclamation permit

[Currentness](#)

(a) The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge, except discharges into a community sewer system, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of [Section 13241](#).

(b) A regional board, in prescribing requirements, need not authorize the utilization of the full waste assimilation capacities of the receiving waters.

(c) The requirements may contain a time schedule, subject to revision in the discretion of the board.

(d) The regional board may prescribe requirements although no discharge report has been filed.

(e) Upon application by any affected person, or on its own motion, the regional board may review and revise requirements. All requirements shall be reviewed periodically.

(f) The regional board shall notify in writing the person making or proposing the discharge or the change therein of the discharge requirements to be met. After receipt of the notice, the person so notified shall provide adequate means to meet the requirements.

(g) No discharge of waste into the waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights.

(h) The regional board may incorporate the requirements prescribed pursuant to this section into a master recycling permit for either a supplier or distributor, or both, of recycled water.

(i) The state board or a regional board may prescribe general waste discharge requirements for a category of discharges if the state board or that regional board finds or determines that all of the following criteria apply to the discharges in that category:

(1) The discharges are produced by the same or similar operations.

(2) The discharges involve the same or similar types of waste.

(3) The discharges require the same or similar treatment standards.

(4) The discharges are more appropriately regulated under general discharge requirements than individual discharge requirements.

(j) The state board, after any necessary hearing, may prescribe waste discharge requirements in accordance with this section.

Credits

(Added by Stats.1969, c. 482, p. 1063, § 18, operative Jan. 1, 1970. Amended by [Stats.1992, c. 211 \(A.B.3012\), § 3](#); [Stats.1995, c. 28 \(A.B.1247\), § 21](#); [Stats.1995, c. 421 \(S.B.572\), § 2](#).)

[Notes of Decisions \(42\)](#)

West's Ann. Cal. Water Code § 13263, CA WATER § 13263

Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-11

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 4. Regional Water Quality Control (Refs & Annos)
Article 4. Waste Discharge Requirements (Refs & Annos)

West's Ann.Cal.Water Code § 13271

§ 13271. Discharge of hazardous substance or sewage; notice
requirement; violation; regulations establishing reportable quantities

Effective: July 1, 2013

[Currentness](#)

(a)(1) Except as provided by subdivision (b), any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the state, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as (A) that person has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the state toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with [Section 8574.16](#)) of Chapter 7 of Division 1 of Title 2 of the Government Code.

(2) The Office of Emergency Services shall immediately notify the appropriate regional board, the local health officer, and the director of environmental health of the discharge. The regional board shall notify the state board as appropriate.

(3) Upon receiving notification of a discharge pursuant to this section, the local health officer and the director of environmental health shall immediately determine whether notification of the public is required to safeguard public health and safety. If so, the local health officer and the director of environmental health shall immediately notify the public of the discharge by posting notices or other appropriate means. The notification shall describe measures to be taken by the public to protect the public health.

(b) The notification required by this section shall not apply to a discharge in compliance with waste discharge requirements or other provisions of this division.

(c) Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine of not more than twenty thousand dollars (\$20,000) or imprisonment in a county jail for not more than one year, or both. Except where a discharge to the waters of this state would have occurred but for cleanup or emergency response by a public agency, this subdivision shall not apply to any discharge to land which does not result in a discharge to the waters of this state.

(d) Notification received pursuant to this section or information obtained by use of that notification shall not be used against any person providing the notification in any criminal case, except in a prosecution for perjury or giving a false statement.

(e) For substances listed as hazardous wastes or hazardous material pursuant to [Section 25140 of the Health and Safety Code](#), the state board, in consultation with the Department of Toxic Substances Control, shall by regulation establish reportable quantities for purposes of this section. The regulations shall be based on what quantities should be reported because they may pose a risk to public health or the environment if discharged to groundwater or surface water. Regulations need not set reportable quantities on all listed substances at the same time. Regulations establishing reportable quantities shall not supersede waste discharge requirements or water quality objectives adopted pursuant to this division, and shall not supersede or affect in any way the list, criteria, and guidelines for the identification of hazardous wastes and extremely hazardous wastes adopted by the Department of Toxic Substances Control pursuant to Chapter 6.5 (commencing with [Section 25100](#)) of Division 20 of the Health and Safety Code. The regulations of the Environmental Protection Agency for reportable quantities of hazardous substances for purposes of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ([42 U.S.C. Sec. 9601 et seq.](#)) shall be in effect for purposes of the enforcement of this section until the time that the regulations required by this subdivision are adopted.

(f)(1) The state board shall adopt regulations establishing reportable quantities of sewage for purposes of this section. The regulations shall be based on the quantities that should be reported because they may pose a risk to public health or the environment if discharged to groundwater or surface water. Regulations establishing reportable quantities shall not supersede waste discharge requirements or water quality objectives adopted pursuant to this division. For purposes of this section, “sewage” means the effluent of a municipal wastewater treatment plant or a private utility wastewater treatment plant, as those terms are defined in [Section 13625](#), except that sewage does not include recycled water, as defined in [subdivisions \(c\) and \(d\) of Section 13529.2](#).

(2) A collection system owner or operator, as defined in [paragraph \(1\) of subdivision \(a\) of Section 13193](#), in addition to the reporting requirements set forth in this section, shall submit a report pursuant to [subdivision \(c\) of Section 13193](#).

(g) Except as otherwise provided in this section and [Section 8589.7 of the Government Code](#), a notification made pursuant to this section shall satisfy any immediate notification requirement contained in any permit issued by a permitting agency. When notifying the Office of Emergency Services, the person shall include all of the notification information required in the permit.

(h) For the purposes of this section, the reportable quantity for perchlorate shall be 10 pounds or more by discharge to the receiving waters, unless a more restrictive reporting standard for a particular body of water is adopted pursuant to subdivision (e).

(i) Notification under this section does not nullify a person's responsibility to notify the local health officer or the director of environmental health pursuant to [Section 5411.5 of the Health and Safety Code](#).

Credits

(Added by Stats.1980, c. 877, p. 2753, § 2. Amended by Stats.1986, c. 1479, § 1; [Gov.Reorg.Plan No. 1 of 1991, § 195](#), eff. July 17, 1991; Stats.1994, c. 1214 (A.B.3404), § 9; Stats.1997, c. 783 (S.B.105), § 1; Stats.1997, c. 833 (A.B.541), § 1.5; Stats.2001, c. 498 (A.B.285), § 5; Stats.2003, c. 614 (S.B.1004), § 1; Stats.2007, c. 371 (A.B.800), § 1; Stats.2010, c. 618 (A.B.2791), § 300; Stats.2013, c. 352 (A.B.1317), § 532, eff. Sept. 26, 2013, operative July 1, 2013.)

West's Ann. Cal. Water Code § 13271, CA WATER § 13271
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-12

 KeyCite Yellow Flag - Negative Treatment

Unconstitutional or Preempted Prior Version Limited on Preemption Grounds by [Karuk Tribe of Northern California v. California Regional Water Quality Control Bd., North Coast Region](#), Cal.App. 1 Dist., Mar. 30, 2010

[West's Annotated California Codes](#)

[Water Code \(Refs & Annos\)](#)

[Division 7. Water Quality \(Refs & Annos\)](#)

[Chapter 4. Regional Water Quality Control \(Refs & Annos\)](#)

[Article 4. Waste Discharge Requirements \(Refs & Annos\)](#)

West's Ann.Cal.Water Code § 13272

§ 13272. Discharge of oil or petroleum product; notice requirement; violation; reportable quantity

Effective: June 20, 2014

[Currentness](#)

(a) Except as provided by subdivision (b), any person who, without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the state, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the state, shall, as soon as (1) that person has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the California oil spill contingency plan adopted pursuant to Article 3.5 (commencing with [Section 8574.1](#)) of [Chapter 7 of Division 1 of Title 2 of the Government Code](#).

(b) The notification required by this section shall not apply to a discharge in compliance with waste discharge requirements or other provisions of this division.

(c) Any person who fails to provide the notice required by this section is guilty of a misdemeanor and shall be punished by a fine of not less than five hundred dollars (\$500) or more than five thousand dollars (\$5,000) per day for each day of failure to notify, or imprisonment of not more than one year, or both. Except where a discharge to the waters of this state would have occurred but for cleanup or emergency response by a public agency, this subdivision shall not apply to any discharge to land that does not result in a discharge to the waters of this state. This subdivision shall not apply to any person who is fined by the federal government for a failure to report a discharge of oil.

(d) Notification received pursuant to this section or information obtained by use of that notification shall not be used against any person providing the notification in any criminal case, except in a prosecution for perjury or giving a false statement.

(e) Immediate notification to the appropriate regional board of the discharge, in accordance with reporting requirements set under [Section 13267](#) or [13383](#), shall constitute compliance with the requirements of subdivision (a).

(f) The reportable quantity for oil or petroleum products shall be one barrel (42 gallons) or more, by direct discharge to the receiving waters, unless a more restrictive reporting standard for a particular body of water is adopted.

Credits

(Added by Stats.1982, c. 1480, p. 5691, § 1. Amended by Stats.1990, c. 1248 (S.B.2040), § 20, eff. Sept. 24, 1990; Stats.1994, c. 1214 (A.B.3404), § 10; Stats.2004, c. 796 (S.B.1742), § 46; Stats.2010, c. 618 (A.B.2791), § 301; Stats.2013, c. 352 (A.B.1317), § 533, eff. Sept. 26, 2013, operative July 1, 2013; Stats.2014, c. 35 (S.B.861), § 184, eff. June 20, 2014.)

Editors' Notes

VALIDITY

For validity of a prior version of this section, see [Karuk Tribe of Northern California v. California Regional Water Quality Control Bd., North Coast Region \(App. 1 Dist. 2010\) 108 Cal.Rptr.3d 40, 183 Cal.App.4th 330.](#)

West's Ann. Cal. Water Code § 13272, CA WATER § 13272
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-13

West's Annotated California Codes
Water Code (Refs & Annos)
Division 7. Water Quality (Refs & Annos)
Chapter 5. Enforcement and Implementation (Refs & Annos)
Article 5. Civil Monetary Remedies (Refs & Annos)

West's Ann.Cal.Water Code § 13350

§ 13350. Civil liabilities; amount of liability; remedies; deposit of funds

Effective: July 1, 2017

[Currentness](#)

(a) A person who (1) violates a cease and desist order or cleanup and abatement order hereafter issued, reissued, or amended by a regional board or the state board, or (2) in violation of a waste discharge requirement, waiver condition, certification, or other order or prohibition issued, reissued, or amended by a regional board or the state board, discharges waste, or causes or permits waste to be deposited where it is discharged, into the waters of the state, or (3) causes or permits any oil or any residuary product of petroleum to be deposited in or on any of the waters of the state, except in accordance with waste discharge requirements or other actions or provisions of this division, shall be liable civilly, and remedies may be proposed, in accordance with subdivision (d) or (e).

(b)(1) A person who, without regard to intent or negligence, causes or permits a hazardous substance to be discharged in or on any of the waters of the state, except in accordance with waste discharge requirements or other provisions of this division, shall be strictly liable civilly in accordance with subdivision (d) or (e).

(2) For purposes of this subdivision, the term “discharge” includes only those discharges for which [Section 13260](#) directs that a report of waste discharge shall be filed with the regional board.

(3) For purposes of this subdivision, the term “discharge” does not include an emission excluded from the applicability of Section 311 of the Clean Water Act ([33 U.S.C. Sec. 1321](#)) pursuant to Environmental Protection Agency regulations interpreting Section 311(a)(2) of the Clean Water Act ([33 U.S.C. Sec. 1321\(a\)\(2\)](#)).

(c) A person shall not be liable under subdivision (b) if the discharge is caused solely by any one or combination of the following:

(1) An act of war.

(2) An unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(3) Negligence on the part of the state, the United States, or any department or agency thereof. However, this paragraph shall not be interpreted to provide the state, the United States, or any department or agency thereof a defense to liability for any discharge caused by its own negligence.

(4) An intentional act of a third party, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(5) Any other circumstance or event that causes the discharge despite the exercise of every reasonable precaution to prevent or mitigate the discharge.

(d) The court may impose civil liability either on a daily basis or on a per gallon basis, but not on both.

(1) The civil liability on a daily basis shall not exceed fifteen thousand dollars (\$15,000) for each day the violation occurs.

(2) The civil liability on a per gallon basis shall not exceed twenty dollars (\$20) for each gallon of waste discharged.

(e) The state board or a regional board may impose civil liability administratively pursuant to Article 2.5 (commencing with [Section 13323](#)) of Chapter 5 either on a daily basis or on a per gallon basis, but not on both.

(1) The civil liability on a daily basis shall not exceed five thousand dollars (\$5,000) for each day the violation occurs.

(A) When there is a discharge, and a cleanup and abatement order is issued, except as provided in subdivision (f), the civil liability shall not be less than five hundred dollars (\$500) for each day in which the discharge occurs and for each day the cleanup and abatement order is violated.

(B) When there is no discharge, but an order issued by the regional board is violated, except as provided in subdivision (f), the civil liability shall not be less than one hundred dollars (\$100) for each day in which the violation occurs.

(2) The civil liability on a per gallon basis shall not exceed ten dollars (\$10) for each gallon of waste discharged.

(f) A regional board shall not administratively impose civil liability in accordance with paragraph (1) of subdivision (e) in an amount less than the minimum amount specified, unless the regional board makes express findings setting forth the reasons for its action based upon the specific factors required to be considered pursuant to [Section 13327](#).

(g) The Attorney General, upon request of a regional board or the state board, shall petition the superior court to impose, assess, and recover the sums. Except in the case of a violation of a cease and desist order, a regional board or the state board shall make the request only after a hearing, with due notice of the hearing given to all affected persons. In determining the amount to be imposed, assessed, or recovered, the court shall be subject to [Section 13351](#).

(h) Article 3 (commencing with [Section 13330](#)) and Article 6 (commencing with [Section 13360](#)) apply to proceedings to impose, assess, and recover an amount pursuant to this article.

(i) A person who incurs any liability established under this section shall be entitled to contribution for that liability from a third party, in an action in the superior court and upon proof that the discharge was caused in whole or in part by an act or omission of the third party, to the extent that the discharge is caused by the act or omission of the third party, in accordance with the principles of comparative fault.

(j) Remedies under this section are in addition to, and do not supersede or limit, any and all other remedies, civil or criminal, except that no liability shall be recoverable under subdivision (b) for any discharge for which liability is recovered under [Section 13385](#).

(k) Notwithstanding any other law, all funds generated by the imposition of liabilities pursuant to this section shall be deposited into the Waste Discharge Permit Fund. These moneys shall be separately accounted for, and shall be expended by the state board, upon appropriation by the Legislature, to assist regional boards, and other public agencies with authority to clean up waste or abate the effects of the waste, in cleaning up or abating the effects of the waste on waters of the state, or for the purposes authorized in [Section 13443](#), or to assist in implementing Chapter 7.3 (commencing with [Section 13560](#)).

(l) This section shall become operative on July 1, 2017.

Credits

(Added by [Stats.2014, c. 35 \(S.B.861\)](#), § 186, eff. [June 20, 2014](#), operative July 1, 2017.)

[Notes of Decisions \(14\)](#)

West's Ann. Cal. Water Code § 13350, CA WATER § 13350
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-14

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13370

§ 13370. Legislative findings and declarations

[Currentness](#)

The Legislature finds and declares as follows:

(a) The Federal Water Pollution Control Act ([33 U.S.C. Sec. 1251 et seq.](#)), as amended, provides for permit systems to regulate the discharge of pollutants and dredged or fill material to the navigable waters of the United States and to regulate the use and disposal of sewage sludge.

(b) The Federal Water Pollution Control Act, as amended, provides that permits may be issued by states which are authorized to implement the provisions of that act.

(c) It is in the interest of the people of the state, in order to avoid direct regulation by the federal government of persons already subject to regulation under state law pursuant to this division, to enact this chapter in order to authorize the state to implement the provisions of the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto, provided, that the state board shall request federal funding under the Federal Water Pollution Control Act for the purpose of carrying out its responsibilities under this program.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by Stats.1978, c. 746, p. 2343, § 1; Stats.1980, c. 676, p. 2028, § 319; [Stats.1987, c. 1189, § 1.](#))

[Notes of Decisions \(4\)](#)

West's Ann. Cal. Water Code § 13370, CA WATER § 13370

Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-15

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13372

§ 13372. Construction and application of chapter

Effective: January 1, 2004

[Currentness](#)

(a) This chapter shall be construed to ensure consistency with the requirements for state programs implementing the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto. To the extent other provisions of this division are consistent with the provisions of this chapter and with the requirements for state programs implementing the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto, those provisions apply to actions and procedures provided for in this chapter. The provisions of this chapter shall prevail over other provisions of this division to the extent of any inconsistency. The provisions of this chapter apply only to actions required under the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto.

(b) The provisions of [Section 13376](#) requiring the filing of a report for the discharge of dredged or fill material and the provisions of this chapter relating to the issuance of dredged or fill material permits by the state board or a regional board shall be applicable only to discharges for which the state has an approved permit program, in accordance with the provisions of the Federal Water Pollution Control Act, as amended, for the discharge of dredged or fill material.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972. Amended by [Stats.1987, c. 1189, § 3](#); [Stats.2003, c. 683 \(A.B.897\), § 5](#).)

[Notes of Decisions \(3\)](#)

West's Ann. Cal. Water Code § 13372, CA WATER § 13372

Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

ATTACHMENT B-16

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13374

§ 13374. Waste discharge requirements; equivalent to “permits” under federal act

Currentness

The term “waste discharge requirements” as referred to in this division is the equivalent of the term “permits” as used in the Federal Water Pollution Control Act, as amended.

Credits

(Added by Stats.1972, c. 1256, p. 2485, § 1, eff. Dec. 19, 1972.)

Notes of Decisions (3)

West's Ann. Cal. Water Code § 13374, CA WATER § 13374

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ATTACHMENT B-17

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 5.5. Compliance with the Provisions of the Federal Water Pollution Control Act as Amended in 1972 (Refs & Annos)

West's Ann.Cal.Water Code § 13385

§ 13385. Violations; civil liability; applicability; compliance projects; annual report

Effective: January 1, 2018

[Currentness](#)

(a) A person who violates any of the following shall be liable civilly in accordance with this section:

(1) [Section 13375](#) or [13376](#).

(2) A waste discharge requirement or dredged or fill material permit issued pursuant to this chapter or any water quality certification issued pursuant to [Section 13160](#).

(3) A requirement established pursuant to [Section 13383](#).

(4) An order or prohibition issued pursuant to [Section 13243](#) or Article 1 (commencing with [Section 13300](#)) of Chapter 5, if the activity subject to the order or prohibition is subject to regulation under this chapter.

(5) A requirement of Section 301, 302, 306, 307, 308, 318, 401, or 405 of the federal Clean Water Act ([33 U.S.C. Sec. 1311](#), [1312](#), [1316](#), [1317](#), [1318](#), [1341](#), or [1345](#)), as amended.

(6) A requirement imposed in a pretreatment program approved pursuant to waste discharge requirements issued under [Section 13377](#) or approved pursuant to a permit issued by the administrator.

(b)(1) Civil liability may be imposed by the superior court in an amount not to exceed the sum of both of the following:

(A) Twenty-five thousand dollars (\$25,000) for each day in which the violation occurs.

(B) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed twenty-five dollars (\$25) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(2) The Attorney General, upon request of a regional board or the state board, shall petition the superior court to impose the liability.

(c) Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with [Section 13323](#)) of Chapter 5 in an amount not to exceed the sum of both of the following:

(1) Ten thousand dollars (\$10,000) for each day in which the violation occurs.

(2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(d) For purposes of subdivisions (b) and (c), “discharge” includes any discharge to navigable waters of the United States, any introduction of pollutants into a publicly owned treatment works, or any use or disposal of sewage sludge.

(e) In determining the amount of any liability imposed under this section, the regional board, the state board, or the superior court, as the case may be, shall take into account the nature, circumstances, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require. At a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation.

(f)(1) Except as provided in paragraph (2), for the purposes of this section, a single operational upset that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation.

(2)(A) For the purposes of subdivisions (h) and (i), a single operational upset in a wastewater treatment unit that treats wastewater using a biological treatment process shall be treated as a single violation, even if the operational upset results in violations of more than one effluent limitation and the violations continue for a period of more than one day, if all of the following apply:

(i) The discharger demonstrates all of the following:

(I) The upset was not caused by wastewater treatment operator error and was not due to discharger negligence.

(II) But for the operational upset of the biological treatment process, the violations would not have occurred nor would they have continued for more than one day.

(III) The discharger carried out all reasonable and immediately feasible actions to reduce noncompliance with the applicable effluent limitations.

(ii) The discharger is implementing an approved pretreatment program, if so required by federal or state law.

(B) Subparagraph (A) only applies to violations that occur during a period for which the regional board has determined that violations are unavoidable, but in no case may that period exceed 30 days.

(g) Remedies under this section are in addition to, and do not supersede or limit, any other remedies, civil or criminal, except that no liability shall be recoverable under [Section 13261](#), [13265](#), [13268](#), or [13350](#) for violations for which liability is recovered under this section.

(h)(1) Notwithstanding any other provision of this division, and except as provided in subdivisions (j), (k), and (l), a mandatory minimum penalty of three thousand dollars (\$3,000) shall be assessed for each serious violation.

(2) For the purposes of this section, a “serious violation” means any waste discharge that violates the effluent limitations contained in the applicable waste discharge requirements for a Group II pollutant, as specified in Appendix A to [Section 123.45 of Title 40 of the Code of Federal Regulations](#), by 20 percent or more or for a Group I pollutant, as specified in Appendix A to [Section 123.45 of Title 40 of the Code of Federal Regulations](#), by 40 percent or more.

(i)(1) Notwithstanding any other provision of this division, and except as provided in subdivisions (j), (k), and (l), a mandatory minimum penalty of three thousand dollars (\$3,000) shall be assessed for each violation whenever the person does any of the following four or more times in any period of six consecutive months, except that the requirement to assess the mandatory minimum penalty shall not be applicable to the first three violations:

(A) Violates a waste discharge requirement effluent limitation.

(B) Fails to file a report pursuant to [Section 13260](#).

(C) Files an incomplete report pursuant to [Section 13260](#).

(D) Violates a toxicity effluent limitation contained in the applicable waste discharge requirements where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants.

(2) For the purposes of this section, a “period of six consecutive months” means the period commencing on the date that one of the violations described in this subdivision occurs and ending 180 days after that date.

(j) Subdivisions (h) and (i) do not apply to any of the following:

(1) A violation caused by one or any combination of the following:

(A) An act of war.

(B) An unanticipated, grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(C) An intentional act of a third party, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.

(D)(i) The operation of a new or reconstructed wastewater treatment unit during a defined period of adjusting or testing, not to exceed 90 days for a wastewater treatment unit that relies on a biological treatment process and not to exceed 30 days for any other wastewater treatment unit, if all of the following requirements are met:

(I) The discharger has submitted to the regional board, at least 30 days in advance of the operation, an operations plan that describes the actions the discharger will take during the period of adjusting and testing, including steps to prevent violations and identifies the shortest reasonable time required for the period of adjusting and testing, not to exceed 90 days for a wastewater treatment unit that relies on a biological treatment process and not to exceed 30 days for any other wastewater treatment unit.

(II) The regional board has not objected in writing to the operations plan.

(III) The discharger demonstrates that the violations resulted from the operation of the new or reconstructed wastewater treatment unit and that the violations could not have reasonably been avoided.

(IV) The discharger demonstrates compliance with the operations plan.

(V) In the case of a reconstructed wastewater treatment unit, the unit relies on a biological treatment process that is required to be out of operation for at least 14 days in order to perform the reconstruction, or the unit is required to be out of operation for at least 14 days and, at the time of the reconstruction, the cost of reconstructing the unit exceeds 50 percent of the cost of replacing the wastewater treatment unit.

(ii) For the purposes of this section, “wastewater treatment unit” means a component of a wastewater treatment plant that performs a designated treatment function.

(2)(A) Except as provided in subparagraph (B), a violation of an effluent limitation where the waste discharge is in compliance with either a cease and desist order issued pursuant to [Section 13301](#) or a time schedule order issued pursuant to [Section 13300](#), if all of the following requirements are met:

(i) The cease and desist order or time schedule order is issued after January 1, 1995, but not later than July 1, 2000, specifies the actions that the discharger is required to take in order to correct the violations that would otherwise be subject to subdivisions (h) and (i), and the date by which compliance is required to be achieved and, if the final date by which compliance is required to be achieved is later than one year from the effective date of the cease and desist order or time schedule order, specifies the interim requirements by which progress towards compliance will be measured and the date by which the discharger will be in compliance with each interim requirement.

(ii) The discharger has prepared and is implementing in a timely and proper manner, or is required by the regional board to prepare and implement, a pollution prevention plan that meets the requirements of [Section 13263.3](#).

(iii) The discharger demonstrates that it has carried out all reasonable and immediately feasible actions to reduce noncompliance with the waste discharge requirements applicable to the waste discharge and the executive officer of the regional board concurs with the demonstration.

(B) Subdivisions (h) and (i) shall become applicable to a waste discharge on the date the waste discharge requirements applicable to the waste discharge are revised and reissued pursuant to [Section 13380](#), unless the regional board does all of the following on or before that date:

(i) Modifies the requirements of the cease and desist order or time schedule order as may be necessary to make it fully consistent with the reissued waste discharge requirements.

(ii) Establishes in the modified cease and desist order or time schedule order a date by which full compliance with the reissued waste discharge requirements shall be achieved. For the purposes of this subdivision, the regional board may not establish this date later than five years from the date the waste discharge requirements were required to be reviewed pursuant to [Section 13380](#). If the reissued waste discharge requirements do not add new effluent limitations or do not include effluent limitations that are more stringent than those in the original waste discharge requirements, the date shall be the same as the final date for compliance in the original cease and desist order or time schedule order or five years from the date that the waste discharge requirements were required to be reviewed pursuant to [Section 13380](#), whichever is earlier.

(iii) Determines that the pollution prevention plan required by clause (ii) of subparagraph (A) is in compliance with the requirements of [Section 13263.3](#) and that the discharger is implementing the pollution prevention plan in a timely and proper manner.

(3) A violation of an effluent limitation where the waste discharge is in compliance with either a cease and desist order issued pursuant to [Section 13301](#) or a time schedule order issued pursuant to [Section 13300](#) or [13308](#), if all of the following requirements are met:

(A) The cease and desist order or time schedule order is issued on or after July 1, 2000, and specifies the actions that the discharger is required to take in order to correct the violations that would otherwise be subject to subdivisions (h) and (i).

(B) The regional board finds that, for one of the following reasons, the discharger is not able to consistently comply with one or more of the effluent limitations established in the waste discharge requirements applicable to the waste discharge:

(i) The effluent limitation is a new, more stringent, or modified regulatory requirement that has become applicable to the waste discharge after the effective date of the waste discharge requirements and after July 1, 2000, new or modified control measures are necessary in order to comply with the effluent limitation, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

(ii) New methods for detecting or measuring a pollutant in the waste discharge demonstrate that new or modified control measures are necessary in order to comply with the effluent limitation and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days.

(iii) Unanticipated changes in the quality of the municipal or industrial water supply available to the discharger are the cause of unavoidable changes in the composition of the waste discharge, the changes in the composition of the waste discharge are the cause of the inability to comply with the effluent limitation, no alternative water supply is reasonably available to the discharger, and new or modified measures to control the composition of the waste discharge cannot be designed, installed, and put into operation within 30 calendar days.

(iv) The discharger is a publicly owned treatment works located in Orange County that is unable to meet effluent limitations for biological oxygen demand, suspended solids, or both, because the publicly owned treatment works meets all of the following criteria:

(I) Was previously operating under modified secondary treatment requirements pursuant to Section 301(h) of the Clean Water Act (33 U.S.C. Sec. 1311(h)).

(II) Did vote on July 17, 2002, not to apply for a renewal of the modified secondary treatment requirements.

(III) Is in the process of upgrading its treatment facilities to meet the secondary treatment standards required by Section 301(b)(1)(B) of the Clean Water Act (33 U.S.C. Sec. 1311(b)(1)(B)).

(C)(i) The regional board establishes a time schedule for bringing the waste discharge into compliance with the effluent limitation that is as short as possible, taking into account the technological, operational, and economic factors that affect the design, development, and implementation of the control measures that are necessary to comply with the effluent limitation. Except as provided in clause (ii), for the purposes of this subdivision, the time schedule shall not exceed five years in length.

(ii)(I) For purposes of the upgrade described in subclause (III) of clause (iv) of subparagraph (B), the time schedule shall not exceed 10 years in length.

(II) Following a public hearing, and upon a showing that the discharger is making diligent progress toward bringing the waste discharge into compliance with the effluent limitation, the regional board may extend the time schedule for an additional period not exceeding five years in length, if the discharger demonstrates that the additional time is necessary to comply with the effluent limitation. This subclause does not apply to a time schedule described in subclause (I).

(iii) If the time schedule exceeds one year from the effective date of the order, the schedule shall include interim requirements and the dates for their achievement. The interim requirements shall include both of the following:

(I) Effluent limitations for the pollutant or pollutants of concern.

(II) Actions and milestones leading to compliance with the effluent limitation.

(D) The discharger has prepared and is implementing in a timely and proper manner, or is required by the regional board to prepare and implement, a pollution prevention plan pursuant to [Section 13263.3](#).

(k)(1) In lieu of assessing all or a portion of the mandatory minimum penalties pursuant to subdivisions (h) and (i) against a publicly owned treatment works serving a small community, the state board or the regional board may elect to require the publicly owned treatment works to spend an equivalent amount towards the completion of a compliance project proposed by the publicly owned treatment works, if the state board or the regional board finds all of the following:

(A) The compliance project is designed to correct the violations within five years.

(B) The compliance project is in accordance with the enforcement policy of the state board, excluding any provision in the policy that is inconsistent with this section.

(C) The publicly owned treatment works has prepared a financing plan to complete the compliance project.

(2) For the purposes of this subdivision, “a publicly owned treatment works serving a small community” means a publicly owned treatment works serving a population of 20,000 persons or fewer or a rural county, with a financial hardship as determined by the state board after considering such factors as median income of the residents, rate of unemployment, or low population density in the service area of the publicly owned treatment works.

(l)(1) In lieu of assessing penalties pursuant to subdivision (h) or (i), the state board or the regional board, with the concurrence of the discharger, may direct a portion of the penalty amount to be expended on a supplemental environmental project in accordance with the enforcement policy of the state board. If the penalty amount exceeds fifteen thousand dollars (\$15,000), the portion of the penalty amount that may be directed to be expended on a supplemental environmental project may not exceed fifteen thousand dollars (\$15,000) plus 50 percent of the penalty amount that exceeds fifteen thousand dollars (\$15,000).

(2) For the purposes of this section, a “supplemental environmental project” means an environmentally beneficial project that a person agrees to undertake, with the approval of the regional board, that would not be undertaken in the absence of an enforcement action under this section.

(3) This subdivision applies to the imposition of penalties pursuant to subdivision (h) or (i) on or after January 1, 2003, without regard to the date on which the violation occurs.

(m) The Attorney General, upon request of a regional board or the state board, shall petition the appropriate court to collect any liability or penalty imposed pursuant to this section. Any person who fails to pay on a timely basis any liability or penalty imposed under this section shall be required to pay, in addition to that liability or penalty, interest, attorney's fees, costs for collection proceedings, and a quarterly nonpayment penalty for each quarter during which the

failure to pay persists. The nonpayment penalty shall be in an amount equal to 20 percent of the aggregate amount of the person's penalty and nonpayment penalties that are unpaid as of the beginning of the quarter.

(n)(1) Subject to paragraph (2), funds collected pursuant to this section shall be deposited in the State Water Pollution Cleanup and Abatement Account.

(2)(A) Notwithstanding any other provision of law, moneys collected for a violation of a water quality certification in accordance with paragraph (2) of subdivision (a) or for a violation of Section 401 of the federal Clean Water Act ([33 U.S.C. Sec. 1341](#)) in accordance with paragraph (5) of subdivision (a) shall be deposited in the Waste Discharge Permit Fund and separately accounted for in that fund.

(B) The funds described in subparagraph (A) shall be expended by the state board, upon appropriation by the Legislature, to assist regional boards, and other public agencies with authority to clean up waste or abate the effects of the waste, in cleaning up or abating the effects of the waste on waters of the state or for the purposes authorized in [Section 13443](#).

(o) The state board shall continuously report and update information on its Internet Web site. The state board shall report annually on or before December 31 regarding its enforcement activities. The information shall include all of the following:

(1) A compilation of the number of violations of waste discharge requirements in the previous calendar year, including stormwater enforcement violations.

(2) A record of the formal and informal compliance and enforcement actions taken for each violation, including stormwater enforcement actions.

(3) An analysis of the effectiveness of current enforcement policies, including mandatory minimum penalties.

(p) The amendments made to subdivisions (f), (h), (i), and (j) during the second year of the 2001-02 Regular Session apply only to violations that occur on or after January 1, 2003.

Credits

(Added by [Stats.1987, c. 1189, § 10](#). Amended by [Stats.1999, c. 92 \(A.B.1104\), § 6](#); [Stats.1999, c. 93 \(S.B.709\), § 6](#); [Stats.2000, c. 807 \(S.B.2165\), § 2](#); [Stats.2001, c. 869 \(A.B.1664\), § 7](#); [Stats.2002, c. 995 \(A.B.2351\), § 1](#); [Stats.2002, c. 1019 \(A.B.1969\), § 2](#), eff. Sept. 28, 2002; [Stats.2002, c. 1019 \(A.B.1969\), § 3](#), eff. Sept. 28, 2002, operative Jan. 1, 2003; [Stats.2003, c. 683 \(A.B.897\), § 7](#); [Stats.2004, c. 644 \(A.B.2701\), § 41](#); [Stats.2006, c. 404 \(S.B.1733\), § 3](#); [Stats.2007, c. 130 \(A.B.299\), § 239](#); [Stats.2010, c. 645 \(S.B.1284\), § 1](#); [Stats.2011, c. 296 \(A.B.1023\), § 314](#); [Stats.2017, c. 524 \(A.B.355\), § 3](#), eff. Jan. 1, 2018.)

[Notes of Decisions \(9\)](#)

West's Ann. Cal. Water Code § 13385, CA WATER § 13385
Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

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ATTACHMENT B-18

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16100

§ 16100. Short title

Effective: January 1, 2010

[Currentness](#)

This chapter shall be known and may be cited as the California Watershed Improvement Act of 2009.

Credits

(Added by [Stats.2009, c. 577 \(S.B.310\)](#), § 1.)

West's Ann. Cal. Water Code § 16100, CA WATER § 16100

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West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16101

§ 16101. Development of watershed improvement plan; process; notice; elements

Effective: January 1, 2010

[Currentness](#)

(a) Each county, city, or special district that is a permittee or copermitttee under a national pollutant discharge elimination system (NPDES) permit for municipal separate storm sewer systems may develop, either individually or jointly with one or more permittees or copermitttees, a watershed improvement plan that addresses major sources of pollutants in receiving water, stormwater, urban runoff, or other surface runoff pollution within the watershed or subwatershed to which the plan applies. The principal purpose of a watershed improvement plan is to implement existing and future water quality requirements and regulations by, among other things, where appropriate, identifying opportunities for stormwater detention, infiltration, use of natural treatment systems, water recycling, reuse, and supply augmentation; and providing programs and measures designed to promote, maintain, or achieve compliance with water quality laws and regulations, including water quality standards and other requirements of statewide plans, regional water quality control plans, total maximum daily loads, and NPDES permits.

(b) The process of developing a watershed improvement plan shall be open and transparent, and shall be conducted consistent with all applicable open meeting laws. A county, city, special district, or combination thereof, shall solicit input from entities representing resource agencies, water agencies, sanitation districts, the environmental community, landowners, home builders, agricultural interests, and business and industry representatives.

(c) Each county, city, special district, or combination thereof shall notify the appropriate regional board of its intention to develop a watershed improvement plan. The regional board may, in its discretion, participate in the preparation of the plan. A watershed improvement plan shall be consistent with the regional board's water quality control plan.

(d) A watershed improvement plan shall include all of the following elements relevant to the waters within the watershed or subwatershed to which the plan applies:

(1) A description of the watershed or subwatershed improvement plan area, the rivers, streams, or manmade drainage channels within the plan area, the agencies with regulatory jurisdiction over matters to be addressed in the plan, the relevant receiving waters within or downstream from the plan area, and the county, city, special district, or combination thereof, participating in the plan.

(2) A description of the proposed facilities and actions that will improve the protection and enhancement of water quality and the designated beneficial uses of waters of the state, consistent with water quality laws and regulations.

(3) Recommendations for appropriate action by any entity, public or private, to facilitate achievement of, or consistency with, water quality objectives, standards, total maximum daily loads, or other water quality laws, regulations, standards, or requirements, a time schedule for the actions to be taken, and a description of appropriate measurement and monitoring to be undertaken to determine improvement in water quality.

(4) A coordinated economic analysis and financing plan that identifies the costs, effectiveness, and benefits of water quality improvements specified in the watershed improvement plan, and, where feasible, incorporates user-based and cost recovery approaches to financing, which place the cost of managing and treating surface runoff pollution on the generators of the pollutants.

(5) To the extent applicable, a description of regional best management practices, watershed-based natural treatment systems, low-flow diversion systems, stormwater capture, urban runoff capture, other measures constituting structural treatment best management practices, pollution prevention measures, low-impact development strategies, and site design, source control, and treatment control best management practices to promote improved water quality.

(6) A description of the proposed structure, operations, powers, and duties of the implementing entity for the watershed improvement plan.

Credits

(Added by [Stats.2009, c. 577 \(S.B.310\)](#), § 1.)

West's Ann. Cal. Water Code § 16101, CA WATER § 16101

Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16102

§ 16102. Plan review and approval; cost reimbursement; utilization; compliance

Effective: January 1, 2010

[Currentness](#)

(a) A regional board shall review, in accordance with the reimbursement requirement described in subdivision (c), a watershed improvement plan developed pursuant to [Section 16101](#) and may approve the plan, including any appropriate conditions to the approval, if the regional board finds that the proposed watershed improvement plan will facilitate compliance with water quality requirements. A regional board's review and approval of the watershed improvement plan shall be limited to components described in [paragraphs \(1\), \(2\), \(3\), and \(5\) of subdivision \(d\) of Section 16101](#).

(b) A regional board may not approve a proposed watershed improvement plan that includes a geographical area included in an existing approved watershed improvement plan unless the regional board determines that it is infeasible to amend either the proposed watershed improvement plan or the approved watershed improvement plan to achieve the purposes of this chapter.

(c) The entity or entities that develop a watershed improvement plan that is submitted to the regional board for approval shall reimburse the regional board for its costs, including the costs to review and oversee the implementation of the plan, if nonstate funds are not available to cover the costs of the review and oversight. For the purpose of this paragraph, the state board shall adopt a fee schedule by emergency regulation in the manner prescribed in [paragraph \(2\) of subdivision \(f\) of Section 13260](#). Fees collected pursuant to this section shall be deposited in the Waste Discharge Permit Fund established by [Section 13260](#).

(d) A regional board may, if it deems appropriate, utilize provisions of approved watershed improvement plans to promote compliance with one or more of the regional board's regulatory plans or programs.

(e) Unless a regional board incorporates the provisions of a watershed improvement plan into waste discharge requirements issued to a permittee, the implementation of a watershed improvement plan by a permittee shall not be deemed to be compliance with those waste discharge requirements.

Credits

(Added by [Stats.2009, c. 577 \(S.B.310\), § 1.](#))

West's Ann. Cal. Water Code § 16102, CA WATER § 16102

Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16103

§ 16103. Fees for runoff; controls and facilities to improve water quality

Effective: January 1, 2010

[Currentness](#)

(a) In addition to making use of other financing mechanisms that are available to local agencies to fund watershed improvement plans and plan measures and facilities, a county, city, special district, or combination thereof may impose fees on activities that generate or contribute to runoff, stormwater, or surface runoff pollution, to pay the costs of the preparation of a watershed improvement plan, and the implementation of a watershed improvement plan if all of the following requirements are met:

(1) The regional board has approved the watershed improvement plan.

(2) The entity or entities that develop the watershed improvement plan make a finding, supported by substantial evidence, that the fee is reasonably related to the cost of mitigating the actual or anticipated past, present, or future adverse effects of the activities of the feepayer. "Activities," for the purposes of this paragraph, means the operations and existing structures and improvements subject to regulation under an NPDES permit for municipal separate storm sewer systems.

(3) The fee is not imposed solely as an incident of property ownership.

(b) A county, city, special district, or combination thereof may plan, design, implement, construct, operate, and maintain controls and facilities to improve water quality, including controls and facilities related to the infiltration, retention and reuse, diversion, interception, filtration, or collection of surface runoff, including urban runoff, stormwater, and other forms of runoff, the treatment of pollutants in runoff or other waters subject to water quality regulatory requirements, the return of diverted and treated waters to receiving water bodies, the enhancement of beneficial uses of waters of the state, or the beneficial use or reuse of diverted waters.

(c) The fees authorized under subdivision (a) may be imposed as user-based or regulatory fees consistent with this chapter.

Credits

(Added by [Stats.2009, c. 577 \(S.B.310\)](#), § 1.)

West's Ann. Cal. Water Code § 16103, CA WATER § 16103

Current with urgency legislation through Ch. 13 of 2018 Reg.Sess

West's Annotated California Codes

Water Code (Refs & Annos)

Division 7. Water Quality (Refs & Annos)

Chapter 27. California Watershed Improvement Act of 2009 (Refs & Annos)

West's Ann.Cal.Water Code § 16104

§ 16104. Water diversion

Effective: January 1, 2010

[Currentness](#)

Nothing in this chapter alters requirements that govern the diversion of water.

Credits

(Added by [Stats.2009, c. 577 \(S.B.310\)](#), § 1.)

West's Ann. Cal. Water Code § 16104, CA WATER § 16104

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ATTACHMENT B-19

West's Annotated California Codes

Health and Safety Code (Refs & Annos)

Division 5. Sanitation

Part 3. Community Facilities (Refs & Annos)

Chapter 6. General Provisions with Respect to Sewers (Refs & Annos)

Article 4. Sanitation and Sewerage Systems (Refs & Annos)

West's Ann.Cal.Health & Safety Code § 5471

§ 5471. Power to prescribe and collect fees, tolls, rates, rentals or other charges;
use of revenues; continuance of charges; new, increased, or extended assessments

Effective: January 1, 2017

[Currentness](#)

(a) In addition to the powers granted in the principal act, any entity shall have power, by an ordinance or resolution approved by a two-thirds vote of the members of the legislative body thereof, to prescribe, revise and collect, fees, tolls, rates, rentals, or other charges for services and facilities furnished by it, either within or without its territorial limits, in connection with its water, sanitation, storm drainage, or sewerage system.

(b) In addition to the powers granted in the principal act, any entity shall have power, pursuant to the notice, protest, and hearing procedures in [Section 53753 of the Government Code](#), to prescribe, revise, and collect water, sewer, or water and sewer standby or immediate availability charges for services and facilities furnished by it, either within or without its territorial limits, in connection with its water, sanitation, storm drainage, or sewerage system.

(c) The entity may provide that the charge for the service shall be collected with the rates, tolls, and charges for any other utility, and that any or all of these charges may be billed upon the same bill. Where the charge is to be collected with the charges for any other utility service furnished by a department or agency of the entity and over which its legislative body does not exercise control, the consent of the department or agency shall be obtained prior to collecting water, sanitation, storm drainage, or sewerage charges with the charges for any other utility. Revenues derived under the provisions in this section, shall be used only for the acquisition, construction, reconstruction, maintenance, and operation of water systems and sanitation, storm drainage, or sewerage facilities, to repay principal and interest on bonds issued for the construction or reconstruction of these water systems and sanitary, storm drainage, or sewerage facilities and to repay federal or state loans or advances made to the entity for the construction or reconstruction of water systems and sanitary, storm drainage, or sewerage facilities. However, the revenue shall not be used for the acquisition or construction of new local street sewers or laterals as distinguished from main trunk, interceptor, and outfall sewers.

(d) If the procedures set forth in this section as it read at the time a standby charge was established were followed, the entity may, by ordinance or resolution adopted by a two-thirds vote of the members of the legislative body thereof, continue the charge pursuant to this section in successive years at the same rate. If new, increased, or extended assessments are proposed, the entity shall comply with the notice, protest, and hearing procedures in [Section 53753 of the Government Code](#).

Credits

(Formerly § 5470 added by Stats.1945, c. 979, p. 1877, § 5. Amended by Stats.1949, c. 319, p. 608, § 1; Stats.1951, c. 719, p. 1984, § 1. Renumbered § 5471 and amended by Stats.1953, c. 862, p. 2206, § 1, eff. May 23, 1953. Amended by Stats.1973, c. 545, p. 1048, § 4; Stats.1988, c. 706, § 1; Stats.1991, c. 1110 (S.B.682), § 35; Stats.2007, c. 27 (S.B.444), § 11; Stats.2016, c. 366 (S.B.974), § 16, eff. Jan. 1, 2017.)

[Notes of Decisions \(30\)](#)

West's Ann. Cal. Health & Safety Code § 5471, CA HLTH & S § 5471

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ATTACHMENT B-20

West's Annotated California Codes
Public Resources Code (Refs & Annos)
Division 30. Waste Management (Refs & Annos)
Part 1. Integrated Waste Management (Refs & Annos)
Chapter 1. General Provisions (Refs & Annos)
Article 2. General Provisions (Refs & Annos)

West's Ann.Cal.Pub.Res.Code § 40059

§ 40059. Local determinations; extent of services; means for providing services; abrogation of existing franchises, contracts, or licenses

Currentness

(a) Notwithstanding any other provision of law, each county, city, district, or other local governmental agency may determine all of the following:

(1) Aspects of solid waste handling which are of local concern, including, but not limited to, frequency of collection, means of collection and transportation, level of services, charges and fees, and nature, location, and extent of providing solid waste handling services.

(2) Whether the services are to be provided by means of nonexclusive franchise, contract, license, permit, or otherwise, either with or without competitive bidding, or if, in the opinion of its governing body, the public health, safety, and well-being so require, by partially exclusive or wholly exclusive franchise, contract, license, permit, or otherwise, either with or without competitive bidding. The authority to provide solid waste handling services may be granted under terms and conditions prescribed by the governing body of the local governmental agency by resolution or ordinance.

(b) Nothing in this division modifies or abrogates in any manner either of the following:

(1) Any franchise previously granted or extended by any county or other local governmental agency.

(2) Any contract, license, or any permit to collect solid waste previously granted or extended by a city, county, or a city and county.

Credits

(Added by Stats.1989, c. 1095, § 22. Amended by Stats.1990, c. 1355 (A.B.3992), § 1, eff. Sept. 27, 1990.)

Notes of Decisions (24)

West's Ann. Cal. Pub. Res. Code § 40059, CA PUB RES § 40059
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ATTACHMENT B-21

Senate Bill No. 231

CHAPTER 536

An act to amend Section 53750 of, and to add Section 53751 to, the Government Code, relating to local government finance.

[Approved by Governor October 6, 2017. Filed with
Secretary of State October 6, 2017.]

LEGISLATIVE COUNSEL'S DIGEST

SB 231, Hertzberg. Local government: fees and charges.

Articles XIII C and XIII D of the California Constitution generally require that assessments, fees, and charges be submitted to property owners for approval or rejection after the provision of written notice and the holding of a public hearing. Existing law, the Proposition 218 Omnibus Implementation Act, prescribes specific procedures and parameters for local jurisdictions to comply with Articles XIII C and XIII D of the California Constitution and defines terms for these purposes.

This bill would define the term “sewer” for these purposes. The bill would also make findings and declarations relating to the definition of the term “sewer” for these purposes.

The people of the State of California do enact as follows:

SECTION 1. Section 53750 of the Government Code is amended to read:

53750. For purposes of Article XIII C and Article XIII D of the California Constitution and this article, the following words have the following meanings, and shall be read and interpreted in light of the findings and declarations contained in Section 53751:

(a) “Agency” means any local government as defined in subdivision (b) of Section 1 of Article XIII C of the California Constitution.

(b) “Assessment” means any levy or charge by an agency upon real property that is based upon the special benefit conferred upon the real property by a public improvement or service, that is imposed to pay the capital cost of the public improvement, the maintenance and operation expenses of the public improvement, or the cost of the service being provided. “Assessment” includes, but is not limited to, “special assessment,” “benefit assessment,” “maintenance assessment,” and “special assessment tax.”

(c) “District” means an area that is determined by an agency to contain all of the parcels that will receive a special benefit from a proposed public improvement or service.

(d) “Drainage system” means any system of public improvements that is intended to provide for erosion control, for landslide abatement, or for other types of water drainage.

(e) “Extended,” when applied to an existing tax or fee or charge, means a decision by an agency to extend the stated effective period for the tax or fee or charge, including, but not limited to, amendment or removal of a sunset provision or expiration date.

(f) “Flood control” means any system of public improvements that is intended to protect property from overflow by water.

(g) “Identified parcel” means a parcel of real property that an agency has identified as having a special benefit conferred upon it and upon which a proposed assessment is to be imposed, or a parcel of real property upon which a proposed property-related fee or charge is proposed to be imposed.

(h) (1) “Increased,” when applied to a tax, assessment, or property-related fee or charge, means a decision by an agency that does either of the following:

(A) Increases any applicable rate used to calculate the tax, assessment, fee, or charge.

(B) Revises the methodology by which the tax, assessment, fee, or charge is calculated, if that revision results in an increased amount being levied on any person or parcel.

(2) A tax, fee, or charge is not deemed to be “increased” by an agency action that does either or both of the following:

(A) Adjusts the amount of a tax, fee, or charge in accordance with a schedule of adjustments, including a clearly defined formula for inflation adjustment that was adopted by the agency prior to November 6, 1996.

(B) Implements or collects a previously approved tax, fee, or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved by the agency is not revised so as to result in an increase in the amount being levied on any person or parcel.

(3) A tax, assessment, fee, or charge is not deemed to be “increased” in the case in which the actual payments from a person or property are higher than would have resulted when the agency approved the tax, assessment, fee, or charge, if those higher payments are attributable to events other than an increased rate or revised methodology, such as a change in the density, intensity, or nature of the use of land.

(i) “Notice by mail” means any notice required by Article XIII C or XIII D of the California Constitution that is accomplished through a mailing, postage prepaid, deposited in the United States Postal Service and is deemed given when so deposited. Notice by mail may be included in any other mailing to the record owner that otherwise complies with Article XIII C or XIII D of the California Constitution and this article, including, but not limited to, the mailing of a bill for the collection of an assessment or a property-related fee or charge.

(j) “Record owner” means the owner of a parcel whose name and address appears on the last equalized secured property tax assessment roll, or in the

case of any public entity, the State of California, or the United States, means the representative of that public entity at the address of that entity known to the agency.

(k) “Sewer” includes systems, all real estate, fixtures, and personal property owned, controlled, operated, or managed in connection with or to facilitate sewage collection, treatment, or disposition for sanitary or drainage purposes, including lateral and connecting sewers, interceptors, trunk and outfall lines, sanitary sewage treatment or disposal plants or works, drains, conduits, outlets for surface or storm waters, and any and all other works, property, or structures necessary or convenient for the collection or disposal of sewage, industrial waste, or surface or storm waters. “Sewer system” shall not include a sewer system that merely collects sewage on the property of a single owner.

(l) “Registered professional engineer” means an engineer registered pursuant to the Professional Engineers Act (Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code).

(m) “Vector control” means any system of public improvements or services that is intended to provide for the surveillance, prevention, abatement, and control of vectors as defined in subdivision (k) of Section 2002 of the Health and Safety Code and a pest as defined in Section 5006 of the Food and Agricultural Code.

(n) “Water” means any system of public improvements intended to provide for the production, storage, supply, treatment, or distribution of water from any source.

SEC. 2. Section 53751 is added to the Government Code, to read:

53751. The Legislature finds and declares all of the following:

(a) The ongoing, historic drought has made clear that California must invest in a 21st century water management system capable of effectively meeting the economic, social, and environmental needs of the state.

(b) Sufficient and reliable funding to pay for local water projects is necessary to improve the state’s water infrastructure.

(c) Proposition 218 was approved by the voters at the November 5, 1996, statewide general election. Some court interpretations of the law have constrained important tools that local governments need to manage storm water and drainage runoff.

(d) Storm waters are carried off in storm sewers, and careful management is necessary to ensure adequate state water supplies, especially during drought, and to reduce pollution. But a court decision has found storm water subject to the voter-approval provisions of Proposition 218 that apply to property-related fees, preventing many important projects from being built.

(e) The court of appeal in *Howard Jarvis Taxpayers Ass’n v. City of Salinas* (2002) 98 Cal.App.4th 1351 concluded that the term “sewer,” as used in Proposition 218, is “ambiguous” and declined to use the statutory definition of the term “sewer system,” which was part of the then-existing law as Section 230.5 of the Public Utilities Code.

(f) The court in *Howard Jarvis Taxpayers Ass’n v. City of Salinas* (2002) 98 Cal.App.4th 1351 failed to follow long-standing principles of statutory

construction by disregarding the plain meaning of the term “sewer.” Courts have long held that statutory construction rules apply to initiative measures, including in cases that apply specifically to Proposition 218 (see *People v. Bustamante* (1997) 57 Cal.App.4th 693; *Keller v. Chowchilla Water Dist.* (2000) 80 Cal.App.4th 1006). When construing statutes, courts look first to the words of the statute, which should be given their usual, ordinary, and commonsense meaning (*People v. Mejia* (2012) 211 Cal.App.4th 586, 611). The purpose of utilizing the plain meaning of statutory language is to spare the courts the necessity of trying to divine the voters’ intent by resorting to secondary or subjective indicators. The court in *Howard Jarvis Taxpayers Ass’n v. City of Salinas* (2002) 98 Cal.App.4th 1351 asserted its belief as to what most voters thought when voting for Proposition 218, but did not cite the voter pamphlet or other accepted sources for determining legislative intent. Instead, the court substituted its own judgment for the judgment of voters.

(g) Neither the words “sanitary” nor “sewerage” are used in Proposition 218, and the common meaning of the term “sewer services” is not “sanitary sewerage.” In fact, the phrase “sanitary sewerage” is uncommon.

(h) Proposition 218 exempts sewer and water services from the voter-approval requirement. Sewer and water services are commonly considered to have a broad reach, encompassing the provision of clean water and then addressing the conveyance and treatment of dirty water, whether that water is rendered unclean by coming into contact with sewage or by flowing over the built-out human environment and becoming urban runoff.

(i) Numerous sources predating Proposition 218 reject the notion that the term “sewer” applies only to sanitary sewers and sanitary sewerage, including, but not limited to:

(1) Section 230.5 of the Public Utilities Code, added by Chapter 1109 of the Statutes of 1970.

(2) Section 23010.3, added by Chapter 1193 of the Statutes of 1963.

(3) The Street Improvement Act of 1913.

(4) *L.A. County Flood Control Dist. v. Southern Cal. Edison Co.* (1958) 51 Cal.2d 331, where the California Supreme Court stated that “no distinction has been made between sanitary sewers and storm drains or sewers.”

(5) Many other cases where the term “sewer” has been used interchangeably to refer to both sanitary and storm sewers include, but are not limited to, *County of Riverside v. Whitlock* (1972) 22 Cal.App.3d 863, *Ramseier v. Oakley Sanitary Dist.* (1961) 197 Cal.App.2d 722, and *Torson v. Fleming* (1928) 91 Cal.App. 168.

(6) Dictionary definitions of sewer, which courts have found to be an objective source for determining common or ordinary meaning, including Webster’s (1976), American Heritage (1969), and Oxford English Dictionary (1971).

(j) Prior legislation has affirmed particular interpretations of words in Proposition 218, specifically Assembly Bill 2403 of the 2013–14 Regular Session (Chapter 78 of the Statutes of 2014).

(k) In *Crawley v. Alameda Waste Management Authority* (2015) 243 Cal.App.4th 396, the Court of Appeal relied on the statutory definition of “refuse collection services” to interpret the meaning of that phrase in Proposition 218, and found that this interpretation was further supported by the plain meaning of refuse. Consistent with this decision, in determining the definition of “sewer,” the plain meaning rule shall apply in conjunction with the definitions of terms as provided in Section 53750.

(l) The Legislature reaffirms and reiterates that the definition found in Section 230.5 of the Public Utilities Code is the definition of “sewer” or “sewer service” that should be used in the Proposition 218 Omnibus Implementation Act.

(m) Courts have read the Legislature’s definition of “water” in the Proposition 218 Omnibus Implementation Act to include related services. In *Griffith v. Pajaro Valley Water Management Agency* (2013) 220 Cal.App.4th 586, the Court of Appeal concurred with the Legislature’s view that “water service means more than just supplying water,” based upon the definition of water provided by the Proposition 218 Omnibus Implementation Act, and found that actions necessary to provide water can be funded through fees for water service. Consistent with this decision, “sewer” should be interpreted to include services necessary to collect, treat, or dispose of sewage, industrial waste, or surface or storm waters, and any entity that collects, treats, or disposes of any of these necessarily provides sewer service.

ATTACHMENT B-22

Assembly Bill No. 1180

CHAPTER 617

An act to amend Section 2 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), relating to the Los Angeles County Flood Control District.

[Approved by Governor October 9, 2017. Filed with
Secretary of State October 9, 2017.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1180, Holden. Los Angeles County Flood Control District: taxes, fees, and charges.

Existing law, the Los Angeles County Flood Control Act, establishes the Los Angeles County Flood Control District and authorizes the district to control and conserve the flood, storm, and other wastewater of the district. Existing law authorizes the district to impose a fee or charge, in compliance with Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and providing services to improve water quality and reduce stormwater and urban runoff pollution in the district in accordance with specified criteria. The act requires that any fees imposed be levied and collected together with taxes for county purposes, and the revenues paid into the county treasury to the credit of the district, and requires the county board of supervisors to expend the funds to pay for those costs and expenses, to be allocated as prescribed.

This bill would authorize the district to levy a tax, in compliance with the applicable provisions of Article XIII C of the California Constitution, or impose a fee or charge, in compliance with the applicable provisions of Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and programs to increase stormwater capture and reduce stormwater and urban runoff pollution in the district, and would specify that projects funded by the revenues from the tax, fee, or charge may include projects providing multiple benefits that increase water supply, improve water quality, and, where appropriate, provide community enhancements, as prescribed. The bill would revise certain provisions prescribing the allocation of those revenues derived from any tax, fee, or charge imposed pursuant to the above-described provisions for those water projects and programs.

The people of the State of California do enact as follows:

SECTION 1. Section 2 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), as amended by Section 2 of Chapter 212 of the Statutes of 2012, is amended to read:

Sec. 2. The objects and purposes of this act are to provide for the control and conservation of the flood, storm and other waste waters of said district, and to conserve these waters for beneficial and useful purposes by spreading, storing, retaining or causing to percolate into the soil within the district, or to save or conserve in any manner, all or any of these waters, and to protect from damage from flood or storm waters, the harbors, waterways, public highways and property in the district, and to provide for public use of navigable waterways under the district's control that are suitable for recreational and educational purposes, when these purposes are not inconsistent with the use thereof by the district for flood control and water conservation.

The Los Angeles County Flood Control District is hereby declared to be a body corporate and politic, and has all the following powers:

1. To have perpetual succession.
2. To sue and be sued in the name of the district in all actions and proceedings in all courts and tribunals of competent jurisdiction.
3. To adopt a seal and alter it at pleasure.
4. To take by grant, purchase, gift, devise or lease, hold, use, enjoy, and to lease or dispose of real or personal property of every kind within or without the district necessary to the full exercise of its power.
5. To acquire or contract to acquire lands, rights-of-way, easements, privileges and property of every kind, and construct, maintain and operate any and all works or improvements within or without the district necessary or proper to carry out any of the objects or purposes of this act, and to complete, extend, add to, repair or otherwise improve any works or improvements acquired by it as herein authorized. Construction or improvement of existing facilities may involve landscaping and other aesthetic treatment in order that the facility will be compatible with existing or planned development in the area of improvement.
6. To exercise the right of eminent domain, either within or without the district, to take any property necessary to carry out any of the objects or purposes of this act.
7. To incur indebtedness, and to issue bonds in the manner herein provided.
- 7a. To borrow money from the United States of America, any agency or department thereof, or from any nonprofit corporation, organized under the laws of this state, to which the Reconstruction Finance Corporation, a corporation organized and existing under and by virtue of an act of Congress, entitled "Reconstruction Finance Corporation Act," or other agency, or department, of the United States government, has authorized, or shall hereafter authorize, a loan to enable nonprofit corporation to lend money to the Los Angeles County Flood Control District, for any flood control

work authorized under this act, and to repay the same, in annual installments, over a period of not to exceed twenty (20) years, with interest at a rate of not to exceed four and one-fourth per centum (4 ¼%) per annum, payable semiannually, and, without the necessity of an election when authorized by resolution of the board of supervisors, as evidences of that indebtedness, the district is hereby authorized to execute and deliver a note, or a series of notes, or bonds, or other evidences of indebtedness, signed by the chairperson of the board of supervisors of the district, which notes, bonds, or other evidences of indebtedness, shall be negotiable instruments if so declared in the resolution of the board of supervisors providing for their issuance, and notes, bonds, or other evidences of indebtedness, may have interest coupons attached to evidence interest payments, signed by the facsimile signature of the chairperson of the board. All applications for these loans shall specify the particular flood control work or projects for which the funds will be expended, and when received, the money shall be deposited in a special fund, and shall be expended for those purposes only which are described and referred to in the applications. If a surplus remains after the completion of the work, the surplus shall be applied to the payment of the note, notes, bonds, or other evidences of indebtedness, executed as aforesaid, for the loan including interest coupons. The board of supervisors shall annually levy a tax upon the taxable real property of the district, clearly sufficient to pay the interest and installments of principal, as the same shall become due and payable, under any loan made pursuant to the authority of this section, and to create and maintain a reserve fund to assure the prompt payment thereof, as may be provided by resolution of the board of supervisors. However, the amount of taxes levied in any year, pursuant to this subsection, shall, pro tanto, reduce the authority of the board of supervisors, during any year, to levy taxes under Section 14 of this act, but this proviso shall not be a limitation upon the power and duty to levy and collect taxes under this subsection. Notwithstanding any other provisions of law, interest earned on funds representing the proceeds of bonds of the district shall be deposited and retained in the reserve fund of the district to meet the principal and interest falling due on these bonds.

Notwithstanding anything in this subsection to the contrary, the total amount the district may borrow under the authority of any or all of the provisions of this subsection is limited to and shall not exceed in the aggregate the sum of four million five hundred thousand dollars (\$4,500,000).

7b. The power granted in the next preceding subsection is hereby extended to authorize the issuance and sale of bonds or other evidences of indebtedness of the district to the County of Los Angeles and the purchase thereof by the county in accordance with "An act authorizing the investment and reinvestment and disposition of any surplus moneys in the treasury of any county, city and county, incorporated city or town or municipal utility district or flood control district," approved April 23, 1913, as amended; all subject to the provisions and limitations of the next preceding subsection relative to the disposition and use of funds, interest rate, period of repayment, tax

rate and mode of issuance. The total amount of bonds or other evidence of indebtedness, in the aggregate, which the district may issue and sell under the authority of subsection 7a and of this subsection is limited to and shall not exceed four million five hundred thousand dollars (\$4,500,000).

8. To cause taxes to be levied and collected for the purpose of paying any obligation of the district in the manner provided in this section.

8a. To levy a tax, in compliance with the applicable provisions of Article XIII C of the California Constitution, or impose a fee or charge, in compliance with the applicable provisions of Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and programs to increase stormwater capture and reduce stormwater and urban runoff pollution in the district in accordance with criteria established by the ordinance adopted pursuant to subsection 8c. Projects and programs funded by the revenues from the tax, fee, or charge may include projects providing multiple benefits that increase water supply, improve water quality, and, where appropriate, provide community enhancements such as the greening of schools, parks, and wetlands, and increased public access to rivers, lakes, and streams. Any tax, fee, or charge that is levied or imposed pursuant to this subsection shall be levied and collected together with, and not separately from, taxes for county purposes, and the revenues derived from the tax, fee, or charge shall be paid into the county treasury to the credit of the district, and the board of supervisors shall expend these funds to pay for costs and expenses in accordance with this subsection.

8b. The district shall allocate the revenues derived from any tax, fee, or charge imposed pursuant to subsection 8a as follows:

(A) Ten percent shall be allocated to the district for implementation and administration of projects and programs described in subsection 8a, and for payment of the costs incurred in connection with the levy and collection of the tax, fee, or charge and the distribution of the funds generated by imposition of the tax, fee, or charge, in accordance with the procedures established by the ordinance adopted pursuant to subsection 8c.

(B) Forty percent shall be allocated to cities within the boundaries of the district and to the County of Los Angeles, in the same proportion as the amount of revenues collected within each jurisdiction and within the unincorporated territories, to be expended by those cities within the cities' respective jurisdictions and by the County of Los Angeles within the unincorporated territories that are within the boundaries of the district, for the implementation, operation and maintenance, and administration of projects and programs described in subsection 8a, in accordance with the procedures established by the ordinance adopted pursuant to subsection 8c.

(C) Fifty percent shall be allocated to pay for the implementation, operation and maintenance, and administration of watershed-based projects and programs described in subsection 8a, including projects and programs identified in regional plans such as stormwater resource plans developed in accordance with Part 2.3 (commencing with Section 10560) of Division 6 of the Water Code, watershed management programs developed pursuant to waste discharge requirements for municipal separate storm sewer system

(MS4) discharges within the coastal watersheds of the County of Los Angeles, issued by the Los Angeles Regional Water Quality Control Board, and other regional water management plans, as appropriate, in accordance with the procedures established by the ordinance adopted pursuant to subsection 8c.

8c. The governing board of the district shall adopt an ordinance to establish criteria and procedures to implement the authority granted pursuant to subsections 8a and 8b.

9. To make contracts, and to employ for temporary services only, expert appraisers, consultants and technical advisers, and to do all acts necessary for the full exercise of all powers vested in the district, or any of the officers thereof, by this act.

10. To grant or otherwise convey to counties, cities and counties, cities or towns easements for street and highway purposes, over, along, upon, in, through, across or under any real property owned by the Los Angeles County Flood Control District.

11. To remove, carry away and dispose of any rubbish, trash, debris or other inconvenient matter that may be dislodged, transported, conveyed or carried by means of, through, in, or along the works and structures operated or maintained hereunder and deposited upon the property of the district or elsewhere.

12. To pay premiums on bonds of contractors required under any contract if the amount payable to the contractor exceeds five million dollars (\$5,000,000); provided, that the specifications in these cases shall specifically so provide and state that the bidder shall not include in his or her bids the cost of furnishing the required bonds.

13. To lease, sell or dispose of any property (or any interest therein) whenever in the judgment of the board of supervisors of the property, or any interest therein or part thereof, is no longer required for the purposes of the district, or may be leased for any purpose without interfering with the use of the same for the purposes of the district, and to pay any compensation received therefor into the general fund of the district and use the same for the purposes of this act. However, nothing herein shall authorize the board of supervisors or other governing body of the district or any officer thereof to sell, lease or otherwise dispose of any water, water right, reservoir space or storage capacity or any interest or space therein except to public agencies for recreational purposes when the use is not inconsistent with the use thereof by the district for flood control and water conservation purposes; or except as provided by Section 17 of this act. However, the district may grant and convey to the United States of America, or to any federal agency authorized to accept and pay for the land or interests in land, all lands and interests in land, now owned or hereafter acquired, lying within any channel, dam or reservoir site, improved or constructed, in whole or in part, with federal funds, upon payment to the district of sums equivalent to actual expenditures made by it in acquiring the lands and interests in land so conveyed and deemed reasonable by the Secretary of War and the Chief of Engineers.

14. To provide, by agreement with other public agencies or private persons or entities or otherwise, for the recreational use of the lands, facilities, and works of the district which shall not interfere, or be inconsistent, with the primary use and purpose of the lands, facilities, and works by the district.

15. In addition to its other powers, the district shall have the power to preserve, enhance, and add recreational features to its properties and upon a finding by the board of supervisors that the acquisition is necessary for those purposes, to acquire, preserve, enhance, and add recreational features to lands or interests in lands contiguous to its properties, for the protection, preservation, and use of the scenic beauty and natural environment for the properties or the lands and to collect admission or use fees for the recreational features where deemed appropriate.

The district by or through its board of supervisors, or other board or officers at any time succeeding to the duties or functions of its board of supervisors, is hereby authorized and empowered to warrant and defend the title to all land and interests therein so conveyed to the United States of America or to any agency and its respective assigns; to covenant and agree to indemnify and keep indemnified and to hold and save harmless and exonerated the United States of America or any agency, to which lands or any interest therein are so conveyed by the district, from and against all demands, claims, liabilities, liens, actions, suits, charges, costs, loss, damages, expenses and attorneys' fees of whatsoever kind or nature, resulting from, arising out of or occasioned by any defect or defects whatsoever in the title to any land or interest in land so conveyed by the district; to reimburse and save harmless and exonerated the United States of America or any agency for any and all amounts, paid, and expenses incurred, in the compromise or settlement of any demands, claims, liabilities, liens, actions, suits, charges, costs, loss, damages, expenses and attorneys' fees of whatsoever kind or nature, resulting from, arising out of or occasioned by any claim to or defect or defects whatsoever in the title to any land or interests in land so conveyed by the district; to pay all just compensation, costs and expenses, which may be incurred in any condemnation proceeding deemed necessary by the United States of America or that agency, in order to perfect title to any land or interests in land, including without limitation all attorneys' fees, court costs and fees, costs of abstracts and other evidences of title, and all other costs, expenses or damages incurred or suffered by the United States of America or that agency; and consent is hereby given to the bringing of suit or other legal proceedings against the district by the United States of America or that agency, as the case may be, in the proper district court of the United States, upon any cause of action arising out of any conveyance, contract or covenant made or entered into by the district pursuant to the authority granted in this act, or to enforce any claims, damages, loss or expenses arising out of or resulting from any defect

whatsoever in the title to the land or any interest therein or any claims of others in or to the land or interest therein.

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ATTACHMENT B-23

Assembly Bill No. 2403

CHAPTER 78

An act to amend Section 53750 of the Government Code, relating to local government.

[Approved by Governor June 28, 2014. Filed with
Secretary of State June 28, 2014.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2403, Rendon. Local government: assessments, fees, and charges.

Articles XIII C and XIII D of the California Constitution generally require that assessments, fees, and charges be submitted to property owners for approval or rejection after the provision of written notice and the holding of a public hearing. Existing law, the Proposition 218 Omnibus Implementation Act, prescribes specific procedures and parameters for local jurisdictions to comply with Articles XIII C and XIII D of the California Constitution and defines various terms for these purposes.

This bill would modify the definition of water to mean water from any source. The bill would also make legislative findings and declarations in this regard.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) The provisions of the Proposition 218 Omnibus Implementation Act (Article 4.6 (commencing with Section 53750) of Chapter 4 of Part 1 of Division 2 of Title 5 of the Government Code) shall be liberally construed to effectuate its purposes of limiting local government revenue and enhancing taxpayer consent.

(b) This act is in furtherance of the policy contained in Section 2 of Article X of the California Constitution and the policy that the use of potable domestic water for nonpotable uses, including, but not limited to, cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available.

(c) This act is declaratory of existing law.

SEC. 2. Section 53750 of the Government Code is amended to read:

53750. For purposes of Article XIII C and Article XIII D of the California Constitution and this article:

(a) "Agency" means any local government as defined in subdivision (b) of Section 1 of Article XIII C of the California Constitution.

(b) “Assessment” means any levy or charge by an agency upon real property that is based upon the special benefit conferred upon the real property by a public improvement or service, that is imposed to pay the capital cost of the public improvement, the maintenance and operation expenses of the public improvement, or the cost of the service being provided. “Assessment” includes, but is not limited to, “special assessment,” “benefit assessment,” “maintenance assessment,” and “special assessment tax.”

(c) “District” means an area that is determined by an agency to contain all of the parcels that will receive a special benefit from a proposed public improvement or service.

(d) “Drainage system” means any system of public improvements that is intended to provide for erosion control, for landslide abatement, or for other types of water drainage.

(e) “Extended,” when applied to an existing tax or fee or charge, means a decision by an agency to extend the stated effective period for the tax or fee or charge, including, but not limited to, amendment or removal of a sunset provision or expiration date.

(f) “Flood control” means any system of public improvements that is intended to protect property from overflow by water.

(g) “Identified parcel” means a parcel of real property that an agency has identified as having a special benefit conferred upon it and upon which a proposed assessment is to be imposed, or a parcel of real property upon which a proposed property-related fee or charge is proposed to be imposed.

(h) (1) “Increased,” when applied to a tax, assessment, or property-related fee or charge, means a decision by an agency that does either of the following:

(A) Increases any applicable rate used to calculate the tax, assessment, fee, or charge.

(B) Revises the methodology by which the tax, assessment, fee, or charge is calculated, if that revision results in an increased amount being levied on any person or parcel.

(2) A tax, fee, or charge is not deemed to be “increased” by an agency action that does either or both of the following:

(A) Adjusts the amount of a tax, fee, or charge in accordance with a schedule of adjustments, including a clearly defined formula for inflation adjustment that was adopted by the agency prior to November 6, 1996.

(B) Implements or collects a previously approved tax, fee, or charge, so long as the rate is not increased beyond the level previously approved by the agency, and the methodology previously approved by the agency is not revised so as to result in an increase in the amount being levied on any person or parcel.

(3) A tax, assessment, fee, or charge is not deemed to be “increased” in the case in which the actual payments from a person or property are higher than would have resulted when the agency approved the tax, assessment, fee, or charge, if those higher payments are attributable to events other than

an increased rate or revised methodology, such as a change in the density, intensity, or nature of the use of land.

(i) “Notice by mail” means any notice required by Article XIII C or XIII D of the California Constitution that is accomplished through a mailing, postage prepaid, deposited in the United States Postal Service and is deemed given when so deposited. Notice by mail may be included in any other mailing to the record owner that otherwise complies with Article XIII C or XIII D of the California Constitution and this article, including, but not limited to, the mailing of a bill for the collection of an assessment or a property-related fee or charge.

(j) “Record owner” means the owner of a parcel whose name and address appears on the last equalized secured property tax assessment roll, or in the case of any public entity, the State of California, or the United States, means the representative of that public entity at the address of that entity known to the agency.

(k) “Registered professional engineer” means an engineer registered pursuant to the Professional Engineers Act (Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code).

(l) “Vector control” means any system of public improvements or services that is intended to provide for the surveillance, prevention, abatement, and control of vectors as defined in subdivision (k) of Section 2002 of the Health and Safety Code and a pest as defined in Section 5006 of the Food and Agricultural Code.

(m) “Water” means any system of public improvements intended to provide for the production, storage, supply, treatment, or distribution of water from any source.

ATTACHMENT B-24


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AB-2554 Los Angeles County Flood Control District: fees and charges.

(2009-2010)

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Assembly Bill No. 2554

CHAPTER 602

An act to amend Sections 2 and 16 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), relating to the Los Angeles County Flood Control District.

[Approved by Governor September 30, 2010. Filed with Secretary of State September 30, 2010.]

LEGISLATIVE COUNSEL'S DIGEST

AB 2554, Brownley. Los Angeles County Flood Control District: fees and charges.

Existing law, the Los Angeles County Flood Control Act, establishes the Los Angeles County Flood Control District and authorizes the district to control and conserve the flood, storm, and other wastewater of the district. The act declares the district to be a body corporate and politic, and to have various powers, including the power to cause taxes to be levied and collected for the purpose of paying any obligation of the district.

This bill would authorize the district to impose a fee or charge, in compliance with Article XIII D of the California Constitution, to pay the costs and expenses of carrying out projects and providing services to improve water quality and reduce stormwater and urban runoff pollution in the district in accordance with specified criteria. The bill would require that any fees imposed be levied and collected together with taxes for county purposes, and the revenues paid into the county treasury to the credit of the district. The bill would require the county board of supervisors to expend the funds to pay for those costs and expenses, to be allocated as prescribed.

The act authorizes the board of the district, subject to certain limitations, to do all acts or things necessary or useful for the promotion of the work or the control of the floodwater and stormwater of the district, to conserve those waters for beneficial and useful purposes, and to protect from damage from floodwater and stormwater, the harbors, waterways, public highways, and property of the district. One limitation upon the authority of the board of the district is that it is not authorized to raise money for the district by any method or system other than by issuing bonds, or the levying of a tax upon the assessed value of all the real property of the district, except from the sale and lease of its property.

This bill would instead provide that the board of the district is not authorized to raise money for the district by any method or system other than by issuing bonds, the levying of a tax, or the imposition of a fee or charge in compliance with Article XIII D of the California Constitution.

Vote: majority Appropriation: no Fiscal Committee: no Local Program: no

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 2 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), as amended by Section 33 of Chapter 1276 of the Statutes of 1975, is amended to read:

Sec. 2. The objects and purposes of this act are to provide for the control and conservation of the flood, storm and other waste waters of said district, and to conserve these waters for beneficial and useful purposes by spreading, storing, retaining or causing to percolate into the soil within the district, or to save or conserve in any manner, all or any of these waters, and to protect from damage from flood or storm waters, the harbors, waterways, public highways and property in the district.

The Los Angeles County Flood Control District is hereby declared to be a body corporate and politic, and has all the following powers:

1. To have perpetual succession.
2. To sue and be sued in the name of the district in all actions and proceedings in all courts and tribunals of competent jurisdiction.
3. To adopt a seal and alter it at pleasure.
4. To take by grant, purchase, gift, devise or lease, hold, use, enjoy, and to lease or dispose of real or personal property of every kind within or without the district necessary to the full exercise of its power.
5. To acquire or contract to acquire lands, rights-of-way, easements, privileges and property of every kind, and construct, maintain and operate any and all works or improvements within or without the district necessary or proper to carry out any of the objects or purposes of this act, and to complete, extend, add to, repair or otherwise improve any works or improvements acquired by it as herein authorized. Construction or improvement of existing facilities may involve landscaping and other aesthetic treatment in order that the facility will be compatible with existing or planned development in the area of improvement.
6. To exercise the right of eminent domain, either within or without the district, to take any property necessary to carry out any of the objects or purposes of this act.
7. To incur indebtedness, and to issue bonds in the manner herein provided.
- 7a. To borrow money from the United States of America, any agency or department thereof, or from any nonprofit corporation, organized under the laws of this state, to which the Reconstruction Finance Corporation, a corporation organized and existing under and by virtue of an act of Congress, entitled "Reconstruction Finance Corporation Act," or other agency, or department, of the United States government, has authorized, or shall hereafter authorize, a loan to enable nonprofit corporation to lend money to the Los Angeles County Flood Control District, for any flood control work authorized under this act, and to repay the same, in annual installments, over a period of not to exceed twenty (20) years, with interest at a rate of not to exceed four and one-fourth per centum (4 1/4%) per annum, payable semiannually, and, without the necessity of an election when authorized by resolution of the board of supervisors, as evidences of that indebtedness, the district is hereby authorized to execute and deliver a note, or a series of notes, or bonds, or other evidences of indebtedness, signed by the chairperson of the board of supervisors of the district, which notes, bonds, or other evidences of indebtedness, shall be negotiable instruments if so declared in the resolution of the board of supervisors providing for their issuance, and notes, bonds, or other evidences of indebtedness, may have interest coupons attached to evidence interest payments, signed by the facsimile signature of the chairperson of the board. All applications for these loans shall specify the particular flood control work or projects for which the funds will be expended, and when received, the money shall be deposited in a special fund, and shall be expended for those purposes only which are described and referred to in the applications. If a surplus remains after the completion of the work, the surplus shall be applied to the payment of the note, notes, bonds, or other evidences of indebtedness, executed as aforesaid, for the loan including interest coupons. The board of supervisors shall annually levy a tax upon the taxable real property of the district, clearly sufficient to pay the interest and installments of principal, as the same shall become due and payable, under any loan made pursuant to the authority of this section, and to create and maintain a reserve fund to assure the prompt payment thereof, as may be provided by resolution of the board of supervisors. However, the amount of taxes levied in any year, pursuant to this subsection, shall, pro tanto, reduce the authority of the board of supervisors, during any year, to levy taxes under Section 14 of this act, but this proviso shall not be a limitation upon the power and duty to levy and collect taxes under this subsection. Notwithstanding any other provisions of law, interest earned on funds representing the proceeds of bonds of the district shall be deposited and retained in the reserve fund of the district to meet the principal and interest falling due on these bonds.

Notwithstanding anything in this subsection to the contrary, the total amount the district may borrow under the authority of any or all of the provisions of this subsection is limited to and shall not exceed in the aggregate the sum of four million five hundred thousand dollars (\$4,500,000).

7b. The power granted in the next preceding subsection is hereby extended to authorize the issuance and sale of bonds or other evidences of indebtedness of the district to the County of Los Angeles and the purchase thereof by the county in accordance with "An act authorizing the investment and reinvestment and disposition of any surplus moneys in the treasury of any county, city and county, incorporated city or town or municipal utility district or flood control district," approved April 23, 1913, as amended; all subject to the provisions and limitations of the next preceding subsection relative to the disposition and use of funds, interest rate, period of repayment, tax rate and mode of issuance. The total amount of bonds or other evidence of indebtedness, in the aggregate, which the district may issue and sell under the authority of subsection 7a and of this subsection is limited to and shall not exceed four million five hundred thousand dollars (\$4,500,000).

8. To cause taxes to be levied and collected for the purpose of paying any obligation of the district in the manner provided in this section.

8a. To impose a fee or charge, in compliance with the applicable provisions of Article XIIIID of the California Constitution, to pay the costs and expenses of carrying out projects and providing services to improve water quality and reduce stormwater and urban runoff pollution in the district in accordance with criteria established by the ordinance adopted pursuant to subsection 8c. Any fee that is imposed pursuant to this subsection shall be levied and collected together with, and not separately from, taxes for county purposes, and the revenues derived from the fees shall be paid into the county treasury to the credit of the district, and the board of supervisors shall expend these funds to pay for costs and expenses in accordance with this subsection.

8b. The district shall allocate the revenues derived from any fee or charge imposed pursuant to subsection 8a as follows:

(A) Ten percent shall be allocated to the district for implementation and administration of water quality programs, as determined by the district, including activities such as planning, water quality monitoring, and any other related activities, and for payment of the costs incurred in connection with the levy and collection of the fee and the distribution of the funds generated by imposition of the fee, as established by the ordinance adopted pursuant to subsection 8c.

(B) Forty percent shall be allocated to cities within the boundaries of the district and to the County of Los Angeles, in the same proportion as the amount of fees collected within each jurisdiction and within the unincorporated territories, to be expended by those cities within the cities' respective jurisdictions and by the County of Los Angeles within the unincorporated territories that are within the boundaries of the district, for water quality improvement programs, as established by the ordinance adopted pursuant to subsection 8c.

(C) Fifty percent shall be allocated to nine watershed authority groups that shall be authorized by the ordinance adopted pursuant to subsection 8c, in the same proportion as the amount of fees collected within each watershed, to implement collaborative water quality improvement plans or programs in the watersheds as established by the ordinance adopted pursuant to subsection 8c. Those nine watershed authority groups shall be established for the Ballona Creek, Dominguez Channel, Upper Los Angeles River, Lower Los Angeles River, Rio Hondo, Upper San Gabriel River, Lower San Gabriel River, Santa Clara River, and Santa Monica Bay watersheds. The watershed authority groups shall be established pursuant to Article 1 (commencing with Section 6500) of Chapter 5 of Division 7 of Title 1 of the Government Code. The implementation of a collaborative water quality improvement plan or program by a watershed authority group shall require the consent of any watershed authority group member whose jurisdiction comprises more than 40 percent of the total land area in a watershed.

8c. The governing board of the district shall adopt an ordinance to implement the authority granted pursuant to subsections 8a and 8b.

9. To make contracts, and to employ for temporary services only, expert appraisers, consultants and technical advisers, and to do all acts necessary for the full exercise of all powers vested in the district, or any of the officers thereof, by this act.

10. To grant or otherwise convey to counties, cities and counties, cities or towns easements for street and highway purposes, over, along, upon, in, through, across or under any real property owned by the Los Angeles County Flood Control District.

11. To remove, carry away and dispose of any rubbish, trash, debris or other inconvenient matter that may be dislodged, transported, conveyed or carried by means of, through, in, or along the works and structures operated or maintained hereunder and deposited upon the property of the district or elsewhere.

12. To pay premiums on bonds of contractors required under any contract if the amount payable to the contractor exceeds five million dollars (\$5,000,000); provided, that the specifications in these cases shall specifically so provide and state that the bidder shall not include in his or her bids the cost of furnishing the required bonds.

13. To lease, sell or dispose of any property (or any interest therein) whenever in the judgment of the board of supervisors of the property, or any interest therein or part thereof, is no longer required for the purposes of the district, or may be leased for any purpose without interfering with the use of the same for the purposes of the district, and to pay any compensation received therefor into the general fund of the district and use the same for the purposes of this act. However, nothing herein shall authorize the board of supervisors or other governing body of the district or any officer thereof to sell, lease or otherwise dispose of any water, water right, reservoir space or storage capacity or any interest or space therein except to public agencies for recreational purposes when the use is not inconsistent with the use thereof by the district for flood control and water conservation purposes; or except as provided by Section 17 of this act. However, the district may grant and convey to the United States of America, or to any federal agency authorized to accept and pay for the land or interests in land, all lands and interests in land, now owned or hereafter acquired, lying within any channel, dam or reservoir site, improved or constructed, in whole or in part, with federal funds, upon payment to the district of sums equivalent to actual expenditures made by it in acquiring the lands and interests in land so conveyed and deemed reasonable by the Secretary of War and the Chief of Engineers.

14. To provide, by agreement with other public agencies or private persons or entities or otherwise, for the recreational use of the lands, facilities, and works of the district which shall not interfere, or be inconsistent, with the primary use and purpose of the lands, facilities, and works by the district.

15. In addition to its other powers, the district shall have the power to preserve, enhance, and add recreational features to its properties and upon a finding by the board of supervisors that the acquisition is necessary for those purposes, to acquire, preserve, enhance, and add recreational features to lands or interests in lands contiguous to its properties, for the protection, preservation, and use of the scenic beauty and natural environment for the properties or the lands and to collect admission or use fees for the recreational features where deemed appropriate.

The district by or through its board of supervisors, or other board or officers at any time succeeding to the duties or functions of its board of supervisors, is hereby authorized and empowered to warrant and defend the title to all land and interests therein so conveyed to the United States of America or to any agency and its respective assigns; to covenant and agree to indemnify and keep indemnified and to hold and save harmless and exonerated the United States of America or any agency, to which lands or any interest therein are so conveyed by the district, from and against all demands, claims, liabilities, liens, actions, suits, charges, costs, loss, damages, expenses and attorneys' fees of whatsoever kind or nature, resulting from, arising out of or occasioned by any defect or defects whatsoever in the title to any land or interest in land so conveyed by the district; to reimburse and save harmless and exonerated the United States of America or any agency for any and all amounts, paid, and expenses incurred, in the compromise or settlement of any demands, claims, liabilities, liens, actions, suits, charges, costs, loss, damages, expenses and attorneys' fees of whatsoever kind or nature, resulting from, arising out of or occasioned by any claim to or defect or defects whatsoever in the title to any land or interests in land so conveyed by the district; to pay all just compensation, costs and expenses, which may be incurred in any condemnation proceeding deemed necessary by the United States of America or that agency, in order to perfect title to any land or interests in land, including without limitation all attorneys' fees, court costs and fees, costs of abstracts and other evidences of title, and all other costs, expenses or damages incurred or suffered by the United States of America or that agency; and consent is hereby given to the bringing of suit or other legal proceedings against the district by the United States of America or that agency, as the case may be, in the proper district court of the United States, upon any cause of action arising out of any conveyance, contract or covenant made or entered into by the district pursuant to the authority granted in this act, or to enforce any claims, damages, loss or expenses arising out of or resulting from any defect whatsoever in the title to the land or any interest therein or any claims of others in or to the land or interest therein.

SEC. 2. Section 16 of the Los Angeles County Flood Control Act (Chapter 755 of the Statutes of 1915), as amended by Section 6 of Chapter 1276 of the Statutes of 1975, is amended to read:

Sec. 16. (a) The board of supervisors of the district shall have power to make and enforce all needful rules and regulations for the administration and government of the district, and to perform all other acts necessary or proper to accomplish the purposes of this act.

(b) The board of supervisors shall have power to do all work and to construct and acquire all improvements necessary or useful for carrying out any of the purposes of this act; and the board of supervisors shall have power to acquire either within or without the boundaries of the district, by purchase, donation or by other lawful means in the name of the district, from private persons, corporations, reclamation districts, swampland districts, levee districts, protection districts, drainage districts, irrigation districts, or other public corporations or agencies or districts, all lands, rights-of-way, easements, property or materials necessary or useful for carrying out any of the purposes of this act; to make contracts to indemnify or compensate any owner of land or other property for any injury or damage necessarily caused by the exercise of the powers conferred by this act, or arising out of the use, taking or damage of any property, rights-of-way or easements, for any of these purposes; to compensate any reclamation district, protection district, drainage district, irrigation district or other district, public corporation or agency or district, for any right-of-way, easement or property taken over or acquired by the Los Angeles County Flood Control District as a part of its work of flood control or conservation or protection provided for in this act, and any reclamation district, protection district, drainage district, irrigation district or other district or public corporation or agency is hereby given power and authority to distribute compensation in any manner that may be now or hereafter allowed by law; to maintain actions to restrain the doing of any act or thing that may be injurious to carrying out any of the purposes of this act by the district, or that may interfere with the successful execution of that work, or for damages for injury thereto; to do any and all things necessary or incident to the powers hereby granted, or to carry out any of the objects and purposes of this act; to require, by appropriate legal proceedings, the owner or owners of any bridge, trestle, wire line, viaduct, embankment or other structure which shall be intersected, traversed or crossed by any channel, ditch, bed of any stream, waterway, conduit or canal, so to construct or alter the same as to offer a minimum of obstruction to the free flow of water through or along any channel, ditch, bed of any stream, waterway, conduit or canal, and whenever necessary in the case of existing works or structures, to require the removal or alteration thereof for that purpose. However, nothing in this act contained shall be deemed to authorize the district in exercising any of its powers to take, damage or destroy any property or to require the removal, relocation, alteration or destruction of any bridge, railroad, wire line, pipeline, facility or other structure unless just compensation therefor be first made, in the manner and to the extent required by the Constitution of the United States and the Constitution of California.

The board of supervisors of the district is hereby vested with full power to do all other acts or things necessary or useful for the promotion of the work of the control of the floodwater and stormwater of the district, and to conserve those waters for beneficial and useful purposes, and to protect from damage from floodwater and stormwater, the harbors, waterways, public highways, and property in the district. However, this act does not authorize the district, or any person or persons, to divert the waters of any river, creek, stream, irrigation system, canal or ditch, from its channel, to the detriment of any person or persons having any interest in such river, creek, stream, irrigation system, canal or ditch, or the waters thereof or therein, unless previous compensation be first ascertained and paid therefor, under the laws of this state authorizing the taking of private property for public uses. This act does not affect the plenary power of any incorporated city, city and county, or town, or municipal or county water district, to provide for a water supply of that public corporation, or as affecting the absolute control of any properties of that public corporations necessary for the water supply, and this act does not vest any power of control over the properties in the Los Angeles County Flood Control District, or in any officer thereof, or in any person referred to in this act. This act does not authorize the board of supervisors to raise money for the district by any method or system other than that by the issuing of bonds, the levying of a tax, or the imposition of a fee or charge in compliance with Article XIII D of the California Constitution, in the manner in this act provided, except from the sale and lease of its property as provided in this act.

ATTACHMENT B-25

Barclays Official California Code of Regulations Currentness

Title 23. Waters

Division 3. State Water Resources Control Board and Regional Water Quality Control Boards

Chapter 9. Waste Discharge Reports and Requirements

Article 3. Waste Discharges from Point Sources to Navigable Waters

23 CCR § 2235.2

§ 2235.2. Compliance with Regulations of the U.S. Environmental Protection Agency.

Waste discharge requirements for discharge from point sources to navigable waters shall be issued and administered in accordance with the currently applicable federal regulations for the National Pollutant Discharge Elimination System (NPDES) program.

Note: Authority cited: [Section 1058, Water Code](#). Reference: Chapter 5.5 (commencing with [Section 13370](#)) of [Division 7, Water Code](#).

This database is current through 5/11/18 Register 2018, No. 19

23 CCR § 2235.2, 23 CA ADC § 2235.2

End of Document

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ATTACHMENT B-26

Barclays Official California Code of Regulations Currentness

Title 23. Waters

Division 3. State Water Resources Control Board and Regional Water Quality Control Boards

Chapter 9. Waste Discharge Reports and Requirements

Article 3. Waste Discharges from Point Sources to Navigable Waters

23 CCR § 2235.3

§ 2235.3. Additional Requirements.

In addition to the federal regulations, waste discharge requirements prescribed for discharges to navigable water shall be in compliance with applicable state regulations, including, when appropriate, the requirements of Sections 2230(c), 2232 and 2233.

Note: Authority cited: [Sections 185 and 1058, Water Code](#). Reference: [Section 13263, Water Code](#).

HISTORY

1. Amendment filed 4-16-82; effective upon filing pursuant to [Government Code Section 11346.2\(d\)](#) (Register 82, No. 16).

This database is current through 5/11/18 Register 2018, No. 19

23 CCR § 2235.3, 23 CA ADC § 2235.3

ATTACHMENT C-1



KeyCite Yellow Flag - Negative Treatment

Declined to Follow by [Conservation Law Foundation v. Hannaford Bros. Co.](#), D.Vt., May 14, 2004

568 F.2d 1369

United States Court of Appeals,
District of Columbia Circuit.

NATURAL RESOURCES DEFENSE COUNCIL, INC. *

v.

Douglas M. COSTLE, Administrator, Environmental Protection
Agency, et al., National Forest Products Association, Appellant.

NATURAL RESOURCES DEFENSE COUNCIL, INC., etc.

v.

Douglas M. COSTLE, Administrator, Environmental Protection
Agency, et al., National Milk Producers Federation, Appellant.

NATURAL RESOURCES DEFENSE COUNCIL, INC., etc.

v.

Douglas M. COSTLE, Administrator, and Environmental Protection Agency, et al., Appellants.

NATURAL RESOURCES DEFENSE COUNCIL, INC.

v.

Douglas M. COSTLE, Administrator, Environmental Protection
Agency, Colorado River Water Conservation District, Appellant.

Nos. 75-2056, 75-2066, 75-2067 and 75-2235.

|

Argued Dec. 3, 1976.

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Decided Nov. 16, 1977.

The National Resources Defense Council, Inc. challenged authority of the Environmental Protection Agency Administrator to exempt categories of point sources from permit requirements of the Federal Water Pollution Control Act Amendments of 1972. The United States District Court for the District of Columbia, Thomas A. Flannery, J., [396 F.Supp. 1393](#), granted summary judgment to the NRDC and the Administrator and others appealed. The Court of Appeals, Leventhal, Circuit Judge, held that: (1) legislative history shows that National Pollution Discharge Elimination System permit is the only means by which discharger may escape total prohibition of discharges from point sources found in FWPCA; (2) national effluent limitations need not be uniform as precondition for NPDES program to include pollution from agricultural, silvicultural, and storm runoff point sources, and while technological or administrative infeasibility of such limitations may warrant adjustments in permit program it does not authorize Administrator to exclude relevant point sources; (3) where numeric effluent limitations are infeasible, permit conditions may proscribe industry practices that aggravate problems of point source pollution as well as require monitoring and reporting of effluent level; and (4) a number of administrative devices, including general or area permits are available to aid EPA in practical administration of NPDES program, and FWPCA, however tight in some respects, leaves some leeway to EPA in interpretation of that statute and affords agency some means to consider matters of feasibility.

Affirmed in accordance with opinion.

MacKinnon, Circuit Judge, filed a concurring opinion.

West Headnotes (8)

[1] **Environmental Law** 🔑 **Discharge of Pollutants**

Legislative history clearly shows that Congress intended that the national pollution discharge elimination system permit be the only means by which a discharger of pollutant may escape total prohibition of discharges from point sources found in Federal Water Pollution Control Act Amendments. Federal Water Pollution Control Act, §§ 301, 301(a), 402 as amended 33 U.S.C.A. §§ 1311, 1311(a), 1342.

[33 Cases that cite this headnote](#)

[2] **Environmental Law** 🔑 **Discharge of Pollutants**

Use of word “may” in that section of Federal Water Pollution Control Act Amendment providing that the administrator may issue permit for discharge of any pollutant means only that the administrator has the discretion either to issue permit or to leave pollutant discharger subject to total proscription of statute making discharge of any pollutant by any person unlawful except as provided in Act. Federal Water Pollution Control Act, §§ 301(a), 302, 304 as amended 33 U.S.C.A. §§ 1311(a), 1342, 1344.

[17 Cases that cite this headnote](#)

[3] **Environmental Law** 🔑 **Substances, Sources, and Activities Regulated**

Environmental Law 🔑 **Discharge of Pollutants**

Existence of uniform national effluent limitations is not a necessary precondition for incorporating into the national pollutant discharge elimination system program pollution from agricultural, silvicultural, and storm water runoff point sources; technological or administrative infeasibility of such limitations may result in adjustments in permit programs but does not authorize administrator to exclude relevant point sources from program. Federal Water Pollution Control Act, §§ 301, 402, 404, 1362(12, 14), as amended 33 U.S.C.A. §§ 1311, 1342, 1344, 502(12, 14).

[63 Cases that cite this headnote](#)

[4] **Environmental Law** 🔑 **Conditions and Limitations**

Where numeric effluent limitations are infeasible, point of discharge permits may proscribe industry practices which aggravate problems of point source pollution as well as require monitoring and reporting of effluent levels contrary to claim that any limitations must be issued in terms of a numerical effluent standard. Federal Water Pollution Control Act, §§ 302(a), 402, 402(a) as amended 33 U.S.C.A. §§ 1312(a), 1342, 1342(a).

[25 Cases that cite this headnote](#)

[5] **Environmental Law** 🔑 **Discharge of Pollutants**

Federal Water Pollution Control Act Amendments merely require that point of discharge permits be in compliance with limitations section of Act and as a result the use of area or general permits is allowed. Federal Water Pollution Control Act, § 402 as amended 33 U.S.C.A. § 1342.

[5 Cases that cite this headnote](#)

[6] **Environmental Law** 🔑 **Water Pollution**

Power to define point and nonpoint sources of pollution is vested in Environmental Protection Agency under the Federal Water Pollution Control Act Amendments, and exercise of that power should be reviewed by court only after opportunity for full agency review and examination. Federal Water Pollution Control Act, § 402 as amended [33 U.S.C.A. § 1342](#).

[8 Cases that cite this headnote](#)

[7] **Environmental Law** 🔑 **Administrative Agencies and Proceedings**

Federal Water Pollution Control Act Amendments, however tight in some respects, leave some leeway to Environmental Protection Agency in interpretation and affords agency some means to consider matter of feasibility. Federal Water Pollution Control Act, §§ 1-26, 101-517 as amended [33 U.S.C.A. §§ 1151-1175, 1251-1376](#).

[Cases that cite this headnote](#)

[8] **Administrative Law and Procedure** 🔑 **Statutory Basis and Limitation**

It is not what court thinks that is generally appropriate to regulatory process, but what Congress intended.

[2 Cases that cite this headnote](#)

***1370 **148** *Syllabus by the Court*

The National Resources Defense Council, Inc. (NRDC) challenged the authority of the EPA Administrator to exempt categories of point sources from the permit requirements of s 402 of the Federal Water Pollution Control Act Amendments of 1972, [33 U.S.C. s 1342 \(Supp. V 1975\)](#). On appeal from a grant of summary judgment to NRDC, held:

1. The legislative history makes clear that Congress intended the National Pollution Discharge Elimination System (NPDES) permit to be the only means by which a discharger may escape the total prohibition of discharges from point sources found in FWPCA s 301(a), [33 U.S.C. s 1311\(a\)](#) (Supp. V 1975).
2. It is not necessary that national effluent limitations be uniform as a precondition for the NPDES program to include pollution from agricultural, silvicultural, and storm water runoff point sources. The technological or administrative infeasibility ***1371 **149** of such limitations may warrant adjustments in the permit program, but it does not authorize the Administrator to exclude the relevant point source from the NPDES program.
3. Where numeric effluent limitations are infeasible, permit conditions may proscribe industry practices that aggravate the problems of point source pollution as well as require monitoring and reporting of effluent levels.
4. A number of administrative devices, including general or area permits, are available to aid EPA in the practical administration of the NPDES program. The FWPCA, however tight in some respects, leaves some leeway to EPA in the interpretation of that statute and, in that regard, affords the agency some means to consider matters of feasibility.

Appeals from the United States District Court for the District of Columbia (D.C. Civil 1629-73).

Attorneys and Law Firms

Irvin B. Nathan, Washington, D. C., with whom Burton J. Mallinger, Washington, D. C., was on the brief, for appellant in No. 75-2056.

Charles W. Bills, Washington, D. C., with whom James R. Murphy, Washington, D. C., was on the brief for appellant in No. 75-2066.

G. William Frick, Atty., Dept. of Justice, Kansas City, Mo., of the bar of the Supreme Court of Missouri, pro hac vice by special leave of court for appellants in No. 75-2067. Peter R. Taft, Asst. Atty. Gen., Robert V. Zener, Gen. Counsel, Environmental Protection Agency, Edmund B. Clark, Lloyd S. Guerci, Larry A. Boggs, Attys., Dept. of Justice and Pamela P. Quinn, Atty., Environmental Protection Agency, Washington, D. C., were on the brief for appellants in No. 75-2067.

Christopher D. Williams, Washington D. C., with whom Kenneth Balcomb and Robert L. McCarty, Washington, D. C., were on the brief for appellant in No. 75-2235.

J. G. Speth, Washington, D. C., for appellee.

Theodore O. Torve, Asst. Atty. Gen., State of Washington, Olympia, Wash., filed a brief on behalf of the State of Washington as amicus curiae urging reversal in No. 75-2056.

Richard E. Schwartz, Jefferson City, Mo., filed a brief on behalf of Iron and Steel Institute, as amicus curiae urging reversal in No. 75-2067.

John L. Hill, Atty. Gen., State of Texas, and David M. Kendall, Jr., First Asst. Atty. Gen., State of Texas, Austin, Tex., filed a brief on behalf of State of Texas as amicus curiae urging reversal in No. 75-2067.

Before BAZELON, Chief Judge, and LEVENTHAL and MacKINNON, Circuit Judges.

Opinion

Opinion for the Court filed by LEVENTHAL, Circuit Judge.

Concurring Opinion filed by MacKINNON, Circuit Judge.

LEVENTHAL, Circuit Judge:

In 1972 Congress passed the Federal Water Pollution Control Act Amendments (hereafter referred to as the "FWPCA" or the "Act"¹). It was a dramatic response to accelerating environmental degradation of rivers, lakes and streams in this country. The Act's stated goal is to eliminate the discharge of pollutants into the Nation's waters by 1985. This goal is to be achieved through the enforcement of the strict timetables and technology-based effluent limitations established by the Act.

The FWPCA sets up a permit program, the National Pollutant Discharge Elimination System (NPDES), as the primary means of enforcing the Act's effluent limitations.² At issue in this case is the authority *1372 **150 of the Administrator of the Environmental Protection Agency to make exemptions from this permit component of the FWPCA.

Section 402 of the FWPCA, 33 U.S.C. s 1342 (Supp. V 1975), provides that under certain circumstances the EPA Administrator "may . . . issue a permit for the discharge of any pollutant" notwithstanding the general proscription of pollutant discharges found in s 301 of the Act. 33 U.S.C. s 1311 (Supp. V 1975). The discharge of a pollutant is defined in the FWPCA as "any addition of any pollutant to navigable waters from any point source" or "any addition of any

pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or floating craft.” 33 U.S.C. s 1362(12) (Supp. V 1975). In 1973 the EPA Administrator issued regulations that exempted certain categories of “point sources” of pollution from the permit requirements of s 402.³ The Administrator's purported authority to make such exemptions turns on the proper interpretation of s 402.

A “point source” is defined in s 502(14) as “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.”⁴

The 1973 regulations exempted discharges from a number of classes of point sources from the permit requirements of s 402, including all silvicultural point sources; all confined animal feeding operations below a certain size; all irrigation return flows from areas of less than 3,000 contiguous acres or 3,000 noncontiguous acres that use the same drainage system; all nonfeedlot, nonirrigation agricultural point sources; and separate storm sewers containing only storm runoff uncontaminated by any industrial or commercial activity.⁵ The EPA's *1373 **151 rationale for these exemptions is that in order to conserve the Agency's enforcement resources for more significant point sources of pollution, it is necessary to exclude these smaller sources of pollutant discharges from the permit program.

The National Resources Defense Council, Inc. (NRDC) sought a declaratory judgment that the regulations are unlawful under the FWPCA. Specifically, NRDC contended that the Administrator does not have authority to exempt any class of point source from the permit requirements of s 402. It argued that Congress in enacting ss 301, 402 of the FWPCA intended to prohibit the discharge of pollutants from all point sources unless a permit had been issued to the discharger under s 402 or unless the point source was explicitly exempted from the permit requirements by statute. The District Court granted NRDC's motion for summary judgment. It held that the FWPCA does not authorize the Administrator to exclude any class of point sources from the permit program. *NRDC v. Train*, 396 F.Supp. 1393 (D.D.C.1975). The EPA has appealed to this court. It is joined on appeal by a number of defendant-intervenors, National Forest Products Association (NFPA), National Milk Producers Federation (NMPF), and the Colorado River Conservation District.⁶

This case thus presents principally a question of statutory interpretation. EPA also argues that even if Congress intended to include the pertinent categories in the permit program, the regulations exempting them should be upheld on a doctrine of administrative infeasibility, i. e., the regulations should be upheld as a deviation from the literal terms of the FWPCA that is necessary to permit the Agency to realize the principal objectives of the Act.

I. LEGISLATIVE HISTORY

The principal purpose of the FWPCA is “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.”⁷ The Act's ultimate objective, to eliminate the discharge of pollutants into navigable waters by 1985, is to be achieved by means of two intermediate steps. As of July 1, 1977, all point sources other than publicly owned treatment works were to have achieved effluent limitations that require application of the “best practicable control technology.”⁸ These same point sources must reduce their effluent discharges by July 1, 1983, to meet limitations determined by application of the “best available technology economically achievable” for each category of point source.⁹

The technique for enforcing these effluent limitations is straightforward. Section 301(a) of the FWPCA provides:

Except as in compliance with this section and sections 302, 306, 307, 318, 402, and 404 of this Act, the discharge of any pollutant by any person shall be unlawful.¹⁰

Appellants concede that if the regulations are valid, it must be because they are authorized *1374 **152 by s 402; none of the other sections listed in s 301(a) afford grounds for relieving the exempted point sources from the prohibition of s 301.¹¹

Section 402 provides in relevant part that the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 301(a), upon condition that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308, and 403 of this Act, or prior to the taking of the necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act.

The NPDES permit program established by s 402 is central to the enforcement of the FWPCA. It translates general effluent limitations into the specific obligations of a discharger. As this court noted in [NRDC v. Train, 166 U.S.App.D.C. 312, 315, 510 F.2d 692, 695 \(1975\)](#), the Act “relies primarily on a permit program for the achievement of effluent limitations . . . to attain its goals.” The comments in floor debates of Senator Muskie, the leading Congressional sponsor of the Act, makes this clear.¹²

The appellants argue that s 402 not only gives the Administrator the discretion to grant or refuse a permit, but also gives him the authority to exempt classes of point sources from the permit requirements entirely. They argue that this interpretation is supported by the legislative history of s 402 and the fact that unavailability of this exemption power would place unmanageable administrative burdens on the EPA.

[1] Putting aside for the moment the appellants' administrative infeasibility argument, we agree with the District Court that the legislative history makes clear that Congress intended the NPDES permit to be the only means by which a discharger from a point source may escape the total prohibition of s 301(a). This intention is evident in both Committee Reports. In discussing s 301 the House Report stressed:

Any discharge of a pollutant without a permit issued by the Administrator under section 318, or by the Administrator or the State under section 402 or by the Secretary of the Army under section 404 is unlawful. Any discharge of a pollutant not in compliance with the conditions or limitations of such a permit is also unlawful.¹³

The Senate Report echoed this interpretation:

(Section 301) clearly establishes that the discharge of pollutants is unlawful. Unlike its predecessor program which permitted the discharge of certain amounts of pollutants under the conditions described above, this legislation would clearly establish that no one has the right *1375 **153 to pollute that pollution continues because of technological limits, not because of any inherent rights to use the nation's waterways for the purpose of disposing of wastes.

The program proposed by this Section will be implemented through permits issued in Section 402. The Administrator will have the capability and the mandate to press technology and economics to achieve those levels of effluent reduction which he believes to be practicable in the first instance and attainable in the second.¹⁴

[2] The EPA argues that since s 402 provides that “the Administrator may . . . issue a permit for the discharge of any pollutant” (emphasis added), he is given the discretion to exempt point sources from the permit requirements altogether. This argument, as to what Congress meant by the word “may” in s 402, is insufficient to rebut the plain language of the statute and the committee reports. We say this with due awareness of the deference normally due “the construction of a new statute by its implementing agency.” [NRDC v. Train, 166 U.S.App.D.C. at 326, 510 F.2d at 706](#); see [Zuber v. Allen, 396 U.S. 168, 192, 90 S.Ct. 314, 24 L.Ed.2d 345 \(1969\)](#); [Udall v. Tallman, 380 U.S. 1, 16, 85 S.Ct. 792, 13 L.Ed.2d 616 \(1965\)](#). The use of the word “may” in s 402 means only that the Administrator has discretion either to issue a permit or to leave the discharger subject to the total proscription of s 301. This is the natural reading, and the one that retains the fundamental logic of the statute.

Under the EPA's interpretation the Administrator would have broad discretion to exempt large classes of point sources from any or all requirements of the FWPCA. This is a result that the legislators did not intend. Rather they stressed that the FWPCA was a tough law that relied on explicit mandates to a degree uncommon in legislation of this type. A statement of Senator Jennings Randolph of West Virginia, Chairman of the Senate Committee responsible for the Act, is illustrative.

I stress very strongly that Congress has become very specific on the steps it wants taken with regard to environmental protection. We have written into law precise standards and definite guidelines on how the environment should be protected. We have done more than just provide broad directives for administrators to follow. . . .

In the past, too many of our environmental laws have contained vague generalities. What we are attempting to do now is provide laws that can be administered with certainty and precision. I think that is what the American people expect that we do. ¹⁵

There are innumerable references in the legislative history to the effect that the Act is founded on the “basic premise that a discharge of pollutants without a permit is unlawful and that discharges not in compliance with the limitations and conditions for a permit are unlawful.” ¹⁶ Even when infeasibility arguments were squarely raised, *1376 **154 the legislature declined to abandon the permit requirement. ¹⁷ We stand by our previous interpretation of the Act's scheme for the enforcement of effluent limitations:

After dates set forth in (s 301(b)), a person must obtain a permit and comply with its terms in order to discharge any pollutant. The conditions of the permit must assure that any discharge complies with the applicable requirements of numerous sections including the effluent limitations of section 301(b).

[NRDC v. Train, 166 U.S.App.D.C. at 316, 510 F.2d at 696](#) (emphasis added; footnotes omitted).

We also note that all the Supreme Court decisions referring to s 402 view the permit as the only means by which a point source polluter can avoid the ban on discharges found in s 301. Strictly speaking these expressions may be dicta, for they do not touch directly on the interpretation of s 402. But they are at least a considered reading of what the Act appears to mean.

In [Train v. Colorado Public Interest Research Group, Inc., 426 U.S. 1, 96 S.Ct. 1938, 48 L.Ed.2d 434 \(1976\)](#), Justice Marshall characterized the enforcement scheme of the FWPCA as follows:

(E)ffluent limitations are enforced through a permit program. The discharge of “pollutants” into water is unlawful without a permit issued by the Administrator of the EPA or, if a State has developed a program that complies with the FWPCA, by the State. . . .

[Id. at 7, 96 S.Ct. at 1941](#) (footnote omitted).

In [EPA v. State Water Resources Control Board, 426 U.S. 200, 96 S.Ct. 2022, 48 L.Ed.2d 578 \(1976\)](#), the issue was whether federal installations were subject to state NPDES programs. Justice White's majority opinion describes NPDES at 205, [96 S.Ct. at 2025](#) (footnote omitted):

Under NPDES, it is unlawful for any person to discharge a pollutant without obtaining a permit and complying with its terms. An NPDES permit serves to transform generally applicable effluent limitations and other standards including those based on water quality into the obligations (including a timetable for compliance) of the individual discharger, and the Amendments provide for direct administrative and judicial enforcement of permits.

In *E. I. du Pont de Nemours v. Train*, 430 U.S. 112, 97 S.Ct. 965, 51 L.Ed.2d 204 (1977), the Court held that under FWPCA the EPA can set uniform effluent limitations through industry-wide regulations rather than develop them on an individual basis during the permit issuance process. But the Court, per Justice Stevens, clearly indicated *1377 **155 that those limitations were translated into obligations of the discharger through their inclusion in an NPDES permit. *Id.* at 119-20, 97 S.Ct. 965.

The wording of the statute, legislative history, and precedents are clear: the EPA Administrator does not have authority to exempt categories of point sources from the permit requirements of s 402. Courts may not manufacture for an agency a revisory power inconsistent with the clear intent of the relevant statute. In holding that the FPC does not have authority to exempt the rates of small producers from regulation under the Natural Gas Act, the Supreme Court observed:

It is not the Court's role . . . to overturn congressional assumptions embedded into the framework of regulation established by the Act. This is a proper task for the Legislature where the public interest may be considered from the multifaceted points of view of the representational process.

FPC v. Texaco, Inc., 417 U.S. 380, 400, 94 S.Ct. 2315, 2327, 41 L.Ed.2d 141 (1974).

II. ADMINISTRATIVE INFEASIBILITY

The appellants have stressed in briefs and at oral argument the extraordinary burden on the EPA that will be imposed by the above interpretation of the scope of the NPDES program. The spectre of millions of applications for permits is evoked both as part of appellants' legislative history argument that Congress could not have intended to impose such burdens on the EPA and as an invitation to this court to uphold the regulations as deviations from the literal terms of the FWPCA necessary to permit the agency to realize the general objectives of that act. During oral argument we asked for supplemental briefs so that the appellants could expand on their infeasibility arguments. We consider EPA's infeasibility contentions in turn.

A. Uniform National Effluent Limitations

EPA argues that the regulatory scheme intended under Titles III and IV of the FWPCA requires, first, that the Administrator establish national effluent limitations¹⁸ and, second, that these limitations be incorporated in the individual permits of dischargers. EPA argues that the establishment of such limitations is simply not possible with the type of point sources involved in the 1973 regulations, which essentially involve the discharge of runoff i. e., wastewaters generated by rainfall that drain over terrain into navigable waters, picking up pollutants along the way.

There is an initial question, to what extent point sources are involved in agricultural, silvicultural, and storm sewer runoff. The definition of point source in s 502(14), including the concept of a "discrete conveyance", suggests that there is room here for some exclusion by interpretation. We discuss this issue subsequently. Meanwhile, we assume that even taking into account what are clearly point sources, there is a problem of infeasibility which the EPA properly opens for discussion.

EPA contends that certain characteristics of runoff pollution make it difficult to promulgate effluent limitations for most of the point sources exempted by the 1973 regulations:

The major characteristic of the pollution problem which is generated by runoff . . . is that the owner of the discharge point . . . has no control over the quantity of the flow or the nature and amounts of the pollutants picked up by the runoff. The amount of flow obviously is unpredictable because it results from the duration and intensity of the rainfall event, the topography, the type of ground cover and the saturation point of the land due to any previous *1378 **156 rainfall. Similar factors affect the types of pollutants which will be picked up by that runoff, including the type of farming practices employed, the rate and type of pesticide and fertilizer application, and the conservation practices employed . . .

An effluent limitation must be a precise number in order for it to be an effective regulatory tool; both the discharger and the regulatory agency need to have an identifiable standard upon which to determine whether the facility is in compliance. That was the principal of the passage of the 1972 Amendments.

Federal Appellants' Memorandum on "Impossibility" at 7-8 (footnote omitted). Implicit in EPA's contentions is the premise that there must be a uniform effluent limitation prior to issuing a permit. That is not our understanding of the law.

In *NRDC v. Train*, we described the interrelationship of the effluent limitations and the NPDES permit program, [166 U.S.App.D.C. at 327, 510 F.2d at 707](#) (footnotes omitted):

The Act relies on effluent limitations on individual point sources as the "basis of pollution prevention and elimination." . . . Section 301(b) contains a broad description of phase one and phase two effluent limitations, to be achieved by July 1, 1977 and July 1, 1983, respectively. The limitations established under section 301(b) are to be imposed upon individual point sources through permits issued under the National Pollutant Discharge Elimination System (NPDES) established by section 402. Those permits are to contain schedules which will assure phased compliance with the effluent limitations no later than the final dates set forth in section 301(b). Section 304(b) calls for the publication of regulations containing guidelines for effluent limitations for classes and categories of point sources. These guidelines are intended to assist in the establishment of section 301(b) limitations that will provide uniformity in the permit conditions imposed on similar sources within the same category by diverse state and federal permit authorities.

As noted in *NRDC v. Train*, the primary purpose of the effluent limitations and guidelines was to provide uniformity among the federal and state jurisdictions enforcing the NPDES program and prevent the "Tragedy of the Commons"¹⁹ that might result if jurisdictions can compete for industry and development by providing more liberal limitations than their neighboring states. [166 U.S.App.D.C. at 329, 510 F.2d at 709](#). The effluent limitations were intended to create floors that had to be respected by state permit programs.

But in *NRDC v. Train* it was also recognized that permits could be issued before national effluent limitations were promulgated and that permits issued subsequent to promulgation of uniform effluent limitations could be modified to take account of special characteristics of subcategories of point sources.

Prior to the promulgation of effluent limitations under section 301, the director of a state program is instructed merely to impose such terms and conditions in each permit as he determines are necessary to carry out the provisions of the Act. Once ***1379 **157** an effluent limitation is established, however, the state director and the regional EPA Administrator are required to apply the specified, uniform effluent limitations, modified only as necessary to take account of fundamentally different factors pertaining to particular point sources within a given class or category. Any variation in the uniform limitations adopted for specific dischargers must be approved by the Administrator.

[166 U.S.App.D.C. at 330, 510 F.2d at 710](#) (footnotes omitted).

Another passage in *NRDC v. Train* touches on the infeasibility problem. We noted that "(t)he statutory framework is not so tightly drawn as to require guidelines for each and every class and category of point source regardless of the need for uniform guidelines or to mandate that all guidelines be published prior to December 31 (1974) regardless of their quality or the burden that task would place upon the agency." *Id.* at 320-21, [510 F.2d at 710-11](#). In that case this court fully appreciated that technological and administrative constraints might prevent the Administrator from developing guidelines and corresponding uniform numeric effluent limitations for certain point sources anytime in the near future. The Administrator was deemed to have the burden of demonstrating that the failure to develop the guidelines on schedule

was due to administrative or technological infeasibility. 166 U.S.App.D.C. at 333, 510 F.2d at 713. Yet the underlying teaching was that technological or administrative infeasibility was a reason for adjusting court mandates to the minimum extent necessary to realize the general objectives of the Act.²⁰ It is a number of steps again to suggest that these problems afford the Administrator the authority to exempt categories of point sources from the NPDES program entirely.

With time, experience, and technological development, more point sources in the categories that EPA has now classed as exempt may be amenable to national effluent limitations achieved through end-of-pipe technology or other means of pollution control. EPA has noted its own success with runoff from mining operations:

EPA has found that in the area of runoff from mining operations, there is sufficient predictability because of a longer history of regulation and the relatively confined nature of the operations that numerical limitations can be established. Thus, consistent with EPA's position stated earlier that it will expand the permit program where its capability of establishing effluent limitations allows, appropriate limitations have been created and the permit program expanded.

Federal Appellants' Memorandum on "Impossibility" at 8.

[3] In sum, we conclude that the existence of uniform national effluent limitations is not a necessary precondition for incorporating into the NPDES program pollution from agricultural, silvicultural, and storm water runoff point sources. The technological or administrative infeasibility of such limitations may result in adjustments in the permit programs, as will be seen, but it does not authorize the Administrator to exclude the relevant point source from the NPDES program.

B. Alternative Permit Conditions under s 402(a)

EPA contends that even if it is possible to issue permits without national effluent limitations, *1380 **158 the special characteristics of point sources of runoff pollution make it infeasible to develop restrictions on a case-by-case basis. EPA's implicit premise is that whether limitations are promulgated on a class or individual source basis, it is still necessary to articulate any limitation in terms of a numerical effluent standard. That is not our understanding.

[4] Section 402 provides that a permit may be issued upon condition "that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308 and 403 of this Act, or prior to taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act." 33 U.S.C. s 1342(a) (Supp. V 1975) (emphasis added). This provision gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges. The permit may proscribe industry practices that aggravate the problem of point source pollution.²¹

EPA's counsel caricatures the matter by stating that recognition of any such authority would give EPA the power "to instruct each individual farmer on his farming practices." Federal Appellants Memorandum on "Impossibility" at 12. Any limitation on a polluter forces him to modify his conduct and operations. For example, an air polluter may have a choice of installing scrubbers, burning different fuels or reducing output. Indeed, the authority to prescribe limits consistent with the best practicable technology may be tantamount to prescribing that technology. Of course, when alternative techniques are available, Congress intended to give the discharger as much flexibility as possible in choosing his mode of compliance. See, e. g., H.Rep.No.92-911, 92d Cong., 2d Sess. 107, reprinted in Legislative History at 794. We only indicate here that when numerical effluent limitations are infeasible, EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels. This may well mean opting for a gross reduction in pollutant discharge rather than the fine-tuning suggested by numerical limitations. But this ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.

It may be appropriate in certain circumstances for the EPA to require a permittee simply to monitor and report effluent levels; EPA manifestly has this authority.²² Such permit conditions might be desirable where the full extent of the pollution problem is not known.

C. General Permits

Finally, EPA argues that the number of permits involved in the absence of an exemption authority will simply overwhelm the Agency. Affidavits filed with the District Court indicate, for example, that the number of silviculture point sources may be over 300,000 and that there are approximately 100,000 separate storm sewer point sources.²³ We are and must be sensitive to *1381 **159 EPA's concerns of an intolerable permit load. But the District Court and the various parties have suggested devices to mitigate the burden to accommodate within a practical regulatory scheme Congress's clear mandate that all point sources have permits. All that is required is that EPA makes full use of its interpretational authority. The existence of a variety of options belies EPA's infeasibility arguments.

[5] Section 402 does not explicitly describe the necessary scope of a NPDES permit. The most significant requirement is that the permit be in compliance with limitation sections of the Act described above. As a result NRDC and the District Court have suggested the use of area or general permits. The Act allows such techniques. Area-wide regulation is one well-established means of coping with administrative exigency. An instance is area pricing for natural gas producers, which the Supreme Court upheld in *Permian Basin Area Rate Cases*, 390 U.S. 747, 88 S.Ct. 1344, 20 L.Ed.2d 312 (1968).²⁴ A more dramatic example is the administrative search warrant, which may be issued on an area basis despite the normal Fourth Amendment requirement of probable cause for searching specific premises. *Camara v. Municipal Court*, 387 U.S. 523, 87 S.Ct. 1727, 18 L.Ed.2d 930 (1967).

In response to the District Court's order, EPA promulgated regulations that make use of the general permit device. 42 *Fed.Reg.* 6846-53 (Feb. 4, 1977). The general permit is addressed to a class of point source dischargers, subject to notice and opportunity for public hearing in the geographical area covered by the permit. Although we do not pass on the validity of the February, 1977, regulations, they serve to dilute an objection of wholesale infeasibility.²⁵

Our approach is not fairly subject to the criticism that it elevates form over substance that the end result will look very much like EPA's categorical exemption. It is the function of the courts to require agencies to comply with legislative intent when that intent is clear, and to leave it to the legislature to make adjustments when the result is counterproductive.²⁶ At the same time, where intent on an issue is unclear, *1382 **160 we are instructed to afford the administering agency the flexibility necessary to achieve the general objectives of the Act. *Weinberger v. Bentex Pharmaceuticals, Inc.*, 412 U.S. 645, 653, 93 S.Ct. 2448, 37 L.Ed.2d 235 (1973); *United States v. Southwestern Cable Co.*, 392 U.S. 157, 177-78, 88 S.Ct. 1994, 20 L.Ed.2d 1001 (1968); *Permian Basin Area Rate Cases*, 390 U.S. 747, 780, 88 S.Ct. 1344, 20 L.Ed.2d 312 (1968). These lines of authority conjoin in our approach. We insist, as the Act insists, that a permit is necessary; the Administrator has no authority to exempt point sources from the NPDES program. But we concede necessary flexibility in the shaping of the permits that is not inconsistent with the clear terms of the Act.

There is also a very practical difference between a general permit and an exemption. An exemption tends to become indefinite: the problem drops out of sight, into a pool of inertia, unlikely to be recalled in the absence of crisis or a strong political protagonist. In contrast, the general or area permit approach forces the Agency to focus on the problems of specific regions and requires that the problems of the region be reconsidered at least every five years, the maximum duration of a permit.²⁷

D. Other Interpretational Powers

[6] Many of the intervenor-appellants appear to argue that the District Court should be reversed because the categories exempted by EPA are nonpoint sources and are not, in fact, point sources.²⁸ We agree with the District Court "that the

power to define point and nonpoint sources is vested in EPA and should be reviewed by the court only after opportunity for full agency review and examination.” 396 F.Supp. at 1396. The only issue precisely confronted by all the parties and properly framed for our consideration is whether the Administrator has authority to exempt point sources from the NPDES program. We also think that we should, for similar reasons, not consider at this time the appropriate definition of “discharge of any pollutant” as used in s 402. The American Iron and Steel Institute as amicus curiae has pressed upon us the argument that the term “discharge” as used in s 402 was intended to encompass only “volitional flows” that add pollutants to navigable waters. Most forms of runoff, it is argued, do not involve volitional flows.

[7] We assume that FWPCA, however tight in some respects, leaves some leeway to EPA in the interpretation of that statute, and in that regard affords the Agency some means to consider matters of feasibility. However, for reasons already noted, we do not consider these particular contentions as to interpretation on the merits.

III. CONCLUSION

[8] As the Supreme Court recently stated in a FWPCA case, “(t)he question . . . is ****161 *1383** not what a court thinks is generally appropriate to the regulatory process, it is what Congress intended . . .” *E. I. du Pont de Nemours & Co. v. Train*, 430 U.S. 112, 138, 97 S.Ct. 965, 980, 51 L.Ed.2d 204 (1977). We find a plain Congressional intent to require permits in any situation of pollution from point sources. We also discern an intent to give EPA flexibility in the structure of the permits, in the form of general or area permits. We are aware that Congress hoped that more of the NPDES permit program would be administered by the states at this point.²⁹ But it also made provision for continuing EPA administration. Imagination conjoined with determination will likely give EPA a capability for practicable administration. If not, the remedy lies with Congress.

So ordered.

MacKINNON, Circuit Judge, concurring:

I concur in the very sound and practical construction set forth in the foregoing opinion. Any person concerned with the actual application and enforcement of laws would necessarily be concerned by the application of the relevant legislation to all point sources in agriculture and particularly to irrigated agriculture. Concern would also lie in the congressional admission that present technology is inadequate to enable our citizens to meet the standards and deadlines the Act imposes; in passing the law, Congress was relying on the future “invention (of) new and imaginative developments that will allow us to meet the objectives of our bill.”¹ In gambling parlance, Congress in enacting the law was “betting on the come.” It is relying on our citizens in the near future to develop the complex technology to meet all the law's standards and objectives on time. The difficulty with that approach is that the hopes of Congress in this respect, like that of any gambler, might not be realized. The agency in this case, however, has shown that it takes a realistic view of both the situation and the task of meeting the difficult requirements and objectives of the Act. I sincerely hope that the ability of the agency to issue section 402 permits including general area permits² will permit it to meet the present and future compliance problems posed by the Act in a practical way.

All Citations

568 F.2d 1369, 10 ERC 2025, 186 U.S.App.D.C. 147, 8 Env'tl. L. Rep. 20,028

Footnotes

* For convenience the court will refer to this case hereafter as NRDC v. Costle (Runoff Point Sources).

- 1 33 U.S.C. ss 1251-1376 (Supp. V 1975). Although characterized in the official title as “amendments”, the 1972 FWPCA actually
substitutes its provisions for those of the pre-1972 Federal Water Pollution Control Act as amended, id. ss 1151-1175 (1970).
- 2 This case deals with s 402 of the FWPCA, 33 U.S.C. s 1342 (Supp. V 1975), which sets out the permitting authority of the
EPA Administrator as well as that of the states under EPA-approved state permit programs. The Secretary of the Army also
has a permitting authority in certain circumstances. Under s 404 of the FWPCA, 33 U.S.C. s 1344 (Supp. V 1975), he may
issue permits for the discharge of dredged or fill material into navigable waters.
- 3 40 C.F.R. s 125.4 (1975). See 38 Fed.Reg. 18000-04 (1973).
- 4 33 U.S.C. s 1362(14) (Supp. V 1975).
- 5 40 C.F.R. s 125.4 (1975):
The following do not require an NPDES permit:
(f) Uncontrolled discharges composed entirely of storm runoff when these discharges are uncontaminated by any industrial
or commercial activity, unless the particular storm runoff discharge has been identified by the Regional Administrator, the
State water pollution control agency or an interstate agency as a significant contributor of pollution. (It is anticipated that
significant contributors of pollution will be identified in connection with the development of plans pursuant to section 303(e)
of the Act. This exclusion applies only to separate storm sewers. Discharges from combined sewers and bypass sewers are
not excluded.)
(j) Discharges of pollutants from agricultural and silvicultural activities, including irrigation return flow and runoff from
orchards, cultivated crops, pastures, rangelands, and forest lands, except that this exclusion shall not apply to the following:
(1) Discharges from animal confinement facilities, if such facility or facilities contain, or at any time during the previous 12
months contained, for a total of 30 days or more, any of the following types of animals at or in excess of the number listed
for each type of animal:
(i) 1,000 slaughter and feeder cattle;
(ii) 700 mature dairy cattle (whether milkers or dry cows);
(iii) 2,500 swine weighing over 55 pounds;
(iv) 10,000 sheep;
(v) 55,000 turkeys;
(vi) If the animal confinement facility has continuous overflow watering, 100,000 laying hens and broilers;
(vii) If the animal confinement facility has liquid manure handling systems, 30,000 laying hens and broilers;
(viii) 5,000 ducks;
(2) Discharges from animal confinement facilities, if such facility or facilities contain, or any time during the previous 12
months contained for a total of 30 days or more, a combination of animals such that the sum of the following numbers is
1,000 or greater: the number of slaughter and feeder cattle multiplied by 1.0, plus the number of mature dairy cattle multiplied
by 1.4, plus the number of swine weighing over 55 pounds multiplied by 0.4, plus the number of sheep multiplied by 0.1;
(3) Discharges from aquatic animal production facilities;
(4) Discharges of irrigation return flow (such as tailwater, tile drainage, surfaced ground water flow or bypass water), operated
by public or private organizations or individuals, if: (1) There is a point source of discharge (e. g., a pipe, ditch, or other defined
or discrete conveyance, whether natural or artificial) and; (2) the return flow is from land areas of more than 3,000 contiguous
acres, or 3,000 non-contiguous acres which use the same drainage system; and
(5) Discharges from any agricultural or silvicultural activity which have been identified by the Regional Administrator or the
Director of the State water pollution control agency or interstate agency as a significant contributor of pollution.
- 6 Briefs as amicus curiae were filed by the American Iron and Steel Institute, the State of Texas, and the State of Washington,
Department of Natural Resources.
- 7 33 U.S.C. s 1251(a) (Supp. V 1975).
- 8 33 U.S.C. s 1311(b)(1)(A) (Supp. V 1975).
- 9 Id. s 1311(b)(2)(A).
- 10 Id. s 1311(a).
- 11 Section 302, 33 U.S.C. s 1312 (Supp. V 1975), permits the Administrator to set water quality related effluent limitations or
control strategies where technology-based limitations are inadequate. Section 306, 33 U.S.C. s 1316 (Supp. V 1975), instructs
the EPA Administrator to promulgate standards of performance for new sources of pollution constructed after those standards
are proposed. Section 307, 33 U.S.C. s 1317 (Supp. V 1975), gives the EPA Administrator the authority to issue generally
applicable effluent standards with respect to toxic substances and to require pretreatment of some pollutants before their
introduction into treatment works. By virtue of s 318, 33 U.S.C. s 1328 (Supp. V 1975), the Administrator may “permit the
discharge of a specific pollutant or pollutants under controlled conditions associated with an approved aquaculture project

under Federal or State supervision.” Section 404, [33 U.S.C. s 1344 \(Supp. V 1975\)](#), gives the Secretary of the Army authority to issue permits for the discharge of dredged or fill material into the navigable waters at specified disposal sites.

12 “The Administrator of the Environmental Protection Agency is authorized to regulate discharge of pollutants through the use of an expanded permit program.” 117 Cong.Rec. 38800 (1971) (Senator Muskie) (emphasis added), reprinted in 2 Environmental Policy Div., Congressional Reference Serv., A Legislative History of the Water Pollution Control Act Amendments of 1972, at 1259 (Senate Public Works Comm. Print 1973) (hereinafter cited as Legislative History).

13 H.Rep.No.92-911, 92d Cong., 2d Sess. 100 (1972), reprinted in Legislative History at 787.

14 [S.Rep.No.92-414](#), 92d Cong., 1st Sess. 42 (1971), reprinted in Legislative History at 1460; U.S.Code Cong. & Admin.News 1972, pp. 3668, 3709.

15 117 Cong.Rec. 38805 (1971), reprinted in Legislative History at 1272. See also the comments of Senator Montoya on the original Senate bill.

Your committee has placed before you a tough bill. This body and this Nation would not have it be otherwise. Our legislation contains an important principle of psychology: Men seldom draw the best from themselves unless pressed by circumstances and deadlines. This bill contains deadlines and it imposes rather tough standards on industry, municipalities, and all other sources of pollution. Only under such conditions are we likely to press the technological threshold of invention into new and imaginative developments that will allow us to meet the objectives stated in our bill.

117 Cong.Rec. 38808 (1971), reprinted in Legislative History at 1278.

16 118 Cong.Rec. 10215 (1972) (Rep. Clausen), reprinted in Legislative History at 378. See, e. g., H.R.Rep.No.92-911 92d Cong., 2d Sess. 100 (1972), reprinted in Legislative History at 787; [S.Rep.No.92-414](#); 92d Cong., 1st Sess. 42-43 (1971), reprinted in Legislative History at 1460-61; 118 Cong.Rec. 10661 (1972) (Rep. Podell), reprinted in Legislative History at 574.

17 The House rejected an amendment designed to avoid the problems of including irrigation return flows in the permit program. Congressman Teno Roncalio of Wyoming offered an amendment on the floor of the House that would have explicitly exempted irrigated agriculture from the NPDES permit program.

Mr. RONCALIO. . . .

I offer my amendment so that a serious omission to H.R. 11896 can be corrected before we end up with a law that would be virtually impossible to enforce. My amendment would specifically exempt irrigated agriculture from sections 301(a), 302 and 304 of the Federal Water Pollution Control Act.

I think my colleagues will agree that the type of salinity problems created by irrigation runoff are simply not as alarming as the more common pollutants discharged by industrial and municipal facilities. Substantial salinity concentrations have little effect on recreational use of water or its suitability for the propagation of fish.

My amendment is necessary, Mr. Chairman, because at the present time we could not enforce pollution control on irrigation systems. It is virtually impossible to trace pollutants to specific irrigation lands, making these pollutants a nonpoint source in most cases. Second, we do not have the technology to deal with irrigation runoff (as contrasted to industrial pollution) and if we begin making laws to control something that cannot be handled with our given technological knowledge, we will be doing many thousand farmers and ranchers a great disservice. In fact, we will be doing the Federal Government a great disservice if we actually pass a Federal water pollution control bill that cannot be fully enforced.

118 Cong.Rec. 10764-65 (1972), reprinted in Legislative History at 651. The amendment was rejected.

18 See FWPCA [s 502\(11\)](#), [33 U.S.C. s 1362\(11\)](#) (Supp. V 1975):

The term “effluent limitation” means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.

19 As one commentator has recently written:

The Tragedy of the Commons arises in noncentralized decisionmaking under conditions in which the rational but independent pursuit by each decisionmaker of its own self-interest leads to results that leave all decisionmakers worse off than they would have had they been able to agree collectively on a different set of policies.

Stewart, [Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy](#), 86 *Yale L.J.* 1196, 1211 (1977). The classic account of the Tragedy of the Commons can be found in Hardin, *The Tragedy of the Commons*, 162 *Science* 1243 (1968). Hardin makes the point in the context of sheep-grazing. Put simply, even over-simply, Hardin shows that if no one is authorized to set limits to preserve open pasture land as a whole, allowing sheep to graze on that land may lead to serious overgrazing, as each herdsman thinks only of his own advantage. The solution lies in some mandate, from above or by agreement, with sanctions to compel conformance.

20 In *NRDC v. Train*, this court stated:

A federal equity court may exercise its discretion to give or withhold its mandate in furtherance of the public interest, including specifically the interest in effectuating the congressional objective incorporated in regulatory legislation. We think the court may forebear the issuance of an order in those cases where it is convinced by the official involved that he has in good faith employed the utmost diligence in discharging his statutory responsibilities. The sound discretion of an equity court does not embrace enforcement through contempt of a party's duty to comply with an order that calls him "to do an impossibility."

166 U.S.App.D.C. at 333, 510 F.2d at 713 (footnotes omitted). For reasons stated in this opinion, we conclude that to require the EPA Administrator to include silvicultural, agricultural, and storm sewer point sources in the NPDES program is not to require him "to do an impossibility."

21 That Congress did not regard numeric effluent limitations as the only permissible limitation on a discharger is supported by s 302(a) of the Act, 33 U.S.C. s 1312(a) (Supp. V 1975):

Whenever, in the judgment of the Administrator, discharges of pollutants from a point source or group of point sources, with the application of effluent limitations required under (s 301(b) of the Act), would interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitations (including alternative effluent control strategies) for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality.

The emphasis has been added.

22 FWPCA s 402(a)(3), (b)(2)(B), 33 U.S.C. s 1342(a)(3), (b)(2)(B) (Supp. V 1975). EPA concedes that it has this authority. Federal Appellants' Memorandum on "Impossibility" at 14.

23 Affidavit of William H. McCredie, Director, Industrial Forestry, of the NFPA; Affidavit of Walter G. Gilbert, Chief of the Municipal Operations Branch, Municipal Waste Water Systems Div., EPA Office of Air and Water Programs.

24 In Permian Basin the Supreme Court observed:

The Commission has asserted, and the history of producer regulation has confirmed, that the ultimate achievement of the Commission's regulatory purposes may easily depend upon the contrivance of more expeditious administrative methods. The Commission believes that the elements of such methods may be found in area proceedings. "(C)onsiderations of feasibility and practicality are certainly germane" to the issues before us. . . . We cannot, in these circumstances, conclude that Congress has given authority inadequate to achieve with reasonable effectiveness the purposes for which it has acted.

390 U.S. at 777, 88 S.Ct. at 1365.

25 It is also of some, albeit limited, significance that the House Committee on Government Operations found EPA's administrative problems with applying the permit program to animal feedlots "grossly exaggerated." It was of the opinion that the Administrator did not have authority to exempt point sources from the NPDES program. H.Rep.No.93-1012, 93d Cong., 2d Sess. 15-30 (1974).

26 The Supreme Court recently reiterated this instruction in *Union Electric Co. v. EPA*, 427 U.S. 246, 96 S.Ct. 2518, 49 L.Ed.2d 474 (1976). There the Court held that the EPA Administrator could not consider claims of technological or economic infeasibility when approving state implementation plans under the Clean Air Act Amendments of 1970, 42 U.S.C. ss 1857a-1857I (1970). Such claims were held only to be cognizable by the states in the plan design stage or by the Administrator when drawing up compliance orders. Justice Marshall, writing for the Court, emphasized that federal courts are not to ignore clear expressions of Congressional intent in order to accommodate claims of technological or economic infeasibility.

Allowing such claims to be raised by appealing the Administrator's approval of an implementation plan . . . would frustrate congressional intent. It would permit a proposed plan to be struck down as infeasible before it is given a chance to work, even though Congress clearly contemplated that some plans would be infeasible when proposed. And it would permit the Administrator or a federal court to reject a State's legislative choices in regulating air pollution, even though Congress plainly left with the States, so long as the national standards were met, the power to determine which sources would be burdened by regulation and to what extent. Technology forcing is a concept somewhat new to our national experience and it necessarily entails certain risks. But Congress considered those risks in passing the 1970 Amendments and decided that the dangers posed by uncontrolled air pollution made them worth taking. Petitioner's theory would render that considered legislative judgment a nullity, and that is a result we refuse to reach.

427 U.S. at 268-69, 96 S.Ct. at 2531 (footnote omitted). See also *Wilderness Society v. Morton*, 156 U.S.App.D.C. 121, 171, 479 F.2d 842, 892 (1973), cert. denied, 411 U.S. 917, 93 S.Ct. 1550, 36 L.Ed.2d 309 (quoting *United States v. City and County of San Francisco*, 310 U.S. 16, 31-32, 60 S.Ct. 749, 84 L.Ed. 1050 (1940): "We cannot accept the contention that administrative rulings such as those relied on can thwart the plain purpose of a valid law.' ")

27 33 U.S.C. s 1342(a)(3), (b)(1)(B) (Supp. V 1975).

- 28 This appears to be the position of the Colorado River Water Conservation District and the NFPA with respect to silvicultural activities, and NMPF, less obviously, with respect to small dairy farms.
We would put in the same category EPA's contention that the exempt categories are best handled under the areawide waste treatment management planning process of s 208 of the FWPCA, 33 U.S.C. s 1288 (Supp. V 1975). By its terms that section is concerned with areawide waste treatment plans that identify and control "agriculturally and silviculturally related non-point sources of pollution." *Id.* s 1288(b)(2)(F).
- 29 See, e. g., 118 Cong.Rec. 10235 (1972) (Rep. Ichord) reprinted in Legislative History at 428.
- 1 Comments of Senator Montoya, 117 Cong.Rec. 38808 (1971), quoted in court's opinion at 12, reprinted in Legislative History at 1278.
- 2 As an example, an area permit with appropriate conditions and modifications could issue for the agricultural point sources within the Grand River Irrigation District, or the watershed of the Roaring Fork River and tributaries, etc.

ATTACHMENT C-2

 KeyCite Yellow Flag - Negative Treatment

Distinguished by [Northwest Environmental Advocates v. U.S. E.P.A.](#), N.D.Cal., March 30, 2005

966 F.2d 1292

United States Court of Appeals,
Ninth Circuit.

NATURAL RESOURCES DEFENSE COUNCIL, INC., Petitioner,

v.

[UNITED STATES ENVIRONMENTAL PROTECTION AGENCY](#), Respondent,
[Battery Council International](#), et al., Respondents–Intervenors.

Nos. 90–70671, 91–70200.

|
Argued and Submitted Oct. 9, 1991.

|
Decided June 4, 1992.

Environmental group sought review of Environmental Protection Agency's (EPA's) Clean Water Act storm water discharge rule. The Court of Appeals, [Ferguson](#), Senior Circuit Judge, held that: (1) the EPA's failure to include deadlines for permit approval or denial and compliance consistent with Clean Water Act was arbitrary and capricious, although injunctive relief was not warranted; (2) EPA's definition of municipal separate storm sewer serving a population was not arbitrary and capricious; and (3) EPA rule excluding various types of light industry and construction sites of less than five acres from application of rule was arbitrary and capricious.

Petition for review granted in part and denied in part.

[O'Scannlain](#), Circuit Judge, filed an opinion concurring in part and dissenting in part.

West Headnotes (15)

[1] Declaratory Judgment  Federal officers and boards

Question of whether Environmental Protection Agency (EPA) is bound by statutory scheme set by Congress is legal one, and, thus, request for declaratory relief from EPA's failure to issue storm water permitting regulations by particular date was ripe for consideration by court. Federal Water Pollution Control Act Amendments of 1972, §§ 101–606, 101(a), 402(l, p), 502(14), as amended, 33 U.S.C.A. §§ 1251–1387, 1251(a), 1342(l, p), 1362(14).

[8 Cases that cite this headnote](#)

[2] Declaratory Judgment  Necessity, utility and propriety

Declaratory Judgment  Termination or settlement of controversy

For purposes of granting declaratory relief, court considers whether judgment will clarify and settle legal relations at issue and whether it will afford relief from uncertainty and controversy giving rise to proceedings.

[19 Cases that cite this headnote](#)

[3] Environmental Law 🔑 Regulations and rulemaking in general

Environmental Protection Agency (EPA) lacks authority to ignore unambiguous deadlines set by Congress for issuing regulations.

[1 Cases that cite this headnote](#)

[4] Injunction 🔑 Ease or difficulty of enforcement

Injunctive relief may be inappropriate if it requires constant supervision by the court.

[16 Cases that cite this headnote](#)

[5] Environmental Law 🔑 Injunction

Court of Appeals would not enjoin Environmental Protection Agency (EPA) from further extensions of deadline for permit applications for municipal and industrial discharges as to do so would require extensive supervision of EPA by Court; Court would operate on assumption that EPA would follow dictates of Congress and Court.

[3 Cases that cite this headnote](#)

[6] Environmental Law 🔑 Discharge of pollutants

Environmental Protection Agency's (EPA's) failure to include final approval and compliance deadlines for permit applications for storm water discharges associated with industrial activities in large municipalities was arbitrary and capricious exercise of its responsibility to issue regulations pursuant to Clean Water Act. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(4)(A, B), as amended, [33 U.S.C.A. § 1342\(p\)\(4\)\(A, B\)](#).

[6 Cases that cite this headnote](#)

[7] Environmental Law 🔑 Discharge of pollutants

Even if Environmental Protection Agency (EPA) was failing to proceed so that regulations for approval and compliance with permit applications for storm water discharges would be in place for small systems by deadline in Clean Water Act, small systems could not be put on same schedule as medium ones, as Clean Water Act did not require regulation of small systems prior to expiration of moratorium. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(1), (p)(4)(A, B), (p)(6), as amended, [33 U.S.C.A. § 1342\(p\)\(1\), \(p\)\(4\)\(A, B\), \(p\)\(6\)](#).

[Cases that cite this headnote](#)

[8] Environmental Law 🔑 Discharge of pollutants

Despite Environmental Protection Agency's (EPA's) unlawful delay in establishing comprehensive program for permit approval and compliance with Clean Water Act storm water discharge rule, EPA's schedule calling for immediate municipal system applications due six months after applications for large municipal systems was within statutory scheme in its relation to schedule for large systems and was not unreasonable. Federal Water Pollution Control Act Amendments of 1972, § 402(p), (p)(2)(C, D), (p)(4)(B), as amended, [33 U.S.C.A. § 1342\(p\), \(p\)\(2\)\(C, D\), \(p\)\(4\)\(B\)](#).

[Cases that cite this headnote](#)

[9] [Environmental Law](#) 🔑 [Sewage and sewers](#)

Environmental Protection Agency's (EPA's) definition of phrase “municipal separate store sewer system serving a population” in regulations for implementing the Clean Water Act storm water discharge rule, while complex and possibly convoluted, was not arbitrary and capricious; EPA defined phrase by considering factors such as its own workload, the incorporation status of municipalities, and urban density. Federal Water Pollution Control Act Amendments of 1972, §§ 402(p)(2), 502, 502(4), as amended, 33 U.S.C.A. §§ 1342(p)(2), 1362, 1362(4).

[15 Cases that cite this headnote](#)

[10] [Environmental Law](#) 🔑 [Substances, Sources, and Activities Regulated](#)

Environmental Protection Agency's (EPA's) rules excluding various types of light industry and construction sites of less than five acres from application of Clean Water Act storm water discharge rule were arbitrary and capricious absent support in record for assumption that industrial activity or light industry would take place indoors and generate minimal amounts of particles and emissions. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(2)(B), as amended, 33 U.S.C.A. § 1342(p)(2)(B).

[7 Cases that cite this headnote](#)

[11] [Environmental Law](#) 🔑 [Substances, Sources, and Activities Regulated](#)

Environmental Protection Agency's (EPA's) exemption from Clean Water Act storm water discharge rule for construction sites of less than five acres, as increased from original proposal of exemption for sites of less than one acre, was arbitrary and capricious absent support in record for EPA's perception that construction activities on less than five acres were nonindustrial in nature. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(2)(B), as amended, 33 U.S.C.A. § 1342(p)(2)(B).

[8 Cases that cite this headnote](#)

[12] [Environmental Law](#) 🔑 [Substances, Sources, and Activities Regulated](#)

For purposes of setting rules for application of storm water discharge regulations in Clean Water Act, EPA lacked agency power to make categorical exemptions where result was de minimis. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(2)(B), as amended, 33 U.S.C.A. § 1342(p)(2)(B).

[7 Cases that cite this headnote](#)

[13] [Environmental Law](#) 🔑 [Sewage and sewers](#)

Environmental Protection Agency's (EPA's) exemption from permit requirements under Clean Water Act storm water discharge rule for uncontaminated runoff from mining, oil, and gas facilities was not arbitrary and capricious; conference report gave administrator discretion to determine when contamination had occurred with respect to overburden, raw materials, waste products, and other items. Federal Water Pollution Control Act Amendments of 1972, § 402(l)(2), as amended, 33 U.S.C.A. § 1342(l)(2).

[12 Cases that cite this headnote](#)

[14] [Environmental Law](#) 🔑 [Substances, Sources, and Activities Regulated](#)

Environmental Protection Agency (EPA) established substantive controls for municipal storm water discharges required by amendments to Clean Water Act as result of administrator's discretion to determine which controls were necessary. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3)(A, B), as amended, [33 U.S.C.A. § 1342\(p\)\(3\)\(A, B\)](#).

[5 Cases that cite this headnote](#)

[15] Administrative Law and Procedure 🔑 Notice and comment, necessity

Environmental Law 🔑 Discharge of pollutants

Environmental Protection Agency's (EPA's) group permit application process for industrial dischargers under Clean Water Act storm sewage discharge rules was not invalid despite its failure to provide for notice and comment, as approval of part 1 application was essentially factual determination. [5 U.S.C.A. §§ 551\(4\), 553](#).

[11 Cases that cite this headnote](#)

Attorneys and Law Firms

***1294** [Robert W. Adler](#), Natural Resources Defense Council, Washington, D.C., for petitioner.

[Daniel S. Goodman](#), U.S. Dept. of Justice, Washington, D.C., for respondent.

***1295** Petition for Review of a Rule Promulgated by the Environmental Protection Agency.

Before [PREGERSON](#), [FERGUSON](#), and [O'SCANNLAIN](#), Circuit Judges.

Opinion

[FERGUSON](#), Senior Circuit Judge:

The Natural Resources Defense Council (“NRDC”) challenges aspects of the Environmental Protection Agency's (“EPA”) recent Clean Water Act storm water discharge rule.¹ NRDC argues that the deadlines contained in the rule and the scope of its coverage are unlawful under section 402(l), (p) of the Clean Water Act, [33 U.S.C. § 1342\(l\), \(p\)](#). We grant partial relief.

I. BACKGROUND

In 1972 Congress enacted significant amendments to the Clean Water Act (“CWA”),² [33 U.S.C. §§ 1251–1387 \(1988\)](#), “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” [33 U.S.C. § 1251\(a\)](#). One major focus of the CWA is the control of “point source” pollution. A “point source” is “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel ... from which pollutants are or may be discharged.” [33 U.S.C. § 1362\(14\)](#). The CWA also established the National Pollutant Discharge Elimination System (“NPDES”), requiring permits for any discharge of pollutants from a point source pursuant to section 402 of the CWA, [33 U.S.C. § 1342](#). The CWA empowers EPA or an authorized state to conduct an NPDES permitting program. [33 U.S.C. § 1342\(a\)–\(b\)](#). Under the program, as long as the permit issued contains conditions that implement the requirements of the CWA, the EPA may issue a permit for discharge of any pollutant. [33 U.S.C. § 1342\(a\)\(1\)](#).

This case involves runoff from diffuse sources that eventually passes through storm sewer systems and is thus subject to the NPDES permit program. See [National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Application Deadlines](#), 56 Fed.Reg. 56,548 (1991). One recent study concluded that pollution from such sources, including runoff from urban areas, construction sites, and agricultural land, is now a leading cause of water quality impairment. 55 Fed.Reg. at 47,991.³

A. Efforts to Regulate Storm Water Discharge.

Following the enactment of the CWA amendments in 1972, EPA promulgated NPDES permit regulations exempting a number of classes of point sources, including uncontaminated storm water discharge, on the basis of “administrative infeasibility,” i.e., the extraordinary administrative burden imposed on EPA should it have to issue permits for possibly millions of point sources of runoff. *Natural Resources Defense Council v. Costle*, 568 F.2d 1369, 1372 & n. 5, 1377 (D.C.Cir.1977). NRDC *1296 challenged the exemptions. Relying on the language of the statute, its legislative history and precedent, the D.C. Circuit held that the EPA Administrator did not have the authority to create categorical exemptions from regulation. *Id.* at 1379. However, the court acknowledged the agency's discretion to shape permits in ways “not inconsistent with the clear terms of the Act.” *Id.* at 1382.

Following this litigation, EPA promulgated regulations covering storm water discharges in 1979, 1980 and 1984. 56 Fed.Reg. 56,548. NRDC challenged various aspects of these rules both at the administrative level as well as in the courts.

Recognizing both the environmental threat posed by storm water runoff⁴ and EPA's problems in implementing regulations,⁵ Congress passed the Water Quality Act of 1987⁶ containing amendments to the CWA (“the 1987 amendments”), portions of which set up a new scheme for regulation of storm water runoff. Section 402(p), as amended, established deadlines by which certain storm water dischargers must apply for permits, the EPA or states must act on permits and dischargers must implement their permits. See Appendix A. The Act also set up a moratorium on permitting requirements for most storm water discharges, which ends on October 1, 1992. There are five exceptions that are required to obtain permits before that date:

- (A) A discharge with respect to which a permit has been issued under this section before February 4, 1987.
- (B) A discharge associated with industrial activity.
- (C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.
- (D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000.
- (E) A discharge for which the Administrator or the State, ... determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

CWA § 402(p)(2); 33 U.S.C. § 1342(p)(2).

Section 402(p) also outlines an incremental or “phase-in” approach to issuance of storm water discharge permits. The purpose of this approach was to allow EPA and the states to focus their attention on the most serious problems first. 133 Cong.Rec. 991 (1987). Section 402(p) requires EPA to promulgate rules regulating permit application procedures in a staggered fashion.

Responding to the 1987 amendments requiring the EPA to issue permit application requirements for storm water discharges associated with industrial activities and large municipalities, the EPA issued final rules on November 16, 1990,

almost two years after its deadline (“the November 1990 rule”). 55 Fed.Reg. at 47,990. EPA issued amended rules on March 21, 1991 (“the March 1991 rule”). 56 Fed.Reg. at 12,098. It is to portions of these rules that NRDC objects.

B. Jurisdiction.

We have jurisdiction pursuant to CWA § 509(b)(1), 33 U.S.C. § 1369(b)(1). Section 509(b)(1) describes six types of actions by the EPA administrator that are subject to review in the court of appeals. Although the parties do not specify the section upon which they rely, § 509(b)(1)(F), 33 U.S.C. § 1369(b)(1)(F) allows the court to review *1297 the issuance or denial of a permit under CWA § 402, 33 U.S.C. § 1342. The court also has the power to review rules that regulate the underlying permit procedures. *NRDC v. EPA*, 656 F.2d 768, 775 (D.C.Cir.1981); cf. *E.I. DuPont de Nemours & Co. v. Train*, 430 U.S. 112, 136, 97 S.Ct. 965, 979, 51 L.Ed.2d 204 (1977). NRDC filed timely petitions for review of the final rules at issue here pursuant to CWA § 509(b)(1), 33 U.S.C. 1369(b)(1).

C. Standing.

Any “interested person” may seek review of designated actions of the EPA Administrator. 33 U.S.C. § 1369(b)(1). This court has held that the injury-in-fact rule for standing of *Sierra Club v. Morton*, 405 U.S. 727, 733, 92 S.Ct. 1361, 1365, 31 L.Ed.2d 636 (1972) covers the “interested person” language. *Trustees for Alaska v. EPA*, 749 F.2d 549, 554 (9th Cir.1984) (adopting the analysis in *Montgomery Environmental Coalition v. Costle*, 646 F.2d 568, 578 (D.C.Cir.1980)). A petitioner under *Sierra Club* must suffer adverse affects to her economic interests or “[a]esthetic and environmental well-being.” *Sierra Club*, 405 U.S. at 734, 92 S.Ct. at 1366. Intervenors are various industry and trade groups subject to regulation under the rules at issue. NRDC claims, inter alia, that EPA has delayed unlawfully promulgation of storm water regulations and that its regulations, as published, inadequately control storm water contaminants. NRDC's allegations and the potential economic impact of the rules on the intervenors satisfy the broad standing requirement applicable here.

II. DISCUSSION

A. Standard of Review.

5 U.S.C. § 706(2)(A) (1988) authorizes the court to “set aside agency action ... found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” Under this standard a court must find a “rational connection between the facts found and the choice made.” *Sierra Pacific Indus.*, 866 F.2d 1099, 1105 (9th Cir.1989) (citing *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43, 103 S.Ct. 2856, 2866, 77 L.Ed.2d 443 (1983)). The court must decide whether the agency considered the relevant factors and whether there has been a clear error of judgment. *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416, 91 S.Ct. 814, 823, 28 L.Ed.2d 136 (1971).

On questions of statutory construction, courts must carry out the unambiguously expressed intent of Congress. If a statute is “silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute.” *Chevron U.S.A. Inc. v. Natural Resources Defense Council Inc.*, 467 U.S. 837, 843, 104 S.Ct. 2778, 2782, 81 L.Ed.2d 694 (1984). Congress may leave an explicit gap, thus delegating legislative authority to an agency subject to the arbitrary and capricious standard. *Id.* at 843–44, 104 S.Ct. at 2781–82. If legislative delegation is implicit, courts must defer to an agency's statutory interpretation as long as it is reasonable. *Id.* at 844, 104 S.Ct. at 2782. This is because an agency has technical expertise as well as the authority to reconcile conflicting policies. *See id.* Nevertheless, questions of congressional intent that can be answered with “traditional tools of statutory construction” are still firmly within the province of the courts. *INS v. Cardoza-Fonseca*, 480 U.S. 421, 447–48, 107 S.Ct. 1207, 1221, 94 L.Ed.2d 434 (1987).

B. EPA's Extension of Statutory Deadlines.

1. *Background.*

NRDC challenges EPA's extension of certain statutory deadlines in the November 1990 and March 1991 rules. The statutory scheme calls for EPA to consider permit applications from the most serious sources of pollutants first: industrial dischargers and large municipal separate storm sewer systems ("large systems").⁷ The statute required EPA to establish regulations *1298 for permit application requirements for these two groups by February 4, 1989; to receive applications for permits one year later, February 4, 1990; and to approve or deny the permits by February 4, 1991. Permittees may be given up to three years to comply with their permits. CWA § 402(p)(4)(A), 33 U.S.C. § 1342(p)(4)(A). Medium sized municipal separate storm sewer systems ("medium systems") (those serving a population of 100,000 or more but less than 250,000) are on a similar schedule, except that the deadlines are two years later. CWA § 402(p)(4)(B), 33 U.S.C. § 1342(p)(4)(B). The temporary statutory exemption for all storm water sources expires on October 1, 1992. CWA § 402(p)(1), 33 U.S.C. § 1342(p)(1). EPA states that discharges from municipal separate storm sewer systems serving a population of under 100,000 are to be regulated after that date.

The EPA rules at issue changed the statutory deadlines as follows:

Deadlines pursuant to			EPA
CWA § 402(p) ⁸			Deadlines ⁹
Discharge type	Deadline to issue rules	Deadline for application and approval of permits	Application deadlines
Industrial	2/4/89	2/4/90—applications due 2/4/91—approval due	See below
Large municipal systems	2/4/89	2/4/90—applications due 2/4/91—approval	Part 1— 11/18/91 Part 2— 11/16/92
Medium municipal systems	2/4/91	2/4/92—applications due 2/4/93—approval due	Part 1— 5/18/92 Part 2— 5/17/93

EPA Application Deadlines for "Industrial Activity" Dischargers

Individual

Group

due 11/18/91

Part 1—9/30/91; Part 2—10/1/92

As the chart illustrates, EPA made other elaborations on the statutory scheme in addition to extending the deadlines. Medium and large municipal systems and industrial dischargers are now subject to a two-part application process. [55 Fed.Reg. at 48,072](#). The November 1990 rules allow industrial dischargers to apply for either individual or group permits. *Id.* at 48,066– *1299 67. The March 1991 rules further extended the deadline for part 1 of the group industrial discharger permits to September 30, 1991. ¹⁰ [56 Fed.Reg. at 12,098](#). A final rule published on April 2, 1992 extended the deadline for the part 2 group application for industrial dischargers from May 18, 1992 to October 1, 1992. [57 Fed.Reg. at 11,394](#). The EPA rules at issue contain neither deadlines for final EPA or state approval of permits nor deadlines for compliance with the permit terms.

Seeking to compel the EPA to conform to the statutory scheme, NRDC asks this court:

- a) to declare unlawful EPA's failure to issue certain of the storm water permitting regulations by February 4, 1989 and EPA's extension of certain statutory deadlines;
- b) to enjoin EPA from granting future extensions of the deadlines;
- c) to compel EPA to include deadlines for permit approval or denial and permit compliance consistent with the statute; and
- d) to compel EPA to require that medium and small municipal systems meet the same deadlines as large systems.

2. Discussion.

a. Request for Declaratory Relief.

NRDC asks the court to (1) declare unlawful EPA's failure to issue storm water permitting regulations by February 4, 1989; and (2) declare unlawful EPA's extension of deadlines for submission of permit applications by large and medium systems and individual industrial dischargers.

[1] A request for declaratory relief in a challenge to an agency action is ripe for review if the action at issue is final and the questions involved are legal ones. *Public Util. Dist. No. 1 v. Bonneville Power Admin.*, 947 F.2d 386, 390 n. 1 (9th Cir.1991) (citations omitted), *cert. denied*, 503 U.S. 1004, 112 S.Ct. 1759, 118 L.Ed.2d 422 (1992). Here, the agency regulations are final. *See* [55 Fed.Reg. at 47,990](#), [56 Fed.Reg. at 12,096](#). The question of whether the EPA is bound by the statutory scheme set by Congress is a legal one. The request for declaratory relief is therefore ripe for consideration by this court.

[2] The granting of declaratory relief “rests in the sound discretion of the [] court exercised in the public interest.” 10A Charles A. Wright, Arthur R. Miller & Mary K. Kane, *Federal Practice & Civil Procedure* § 2759, at 645 (1983). The guiding principles are whether a judgment will clarify and settle the legal relations at issue and whether it will afford relief from the uncertainty and controversy giving rise to the proceedings. *McGraw-Edison Co. v. Preformed Line Products Co.*, 362 F.2d 339, 342 (9th Cir.) (citing Borchard, *Declaratory Judgments* 299 (2d ed. 1941)), *cert. denied*, 385 U.S. 919, 87 S.Ct. 229, 17 L.Ed.2d 143 (1966). A court declaration delineates important rights and responsibilities and can be “a message not only to the parties but also to the public and has significant educational and lasting importance.” *Bilbrey by Bilbrey v. Brown*, 738 F.2d 1462, 1471 (9th Cir.1984). Because of the importance of the interests and the principles at stake, we grant declaratory relief.

[3] EPA does not have the authority to ignore unambiguous deadlines set by Congress. *Delaney v. EPA*, 898 F.2d 687, 691 (9th Cir.), *cert. denied*, 498 U.S. 998, 111 S.Ct. 556, 112 L.Ed.2d 563 (1990). In arguing against injunctive relief, EPA points to cases recognizing factors indicating that equitable relief may be inappropriate. *See, e.g., In re*

Barr Laboratories, Inc., 930 F.2d 72, 74 (D.C.Cir.) (agency's choice of priorities is an important factor in considering whether to grant equitable relief), *cert. denied*, 502 U.S. 906, 112 S.Ct. 297, 116 L.Ed.2d 241 (1991); *Natural Resources Defense Council v. Train*, 510 F.2d 692, 712 (D.C.Cir.1975) (court may need to give *1300 agency some leeway due to budgetary commitments or technological problems); *Environmental Defense Fund v. Thomas*, 627 F.Supp. 566, 569–70 (D.D.C.1986) (EPA's good faith is a factor). None of these factors militates against an award of declaratory relief. They do not grant an executive agency the authority to bypass explicit congressional deadlines. The deadlines are not aspirational—Congress set them and expected compliance. *See* 132 Cong.Rec. 32,381–82 (remarks of Senator Stafford, commenting on EPA delay and the establishment of statutory deadlines as “outside dates.”) This court must uphold adherence to the law, and cannot condone the failure of an executive agency to conform to express statutory requirements. For these reasons, we grant NRDC's request for declaratory relief. EPA's failure to abide by the statutory deadlines is unlawful.

b. Request for Injunction.

NRDC asks the Court to enjoin the EPA from further extensions for permit applications from municipal and industrial dischargers. Injunctions are an extraordinary remedy issued at a court's discretion when there is a compelling need. 11 Charles A. Wright & Arthur R. Miller, *Federal Practice & Procedure* § 2942, at 365, 368–69 (1973). We decline to enjoin the EPA on discretionary grounds.

[4] Injunctive relief could involve extraordinary supervision by this court. Injunctive relief may be inappropriate where it requires constant supervision. *Id.* at 376. At issue are deadlines for the three major categories of dischargers, each of which has a two-part application. The permitting process will go on for several years. While recognizing the importance of the interests involved, we nevertheless decline to engage in the active management of such a remedy.

[5] In this situation, we must operate on the assumption that an agency will follow the dictates of Congress and the court. As noted above, the EPA does not have the authority to predicate future rules or deadlines in disagreement with this opinion. *See Allegheny General Hosp. v. NLRB*, 608 F.2d 965, 970 (3rd Cir.1979). We presume that the EPA will duly perform its statutory duties. *See Upholstered Furniture Action Council v. California Bureau of Home Furnishing*, 442 F.Supp. 565, 568 (E.D.Cal.1977) (three judge court). Because we decline to take on potentially extensive supervision of the EPA, Congress may need to find other ways to ensure compliance if the agency is recalcitrant.

c. Deadlines for Permit Approval and Compliance.

NRDC requests that the court compel EPA to revise the rules to include deadlines for permit approval or denial and permit compliance consistent with the statute. Section 402(p)(4)(A) calls for the EPA to issue or deny permits for industrial and large municipalities by February 4, 1991, which is one year after the applications are submitted, and states that “[a]ny such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of the issuance of such permit.” CWA § 402(p)(4)(A), 33 U.S.C. § 1342(p)(4)(A). The statute sets out a similar schedule for medium municipalities, except that the deadlines are two years later. CWA § 402(p)(4)(B), 33 U.S.C. § 1342(p)(4)(B).

[6] The regulations promulgated by the EPA contain neither final approval deadlines nor compliance deadlines for industrial dischargers or medium and large municipalities. 55 Fed.Reg. at 48,072. By failing to regulate final approval and compliance, EPA has omitted a key component of the statutory scheme. To ensure adherence to the statutory time frame, especially in the face of deadlines already missed, the regulated community must be informed of these deadlines. EPA's failure to include these important deadlines is an arbitrary and capricious exercise of its responsibility to issue regulations pursuant to the statute.

We see no need for additional delay while supplemental regulations are issued. Given the extraordinary delays already encountered, EPA must avoid further delay. ***1301** The regulations should inform the regulated community of the statute's outside dates for compliance.¹¹ See CWA § 402(p)(4)(A)–(B), 33 U.S.C. § 1342(p)(4)(A)–(B).

d. Timeline for Small and Medium Systems.

[7] The parties disagree on when small systems (those serving a population of less than 100,000) should be regulated. As noted above, the temporary statutory exemption for all storm water sources expires on October 1, 1992. The statute requires EPA to establish a comprehensive program to regulate point sources subject to the moratorium, such as small municipalities, by that date. CWA § 401(p)(1), (6), 33 U.S.C. § 1342(p)(1), (6).

Pointing to a perceived statutory gap, NRDC argues that small systems should be subject to the same permitting schedule applicable to medium systems, to assure that they are regulated when the permitting moratorium ends on October 1, 1992. However, the plain language of the statute prohibits this. Section 402(p)(1) forbids requiring a permit for entities not listed as exceptions (such as small municipalities) before October 1, 1992. Yet the deadline for part 1 of the application for medium systems is currently May 18, 1992. 55 Fed.Reg. at 48,072.

Even if NRDC is correct that EPA is not proceeding so that regulations will be in place on October 1, 1992, we cannot ignore the plain language of the statute by adopting NRDC's solution. The CWA does not require regulation of such systems prior to expiration of the moratorium. We therefore reject NRDC's proposal that small systems be put on the same schedule as medium ones.

[8] NRDC asks the court to put the medium systems on the same schedule as the large systems, in order to achieve closer compliance with the timeline set out in § 402(p)(4)(B). However, EPA's current schedule for medium systems, although delayed, is still within the statutory scheme in its relation to the schedule for large systems. That is, Congress placed the medium systems on a staggered permitting schedule to start two years after the large systems and industrial users. The EPA schedule now has medium municipal system applications due six months after the applications for the large municipal systems. 55 Fed.Reg. at 48,072. For this reason, the current deadline for medium municipalities does not appear to be unreasonable despite the unlawful delay.

C. Exclusion of Certain Sources from Regulation.

1. Definition of "Municipal Separate Storm Sewer System."

Section 402(p) refers to "municipal separate storm sewer system[s] serving a population" of a specified size. CWA § 402(p)(2)(C), (D), 33 U.S.C. § 1342(p)(2)(C), (D). NRDC contends that EPA's definition of this term violates the plain language of the statute, fails to take into account the statutory definition of the word "municipality" and is arbitrary and capricious because the agency considered improper factors when it defined the term. All of this, according to NRDC, results in an impermissible narrowing of the municipalities covered by the first two rounds of permitting.

The 1987 amendments to the CWA did not contain definitions of "municipal" or "separate storm sewer system," but the CWA amendments enacted in 1972 defined "municipality" as follows:

[e]xcept as otherwise specifically provided, when used in this chapter: ... (4) The term "municipality" means a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved ***1302** management agency under section 1288 of this title [33 U.S.C. § 1288].

[33 U.S.C. § 1362.](#)

In the November 1990 regulations, the EPA defined “municipal separate storm sewer” as: “a conveyance or system of conveyances ... [o]wned or operated by a State, city, town, borough, county, parish, district, association or other public body...” [55 Fed.Reg. at 48,065](#) (to be codified at [40 C.F.R. § 122.26\(b\)\(8\)](#)). This definition echoes the language of [33 U.S.C. § 1362\(4\)](#). However, when defining large and medium municipal separate storm sewer *systems serving a population* of a specified size, EPA brought in other factors. [55 Fed.Reg. at 48,064](#) (to be codified at [40 C.F.R. § 122.26\(b\)\(4\), \(7\)](#)). EPA defines medium and large separate storm sewer systems using two main categories:

- 1) separate storm sewer systems located in an incorporated place with the requisite population, and
- 2) separate storm sewer systems located in unincorporated, urbanized portions of counties containing the requisite population (as listed in Appendices H and I to the rule), excluding those municipal separate sewers located in incorporated places, townships or towns within such counties.¹² [55 Fed.Reg. at 48,064](#). NRDC opposes this definition for municipal separate storm sewer systems for the reasons explained below.

First, NRDC argues that according to the definitional section cited above and principles of statutory construction, general definitions apply wherever the defined term appears elsewhere in the law. See [33 U.S.C. § 1362](#) (“[e]xcept as otherwise specifically provided” the definitions apply throughout the act); *Sierra Club v. Clark*, [755 F.2d 608, 613 \(8th Cir.1985\)](#). NRDC argues that the scope of the statutory definition of “municipality” in [33 U.S.C. § 1362\(4\)](#) and the scope of the phrase “municipal separate storm sewer system serving a population” are the same. NRDC thus proposes that the correct definition is a system of conveyances owned or operated by the full range of entities described at [33 U.S.C. § 1362\(4\)](#), (cities, towns, etc.) with populations within the ranges designated at § 402(p)(2), i.e., 250,000 or more for large systems and between 100,000 and 250,000 for medium systems.

However, we do not believe that the entire phrase used in the act, “municipal separate storm sewer system serving a population of [a specified size]” can be equated with the term “municipality” in the manner that NRDC proposes. The act contains no definition of either “system” or “serving a population.” The word “system” is particularly ambiguous in the context of storm sewers.¹³ We therefore agree with EPA that there is no single, plain meaning for the disputed words.

Because the term is ambiguous, we must look first to whether Congress addressed the issue in another way. See *Abourezk v. Reagan*, [785 F.2d 1043, 1053 \(D.C.Cir.1986\)](#) (“ [i]f the court finds that Congress had a specific intent ..., the court stops there and enforces that intent regardless of the agency's interpretation”) (citing *Chevron U.S.A. Inc. v. Natural Resources Defense Council Inc.*, [467 U.S. 837, 842–43 & n. 9, 104 S.Ct. 2778, 2781 & n. 9, 81 L.Ed.2d 694 \(1984\)](#)), *aff'd by an equally divided court*, [484 U.S. 1, 108 S.Ct. 252, 98 L.Ed.2d 1 \(1987\)](#). The legislative history is not illuminating. Although it explains that a purpose of the permitting scheme was to attack the most serious sources of discharge first,¹⁴ this general goal is not helpful in discerning the specific meaning of “municipal separate storm sewer system serving a population.” Without clear guidance from Congress, we turn to the agency's justifications ***1303** for its choices in the face of NRDC's objections.

NRDC claims that EPA's definition is arbitrary and capricious because EPA considered improper factors, including its own work load, the incorporation status of municipalities, and urban density. “[A]n agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins.*, [463 U.S. 29, 43, 103 S.Ct. 2856, 2866, 77 L.Ed.2d 443 \(1983\)](#).

EPA's final definition took into account many issues and concerns of the regulated community. *See* 55 Fed.Reg. at 48,039. EPA considered eight different options for defining large and medium municipal separate storm sewer systems. 55 Fed.Reg. at 48,038–43. EPA considered focusing on ownership or operation of a system by an incorporated place, but found that this approach did not take into account systems operated by flood control districts, state transportation systems, or concerns relating to watershed management. It instead fashioned a multi-faceted approach. This choice of approach is not unreasonable.

NRDC challenges EPA's consideration of incorporation as a factor. It claims that limiting regulation to incorporated places of the appropriate size excludes portions of 378 counties that contain over 100,000 people. NRDC essentially contends that because counties are a type of municipality, storm water conveyances in all counties with populations over 100,000 should come within the definition of either medium or large municipal separate storm sewer systems. We have already rejected NRDC's claim that the definition of regulated “systems” must include conveyances in all “municipalities.”

EPA's use of incorporation as a factor is not arbitrary and capricious or inconsistent with the statute. The agency proceeded on the reasonable assumption that cities possess the police powers needed effectively to control land use within their borders. *See* 55 Fed.Reg. at 48,039, 48,043. The first major category within the definition of regulated “systems,” municipal separate storm sewers located within incorporated places having the requisite population, is reasonable.

NRDC questions EPA's second major category, which covers storm sewers located in unincorporated urbanized areas of counties with the designated population, but excludes conveyances located in incorporated places with populations under 100,000 within those counties. The exclusion, however, has a legitimate statutory basis. The statute prohibits EPA from requiring permits for systems serving under 100,000 persons prior to October 1, 1992. CWA § 402(p)(1), 33 U.S.C. § 1342(p)(1). EPA reasonably concluded that conveyances within small incorporated places should be considered parts of small systems limited to those incorporated places, rather than parts of larger systems serving whole counties. EPA's definition attempts to capture population centers of over 100,000 (by including urbanized, unincorporated areas) without violating the congressional stricture against regulation of areas with populations under 100,000 (thus excluding incorporated areas of less than 100,000 within a county).

In arriving at its definition of “municipal separate storm sewer systems serving” a designated population, EPA investigated numerous options and considered comments from a range of viewpoints. We find “a rational connection between the facts found and the choices made.” *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43, 103 S.Ct. at 2866.

NRDC objects to EPA's use of 1980 census data and EPA's definition of urban density. While it appears that NRDC has solid arguments as to why it would be preferable to use 1990 census figures and adopt its method of determining urban density, our role is not to determine whether EPA has chosen the best among all possible *1304 methods. We can only determine if its choices are rational. EPA chose the 1980 census data because it was the most widely available decennial census data at the time of rule formulation and promulgation. Neither this choice nor its use of the Census Bureau's definition of urbanized area is arbitrary and capricious.

EPA took agency work load into account in arriving at its definition. 55 Fed.Reg. at 48,039. NRDC objects on the basis that Congress considered the issue of work load when it developed the “phase-in” approach and allowed permit applications on a system- or jurisdiction-wide basis. However, this broad congressional scheme does not prohibit further consideration of EPA's work load as one among many factors in its attempt to fashion a workable program.

[9] In summary, NRDC's argument that the phrase “municipal separate storm sewer system serving a population” has the plain meaning NRDC proposes is not persuasive. Although EPA's definition in the face of the statute's ambiguity is complex, if not convoluted, it is not arbitrary and capricious, and we therefore reject NRDC's request that the definition be declared invalid.

2. EPA Exemption for Light Industry.

[10] NRDC challenges the portion of the EPA rule excluding various types of “light industry” from the definition of “discharge associated with industrial activity.”

Under CWA § 402(p)(2)(B), a “discharge associated with industrial activity” is an exception to the permit moratorium. In the November rule, EPA modified the statutory scheme by drawing distinctions among light and heavy industry and considering actual exposure to industrial materials. Although the statute does not define “associated with industrial activity,” the EPA definition excludes industries it considers more comparable to retail, commercial or service industries. The excluded categories are manufacturers of pharmaceuticals, paints, varnishes, lacquers, enamels, machinery, computers, electrical equipment, transportation equipment, glass products, fabrics, furniture, paper board, food processors, printers, jewelry, toys and tobacco products. *55 Fed.Reg. at 48,008*. These types of facilities need apply for permits only if certain work areas or actual materials are exposed to storm water. *Id.* EPA justifies these exemptions on the assumption that most of the activity at these types of manufacturers takes place indoors, and that emissions from stacks, use of unhooded manufacturing equipment, outside material storage or disposal, and generation of large amounts of dust and particles will all be minimal. *55 Fed.Reg. at 48,008*.

Thus, EPA considers actual exposure to certain materials or stormwater for the light industry categories, but does not consider actual exposure for the other industrial categories. After careful review of the statutory language and the record, we conclude that this distinction is impermissible.

We note that the language “discharges associated with industrial activity” is very broad. The operative word is “associated.” It is not necessary that storm water be contaminated or come into direct contact with pollutants; only association with any type of industrial activity is necessary.

There is a brief discussion of the issue in the legislative history: “[a] discharge is associated with industrial activity if it is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. Discharges which do not meet this definition include those discharges associated with parking lots and administrative and employee buildings.” 133 Cong.Rec. 985 (1987); *see also* 132 Cong.Rec. 31,968 (1986) (same). EPA argues that the words “directly related” indicate Congress's intent to require permits for only those materials that come in contact with industrial materials. *See 55 Fed.Reg. at 48,007*. However, the examples given—parking lots and administrative buildings—indicate that the intent was to exclude only those facilities or parts of a facility that are completely non-industrial.

EPA's definition follows the language quoted above: “Storm water discharge associated with industrial activity means the *1305 discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant.” 40 C.F.R. § 122.26(b)(14). EPA applies this definition differently depending on type of industry. EPA bases its regulation of industrial activity on Standard Industrial Classification (“SIC”) categories. For most of the industrial SIC categories (identified at 40 C.F.R. § 122.26(b)(i-x)), the EPA definition includes all stormwater discharges from plant yards, access roads and rail lines, material handling sites, storage and disposal sites, shipping and receiving areas, and manufacturing buildings. 40 C.F.R. § 122.26(b)(14). However, for the “light industry” categories identified in 40 C.F.R. § 122.26(b)(14)(xi), stormwater must be actually exposed to raw materials, by-products, waste, etc., before permitting is required.

EPA justifies this difference on the ground that for “light industry,” industrial activity will take place indoors, and that generation of large amounts of particles and emissions will be minimal. There is nothing in the record submitted to the Court however, which supports this assumption. *See, e.g., 55 Fed.Reg. at 48,008*. Without supportable facts, we are unable to rely on our usual assumption that the EPA has rationally exercised the duties delegated to it by Congress. To exempt these industries from the normal permitting process based on an unsubstantiated assumption about the this group of facilities is arbitrary and capricious.

In addition, by designating these light industries as a group that need only apply for permits if actual exposure occurs, EPA impermissibly alters the statutory scheme. The statute did set up a similar approach for oil, gas, and mining industries. However, no other classes of industrial activities are subject to the more lenient “actual exposure” test. To require actual exposure entirely shifts the burden in the permitting scheme. Most industrial facilities will have to apply for permits and show the EPA or state that they are in compliance. Light industries will be relieved from applying for permits unless actual exposure occurs. The permitting scheme then will work only if these facilities self-report, or the EPA searches out the sources and shows that exposure is occurring. We do not know the likelihood of either self-reporting or EPA inspection and monitoring of light industries, and the regulations appear to contemplate neither for these industries. For this reason, the proposed regulation is also arbitrary and capricious.

In conclusion, we hold that the rule for light industries is arbitrary and capricious, vacate the rule, and remand for further proceedings.

3. Exclusion of Construction Sites of Less than Five Acres.

[11] NRDC challenges the exemption for construction sites of less than five acres. EPA concedes that the construction industry should be subject to storm water permitting because at a high level of intensity, construction is equivalent to other regulated industrial activities. [55 Fed.Reg. at 48,033](#). Construction sites can pollute with soil sediments, phosphorus, nitrogen, nutrients from fertilizers, pesticides, petroleum products, construction chemicals and solid wastes. *Id.* EPA states that such substances can be toxic to aquatic organisms, and affect water used for drinking and recreation. *Id.*

Following its characterization of construction sites as suitable for regulation, EPA defined its task as determining “an acreage limit [] appropriate for identifying sites that amount are (sic) to industrial activity.” [55 Fed.Reg. at 48,036](#). EPA originally proposed regulations that exempted operations that disturb less than one acre of land and are not part of a common plan of development or sale. [55 Fed.Reg. at 48,035–36](#). In response to comments by the regulated community about the administrative burden presented by the regulation, EPA increased the exemption to five acres. [55 Fed.Reg. at 48,036](#). EPA also noted that larger sites will involve heavier equipment for removing vegetation and bedrock than smaller sites. *Id.* at 48,036.

***1306** We find that EPA's rationale for increasing the limit from one to five acres inadequate and therefore arbitrary and capricious. EPA cites no information to support its perception that construction activities on less than five acres are non-industrial in nature.

[12] EPA also claims agency power, inherent in statutory schemes, to make categorical exemptions when the result is *de minimis*. *Alabama Power Co. v. Costle*, 636 F.2d 323, 360 (D.C.Cir.1979). However, if construction activity is industrial in nature, and EPA concedes that it is, EPA is not free to create exemptions from permitting requirements for such activity. See *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d 1369, 1377 (D.C.Cir.1977) (once Congress has delineated an area that requires permits, EPA is not free to create exemptions).

Further, we find the *de minimis* principle inapplicable here. The *de minimis* exemption is only available where a regulation would “yield a gain of trivial or no value.” *Alabama Power Co.*, *supra*, at 361. Because of the lack of data, we cannot know whether exempting sites of less than five acres will indeed have only a *de minimis* effect.

The *de minimis* concept is based on the principle that the law does not concern itself with trifling matters. *Id.* at 360. We question its applicability in a situation such as this where the gains from application of the statute are being weighed against administrative burdens to the regulated community. See *id.* at 360–361 (implied authority to make cost-benefit decisions must derive from statute, and not general *de minimis* doctrine).

Further, EPA's claim that the five-acre exemption is *de minimis* is contradicted by the admission that even small construction sites can have a significant impact on local water quality. The EPA acknowledges that “[o]ver a short period of time, construction sites can contribute more sediment to streams than was previously deposited over several decades.” 55 Fed.Reg. at 48,033. Without data supporting the expanded exemption, we owe no deference to EPA's line-drawing. We thus hold that EPA's choice of a five-acre limit is arbitrary and capricious, invalidate that portion of the rule exempting construction sites of five acres or less from permitting requirements, and remand for further proceedings.

4. Exemption for oil and gas activities.

The 1987 amendments created an exemption from the permit requirement for uncontaminated runoff from mining, oil and gas facilities. See Appendix, CWA § 402(l)(2), 33 U.S.C. §§ 1342(l)(2). Section 402(l)(2) states that a permit is not required for discharges of storm water runoff from mining, oil or gas operations composed entirely of flows from conveyance systems used for collecting precipitation runoff and “which are not contaminated by contact with, or do not come into contact with any overburden, raw material, intermediate products, finished product, byproduct, or waste products”. NRDC claims that the November 1990 rule sets up an impermissible standard for determining contamination at oil and gas facilities. The relevant portion of the rule states that at these facilities, an operator is not required to submit a permit application unless the facility has had a discharge of a reportable quantity¹⁵ since November 1987, or contributes to a violation of a water quality standard. 55 Fed.Reg. 48,067 (to be codified at 40 C.F.R. § 122.26(c)(1)(iii)). A facility which has had a release of oil or a hazardous substance in excess of RQs since *1307 1987 must submit a permit application. *Id.*; 55 Fed.Reg. at 48,029–30.

NRDC claims that oil and gas operations should be subject to the stricter standards which apply to mining operations.¹⁶ It also objects to EPA's use of RQs as the only test for contamination of runoff from oil and gas storm water dischargers, claiming it is inconsistent with the legislative history. We conclude that the legislative history does not support NRDC's position.

The conference report states:

[P]ermits are not required where stormwater runoff is diverted around mining operations or oil and gas operations and does not come in contact with overburden, raw material, product, or process wastes. In addition, where stormwater runoff is not contaminated by contact with such materials, *as determined by the administrator*, permits are also not required. With respect to oil or grease or hazardous substances, the determination of whether stormwater is “contaminated by contact with” such materials, *as established by the Administrator*, shall take into consideration whether these materials are present in such stormwater runoff in excess of reportable quantities under section 311 of the Clean Water Act ..., or in the case of mining operations, above natural background levels.

H.R.Rep. No. 1004, 99th Cong., 2d Sess., at 151 (emphasis added).

[13] Thus, the EPA Administrator has discretion to determine whether or not storm water runoff at an oil, gas or mining operation is contaminated with two types of materials: (1) overburden, raw material, product, or process wastes and (2) oil, grease or hazardous substances. The report sets out factors for the Administrator to consider in determining contamination for the latter group of pollutants.

NRDC first claims that because section 402(l)(2) treats oil, gas and mining together, the EPA rule must do the same. NRDC's second objection is based on its interpretation of the language in the conference report. Because the conference report lists RQs as only one factor to be taken into consideration, NRDC insists EPA cannot make it the only factor to measure contamination for oil and gas facilities.

Both of these arguments must fail in light of the conference report, which gives the Administrator discretion to determine when contamination has occurred with respect to the substances listed in the statute, i.e., overburden, raw materials, waste products, etc. *See* CWA § 402(l)(2). The conference report states that the Administrator shall take certain factors into account, but the report is clear that the determination of whether storm water is contaminated is within the Administrator's discretion.

NRDC argues that the remarks of certain congressmen during congressional debate show that the mining, oil, and gas exemptions were to apply only if the discharges were entirely free of contaminants. We find these examples less persuasive than the clear language of the conference report. Moreover, in light of the discretion granted the Administrator in the conference report, we cannot say that the rule as promulgated is an arbitrary and capricious exercise of that discretion.

NRDC also contends that Congress intended that EPA consider reportable quantities only in determining if a discharge is contaminated with oil, grease, or hazardous substances. Other pollutants, according to NRDC, must be found to contaminate the discharge if they exceed background levels.

EPA did not, in fact, limit itself to reportable quantities in determining which oil or gas facilities must apply for a permit. The rule requires a permit for any facility which “[c]ontributes to a violation of a water quality standard.” 40 C.F.R. § 122.26(c)(1)(iii)(C). This requirement addresses contamination with substances other than oil and hazardous substances. We find no support in the statute or the legislative history for NRDC's claim that, with respect to these substances, levels above background must be considered “contamination.” The conference report quoted above requires consideration of background levels of any pollutant only with respect to mining operations.

D. Lack of Controls for Municipal Storm Water Discharge.

[14] NRDC contends that EPA has failed to establish substantive controls for municipal storm water discharges as required by the 1987 amendments. Because Congress gave the administrator discretion to determine what controls are necessary, NRDC's argument fails.

Prior to 1987, municipal storm water dischargers were subject to the same substantive control requirements as industrial and other types of storm water. In the 1987 amendments, Congress retained the existing, stricter controls for industrial storm water dischargers but prescribed new controls for municipal storm water discharge. CWA § 402(p)(3)(A), (B), 33 U.S.C. § 1342(p)(3)(A)–(B). The Act states that permits for discharges from municipal storm sewers:

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, *and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.*

Section 402(p)(3)(B), 33 U.S.C. § 1342(p)(3)(B) (emphasis added).

NRDC charges that the EPA regulations accomplish neither of the goals above, i.e., they do not effectively prohibit non-storm water discharges nor do they require the controls described in ¶ (iii), above. NRDC argues that Congress granted the moratorium precisely to give EPA the opportunity to develop new, substantive standards for storm water control of municipal sources and instead EPA wrote vague regulations containing no minimum criteria or performance standards.¹⁷ However, the language in ¶ (iii), above, requires the Administrator or a state to design controls. Congress did not mandate a minimum standards approach or specify that EPA develop minimal performance requirements. NRDC also claims that the testing requirements are inadequate because there is only limited sampling at a limited number

of sites. However, we must defer to EPA on matters such as this, where EPA has supplied a reasoned explanation of its choices. *See* 55 Fed.Reg. at 48,049.

NRDC's argument that the EPA rule is inadequate cannot prevail in the face of the clear statutory language and our standard of review. Congress could have written a statute requiring stricter standards, and it did not. We therefore reject NRDC's argument that EPA's storm water control regulations fail to comply with the statute.¹⁸

E. Lack of Notice and Comment on the Approval of Part 1 of Industrial Group Storm Water Applications.

NRDC objects to the lack of opportunity for notice and comment before EPA approval of part 1 of group applications for industrial dischargers. Each member of a proposed group must submit part 1 of the application.¹⁹ If EPA approves part 1, only *1309 a small subset of the member facilities need submit part 2 of the application. 55 Fed.Reg. at 48,072 (to be codified at 40 C.F.R. 122.26(e)(2)). NRDC claims that because approval of part 1 waives the requirement of filing part 2 for most members of a group, EPA's decision on part 1 is equivalent to a "rule" requiring notice and comment from the public. The issue thus presented is whether EPA's decision on a part 1 group permit application is a "rule" as defined in 5 U.S.C. § 551(4) (1988)²⁰ requiring public notice and opportunity to comment under 5 U.S.C. § 553 (1988), or is otherwise subject to the notice and comment requirement.

[15] NRDC argues that approval or disapproval of a part 1 application requires public comment because it has "general applicability" pursuant to 5 U.S.C. § 551(4) and because it will have a "palpable effect" in that it will relieve the majority of entities in the group from submitting data in part 2 of the application. NRDC cites *NRDC v. EPA*, 683 F.2d 752 (3rd Cir.1982) and *Council of Southern Mountains, Inc. v. Donovan*, 653 F.2d 573 (D.C.Cir.1981) in support of its argument. Both cases involved the postponement of regulations. *See NRDC*, 683 F.2d at 753–54, 764 (indefinite postponement of effective date of final amendments to regulations dealing with the discharge of toxic pollutants requires notice and comment because it has a substantial impact on the public and the industry); *Council of Southern Mountains, Inc.*, 653 F.2d at 575, 580 n. 28 (deferral of implementation of regulations requiring coal operators to supply life-saving equipment ordinarily would require notice and comment because it has a "palpable effect" upon the industry and the public).

We find these cases to be distinguishable. Both involve the postponement of rules of general applicability to an entire industry, or to a large class of pollutants. In contrast, although the part 1 application process will relieve some entities from the need to furnish further data, the decision is specific to a particular permit application and approval of a preliminary application will not implement, interpret or prescribe any general law or policy pursuant to 5 U.S.C. § 551(4). Rulemaking ordinarily involves "broad judgments, legislative in nature rather than the resolution of a particular dispute of facts." *Washington Utilities & Transportation Com'n v. Federal Communication Commission*, 513 F.2d 1142, 1160 (9th Cir.1975), *cert. denied*, 423 U.S. 836, 96 S.Ct. 62, 46 L.Ed.2d 54 (1975). The decision to approve a part 1 permit application, although it may affect a large number of applicants, is nevertheless focused on a specific factual question: whether the application adequately designates a representative smaller group subject to the more extensive data gathering requirements in part 2 of the application. *See* 55 Fed.Reg. at 48,028. Because the decision involves a discrete, factual issue, the better view is that it is neither a rule nor otherwise subject to the notice and comment requirement.

Because approval of a part 1 application is essentially a factual determination, we hold that EPA's group permit application process for industrial dischargers is not invalid by its failure to provide for notice and comment.

III. CONCLUSION

In summary, we grant and deny relief as follows:

1. *“Deadlines” issue.* We grant the request for declaratory relief and deny the request for injunctive relief. We deny the request to place small, medium and large municipalities on the same permitting schedule. We hold that EPA's failure to include deadlines for permit approval or denial and compliance consistent with CWA § 402(p) is arbitrary and capricious.

2. *Exclusion of Sources from Regulation.* We uphold the definition of “municipal *1310 separate storm sewers serving a population.” We hold that the exemption for construction sites of less than five acres is arbitrary and capricious and remand for further proceedings. Based on the record before us, we vacate that portion of the rule regulating “light industry” and remand for further proceedings.

3. *Other issues.* We uphold the rule as to oil and gas operations and storm water control. We further hold that EPA approval of part 1 of a group application for an industrial discharger is not a rule requiring notice and comment from the public.

Petition for Review GRANTED IN PART and DENIED IN PART.

APPENDIX A

CWA § 402, 33 USCA § 1342

(l) Limitation on permit requirement

....

(2) Stormwater runoff from oil, gas, and mining operations

The Administrator shall not require a permit under this section, nor shall the Administrator directly or indirectly require any State to require a permit, for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations.

....

(p) Municipal and industrial stormwater discharges

(1) General rule

Prior to October 1, 1992, the Administrator or the State (in the case of a permit program approved under this section) shall not require a permit under this section for discharges composed entirely of stormwater.

(2) Exceptions

Paragraph (1) shall not apply with respect to the following stormwater discharges:

(A) A discharge with respect to which a permit has been issued under this section before February 4, 1987.

(B) A discharge associated with industrial activity.

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000 .

(E) A discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) Permit requirements

(A) Industrial discharges

Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 of this title.

(B) Municipal discharge

Permits for discharges from municipal storm sewers—

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or *1311 the State determines appropriate for the control of such pollutants.

(4) Permit application requirements

(A) Industrial and large municipal discharges

Not later than 2 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraphs (2)(B) and (2)(C). Applications for permits for such discharges shall be filed no later than 3 years after February 4, 1987. Not later than 4 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(B) Other municipal discharges

Not later than 4 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraph (2)(D). Applications for permits for such discharges shall be filed no later than 5 years after February 4, 1987. Not later than 6 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(5) Studies

The Administrator, in consultation with the States, shall conduct a study for the purposes of—

(A) identifying those stormwater discharges or classes of stormwater discharges for which permits are not required pursuant to paragraphs (1) and (2) of this subsection;

(B) determining, to the maximum extent practicable, the nature and extent of pollutants in such discharges; and

(C) establishing procedures and methods to control stormwater discharges to the extent necessary to mitigate impacts on water quality.

Not later than October 1, 1988, the Administrator shall submit to Congress a report on the results of the study described in subparagraphs (A) and (B). Not later than October 1, 1989, the Administrator shall submit to Congress a report on the results of the study described in subparagraph (C).

(6) Regulations

Not later than October 1, 1992, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

[O'SCANNLAIN](#), Circuit Judge, concurring in part and dissenting in part:

I concur in Parts I, II.A, II.C.1, II.C.4, II.E, and much of Part II.B of the majority opinion. I dissent from Part II.B.2.c, directing EPA to issue supplemental regulations. I dissent also from Parts II.C.2 and II.C.3, in which the court invalidates EPA's exclusion of storm water discharges from certain light industrial and small construction sites from the definition of "discharges associated with industrial activity." Finally, I concur in the result, but not the reasoning, of Part II.D, holding that EPA has not acted unlawfully by failing to include specific control requirements in the permit application regulations.

***1312 I**

The majority holds that EPA has violated statutory requirements by failing to set dates for approval of, and compliance with, permits as part of its permit application program. *Ante* at 1300. Despite the holding in Part II.B.2.b that injunctive relief is inappropriate (with which I agree), the majority in Part II.B.2.c orders EPA to issue supplemental regulations setting such deadlines immediately.

I am not convinced that the statute requires EPA to set these deadlines as part of the permit application process. The provision at issue reads, in relevant part:

(4) Permit application requirements

(A) Industrial and large municipal discharges

Not later than 2 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraphs (2)(B) and (2)(C). Applications for permits for such discharges shall be filed no later than 3 years after February 4, 1987. Not later than 4 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(B) Other municipal discharges

Not later than 4 years after February 4, 1987, the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraph (2)(D). Applications for permits for such discharges shall be filed no later than 5 years after February 4, 1987. Not later than 6 years after February 4, 1987, the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

CWA § 402(p)(4); 33 U.S.C. § 1342(p)(4) (1988).

While the statute establishes a time line EPA must follow, it does not, in my view, require that EPA include the deadline for permit approval in the permit application regulations. I agree that, given EPA's past delays and the fact that the statutory dates for issuance or denial of permits are now long past, it is appropriate for this court to declare that the statute requires EPA to issue or deny permits within one year of the application deadline. I do not, however, see that any purpose is served by requiring EPA to issue supplemental regulations setting out these deadlines, and I doubt our authority to do so.

With respect to compliance deadlines, the statute contemplates that such deadlines will be set in individual permits as they are issued. *See* CWA § 402(p)(4)(A), (B) (“Any such permit shall provide for compliance....”). Each permit must contain a compliance deadline, which may not exceed three years from the date of issuance. Nothing in the statute requires EPA to establish compliance deadlines now, before any permits have been issued. Accordingly, in my view, NRDC's challenge to the lack of compliance deadlines in EPA's current regulations is premature. I therefore dissent from Part II.B.2.c of the majority opinion.

II

I dissent also from Parts II.C.2 and II.C.3. In my view, EPA's definition of “discharge associated with industrial activity” is a reasonable construction of an ambiguous statute, entitled to deference. While my colleagues acknowledge that we may not overturn an agency rule that represents a “permissible construction” of a statute, *ante* at 1297 (quoting *Chevron, U.S.A., Inc. v. NRDC*, 467 U.S. 837, 843, 104 S.Ct. 2778, 2781, 81 L.Ed.2d 694 (1984)), they fail to apply that axiom.

A

EPA's rule excludes from the permitting requirement certain light industry facilities at which “areas where material handling equipment or activities, raw materials, intermediate *1313 products, final products, waste materials, byproducts, or industrial machinery” are not exposed to storm water. *See* 40 C.F.R. § 122.26(b)(14). EPA determined that discharges from such facilities do not fall within the definition of “discharges associated with industrial activity.” In my view, this determination was reasonable.

The majority concedes that the statute does not define “discharge associated with industrial activity.” *Ante* at 1304. The operative phrase, as my colleagues note, is “associated with.” *See id.* For purposes of evaluating the light industry exemption, I concede that manufacturing falls within the generally accepted meaning of “industrial activity,” and that many of the facilities exempted by the EPA rule are manufacturers. Nonetheless, that concession does not compel the conclusion that discharges from such facilities are “associated with industrial activity.”

The majority concludes, without explanation, that the phrase “discharges associated with industrial activity” is “very broad.” *Ante* at 1304. Neither the plain meaning of the term “associated” nor the legislative history of the statute support

this conclusion. “Associated with” means closely related to or connected with. *See Webster's Ninth New Collegiate Dictionary* 110 (1986). To the extent it casts any light on the subject, the legislative history supports a narrow reading of the phrase “associated with.” Four members of the House, in the course of floor debates on the measure both before and after President Reagan's veto, explained that:

[a] discharge is associated with industrial activity if it is *directly related to manufacturing, processing or raw materials storage areas* at an industrial plant. Discharges which do not meet this definition include those discharges associated with parking lots and administrative and employee buildings.

133 Cong.Rec. 985 (1987) (statement of Rep. Hammerschmidt) (emphasis added).¹ The underscored language suggests that Congress intended to regulate only discharges directly related to certain activities at industrial facilities. EPA's interpretation, that discharges are “directly related” to these activities only if storm water may reasonably be expected to come into contact with them before its discharge, is eminently logical.

The majority opinion interprets the exclusion of parking lots as an expression of congressional intent “to exclude only those facilities or parts of a facility that are completely nonindustrial.” *Ante* at 1304. My colleagues' reliance on the second sentence of the statement quoted above to establish this intent, however, is misplaced. The sentence relied on cannot assist us in our search for the meaning of “associated with” because it employs that very term. Moreover, it does not pretend to establish an exhaustive list of areas excluded from regulation. Legislators listed discharges from parking lots and administrative and employee buildings as *among those* not directly related to industrial activity; no one suggested that *only* discharges associated with those structures were to be excluded.

EPA's definition is consistent with the plain words of the statute and, to the extent any intent is discernible, the congressional intent. EPA has defined the term “storm water discharge associated with industrial activity” to cover only those discharges reasonably expected to come into contact with industrial activities. A large number of facilities automatically fall within EPA's definition and are required to *1314 apply for permits. Because facilities falling within certain specified classifications under the Standard Industrial Classification manual generally conduct their operations entirely indoors, minimizing the likelihood of contact with storm water, EPA has not automatically included them within the regulations. However, these facilities *are* required to apply for permits if “areas where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts, or industrial machinery at these facilities are exposed to storm water.” 40 C.F.R. § 122.26(b)(14). If a storm water discharge is in fact directly related to or associated with the industrial activity carried on at a facility falling within the light industry category, the facility must obtain a permit.²

In my view, the statute's treatment of oil and gas facilities supports EPA's reading of the term “associated with industrial activity.” Congress specifically exempted from the permit requirement discharges from oil and gas facilities and mining operations which have not come in contact with raw materials, finished products, or waste products. CWA § 402(l)(2). This section indicates a congressional intent to exempt uncontaminated discharges which have not come into contact with “industrial activities” from regulation. For oil, gas, and mining operations, Congress in this section supplied a specific, and quite limited, definition of “industrial activities.” For other facilities, that definition was left to the discretion of EPA, which has adopted a much broader definition, encompassing contact with such things as industrial machinery and materials handling equipment. *See* 40 C.F.R. § 122.26(b)(14).

I do not mean to suggest that the majority's construction of the statute is untenable. It may even be preferable to the reading chosen by the agency. Nonetheless, in my view the statute is ambiguous and the legislative history does not demonstrate any clear congressional intent. The question before this court, therefore, is not whether “the agency construction was the only one it permissibly could have adopted” or even whether it is the “reading the court would have reached if the question initially had arisen in a judicial proceeding.” *Chevron, U.S.A. v. NRDC*, 467 U.S. 837, 843 n. 11,

104 S.Ct. 2778, 2782 n. 11, 81 L.Ed.2d 694 (1984). We need only inquire if the agency's construction is a permissible one. *Id.* at 843, 104 S.Ct. at 2781. EPA's definition falls well within permissible bounds, and should be upheld.

B

Although the issue is closer, I also am not persuaded that EPA's exemption for construction sites under five acres should be struck down. EPA has not conceded that "construction activity is industrial in nature." *Ante* at 1306. In the preamble to its final rule, EPA noted that "Construction activity *at a high level of intensity is comparable to other activity that is traditionally viewed as industrial*, such as natural resource extraction."³ 55 Fed.Reg. 48,033 (1990) (emphasis added). EPA explained that it was "attempting to focus [regulation] only on those construction activities *1315 that resemble industrial activity." 55 Fed.Reg. at 48,035 (emphasis added).

Neither NRDC nor the majority point to anything in the statute or the legislative history that would require the agency to define "industrial activity" as including all construction operations. Accordingly, I believe deference is due EPA's definition, provided it is not arbitrary, capricious, or manifestly contrary to the statute. *Chevron, U.S.A., 467 U.S. at 844*, 104 S.Ct. at 2782.

In trying to determine when construction should be treated as industrial activity, EPA considered a number of possible approaches. See 55 Fed.Reg. at 48,035. Exempting construction that would be completed within a certain designated time frame was deemed inappropriate, because the work could be both intensive and expansive but nonetheless take place over a short period of time. Basing the limit on quantity of soil removed was also rejected as not relating to the amount of land surface disturbed. EPA finally settled on the surface area disturbed by the construction project as a feasible and appropriate mechanism for "identifying sites that are [sic] amount to industrial activity." 55 Fed.Reg. at 48,036.

Having determined that not all construction amounts to industrial activity, and that the appropriate basis for differentiation is land area disturbed, EPA then had to determine where to draw the line. Initially, EPA proposed to exempt all construction operations disturbing less than one acre of land, as well as single family residential projects disturbing less than five acres. 53 Fed.Reg. 49,431 (1988). In the final rule, however, EPA adopted a five-acre minimum for all construction projects. 55 Fed.Reg. 48,066 (1990); 40 C.F.R. § 122.26(b)(14)(x).

Admittedly, the final rule contains little in the way of justification for treating two-acre sites differently than five-acre ones, but that does not necessarily make it arbitrary and capricious. Line-drawing is often difficult. NRDC was apparently willing to accept EPA's proposed one-acre/five-acre rule. Although NRDC now challenges the blanket five-acre rule, it offers no evidence that sites excluded from the permitting requirement constitute "industrial activity." In such absence of any evidence in the record undermining EPA's conclusion on an issue squarely within its expertise, I believe the rule must be upheld.⁴

III

Finally, while I concur in the result reached by the majority in Part II.D, rejecting NRDC's claim that EPA has unlawfully failed to require substantive controls on municipal discharges, I disagree with the majority's reasoning. In my view, NRDC's claim is premature, and we should decline to address its merits.

NRDC contends that the 1987 amendments require EPA to establish substantive controls for municipal storm water discharges. In support of this argument, NRDC relies on CWA § 402(p)(3)(B), 33 U.S.C. § 1342(p)(3)(B), which provides:

Permits for discharges from municipal storm sewers—

* * * * *

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable....

This section refers only to *permits*, and says nothing about permit applications. Because EPA has yet to issue any permits, NRDC's claim on this point is premature. In the absence of any indication to the contrary, we must assume that any permit issued will comply with all applicable statutory requirements. The statute does not require that EPA detail the substantive controls to be imposed when establishing permit application requirements. Accordingly, I would reject NRDC's claim without ***1316** reaching the issue of the Administrator's discretion in selecting those controls.

IV

In sum, I join much of my colleagues' opinion. However, I would not require EPA to issue supplemental regulations detailing the time line for issuance of and compliance with permits, and I would uphold EPA's definition of "discharge associated with industrial activity." Finally, I would reject NRDC's claim that EPA is required to detail control measures in the permit application regulations on the grounds that the statute requires control measures only in the permits themselves.

All Citations

966 F.2d 1292, 34 ERC 2017, 61 USLW 2015, 22 Env'tl. L. Rep. 20,950

Footnotes

- 1 [National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges](#), 55 Fed.Reg. 47,990 (1990) (to be codified at 40 C.F.R. § 122.26); [National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Application Deadline for Group Applications](#), 56 Fed.Reg. 12,098 (1991) (to be codified at 40 C.F.R. § 122.26(e)).
- 2 The Act is popularly known as the Clean Water Act or the Federal Water Pollution Control Act. 33 U.S.C. § 1251. For more background on the CWA, see *EPA v. State Water Resources Control Bd.*, 426 U.S. 200, 202–09, 96 S.Ct. 2022, 2023–26, 48 L.Ed.2d 578 (1976); *Sierra Club v. Union Oil of California*, 813 F.2d 1480, 1483 (9th Cir.1987), *vacated on other grounds*, 485 U.S. 931, 108 S.Ct. 1102, 99 L.Ed.2d 264 (1988); and *Natural Resources Defense Council v. Train*, 510 F.2d 692, 695–97 (D.C. Cir.1975).
- 3 The Nationwide Urban Runoff Program (NURP) conducted from 1978 through 1983 found that urban runoff from residential, commercial and industrial areas produces a quantity of suspended solids and chemical oxygen demand that is equal to or greater than that from secondary treatment sewage plants. 55 Fed.Reg. at 47,991. A significant number of samples tested exceeded water quality criteria for one or more pollutants. *Id.* at 47,992. Urban runoff is adversely affecting 39% to 59% of the harvest-limited shellfish beds in the waters off the East Coast, West Coast and in the Gulf of Mexico. 56 Fed.Reg. at 56,548.
- 4 See 132 Cong. Rec. 32,381 (1986).
- 5 Senator Stafford, speaking in favor of the conference report for the Water Quality Act, noted that "EPA should have developed this program long ago. Unfortunately, it did not. The conference substitute provides a short grace period during which EPA and the States generally may not require permits for municipal separate storm sewers." 132 Cong. Rec. 32,381 (1986). Senator Chafee stated "[t]he Agency has been unable to move forward with a [storm water discharge control] program, because the current law did not give enough guidance to the Agency. This provision provides such guidance, and I expect EPA to move rapidly to implement this control program." 133 Cong. Rec. 1,264 (1987).
- 6 Pub.L. No. 100–4, 101 Stat. 7 (1987) (codified as amended in scattered sections of 33 U.S.C.).
- 7 Large municipal systems are those serving a population of 250,000 or more. § 402(p)(2)(C).

8 Since NRDC filed this action, Congress has passed certain legislation affecting some of the deadlines at issue. Congress ratified the date of September 30, 1991 for part 1 of group applications for industrial dischargers. *See* Dire Emergency Supplemental Appropriations Act of 1991, [Pub.L. No. 102–27, § 307, 105 Stat. 130](#), 152 (1991).

Section 1068 of the Intermodal Surface Transportation Efficiency Act of 1991 (“ISTEA”) clarifies the deadlines for storm water discharges associated with industrial activity from facilities owned or operated by a municipality. [Pub.L. No. 102–240, § 1068, 105 Stat. 1914](#), 2007 (1991). ISTEA deadlines are being reviewed in a separate case. Nothing in this opinion should be viewed as requiring EPA to comply with deadlines that have been altered or superseded by the ISTEA.

9 *See* [55 Fed.Reg. at 48,071–722](#) (to be codified at [40 C.F.R. § 122.26\(e\)](#)); [67 Fed.Reg. at 12,100](#) (to be codified at [40 C.F.R. § 122.26\(e\)\(2\)\(iii\)](#)). EPA changed certain of these deadlines after this case was submitted. These changes are the subject of a separate case.

The EPA rules at issue set no date for final approval or denial of applications from municipal or industrial dischargers, nor for compliance by these regulated entities. *See* [55 Fed.Reg. at 48,072](#).

10 NRDC initially claimed that this extension was unlawful because it was granted without proper notice and comment. However, Congress approved this extended deadline in a supplemental appropriations bill. Dire Emergency Supplemental Appropriations Act of 1991, [Pub.L. No. 102–27 § 307, 105 Stat. 130](#), 152 (1991). This Act moots the procedural and substantive challenge to this extended deadline.

11 In addition, pursuant to the statute, compliance deadlines applicable to each facility shall be contained in its permit.

12 The rule also permits the Administrator to include certain other systems as part of a medium or large system due to the physical interconnections between the systems, their locations, or certain other factors. *See* [40 C.F.R. § 122.26\(b\)\(4\)\(iii\)](#), (iv) and (b)(7)(iii), (iv).

13 Storm sewers located within the boundaries of a city might be part of a state highway system, a flood control district, or a system operated by the state or county. *See* [55 Fed.Reg. at 48,041](#).

14 *See, e.g.*, 133 Cong. Rec. 991 (1987) (statement of Rep. Stangeland).

15 “Reportable Quantities” (RQs) are not effluent guidelines setting up permissible limits for pollutants. Rather, they are quantities the discharge of which “may be harmful to the public health or welfare of the United States.” CWA § 311(b)(4), [33 U.S.C. § 1321\(b\)\(4\)](#). EPA has established RQs for a large number of substances, pursuant to both CWA section 311, [33 U.S.C. § 1321](#), and the Comprehensive Environmental Response, Compensation and Liability Act (“CERCLA”) section 102, [42 U.S.C. § 9602](#). *See* 40 C.F.R. Parts 110, 117, 302. The operator of any vessel or facility which releases the RQ of any substance must immediately notify the National Response Center. *See, e.g.*, [40 C.F.R. § 110.10](#).

16 Operators of mines must submit permit applications whenever storm water discharges come into contact with overburden, waste products, etc. [40 C.F.R. § 122.26\(c\)\(1\)\(iv\)](#).

17 The requirements for permit applications are set forth at [40 C.F.R. § 122.26\(d\)](#). Individual NPDES permit writers (EPA or state officials) will decide whether application proposals are adequate. Applicants must submit information on source control methods and estimate the annual pollutant load reduction to be achieved from their proposed management programs, but they are not required to achieve any specified level of reduction of any pollutants. *See* [55 Fed.Reg. at 48,070–71](#).

18 We base our holding on NRDC’s challenge to the regulations at issue. Whether a specific permit complies with the requirements of section 402(p)(3)(B) would, of course, be another matter not controlled by this decision.

19 Part I must include the identity of the group’s participants, a description of the participants’ industrial activities, a list of significant materials exposed to precipitation and the identity of the subset of the group’s members who will submit quantitative data in part 2 of the application. [55 Fed.Reg. at 48,067](#).

20 A rule means “the whole or part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the organization, procedure, or practice requirements of an agency....” [5 U.S.C. § 551\(4\)](#).

1 This statement was repeated verbatim by Reps. Stangeland and Snyder. 133 Cong. Rec. at 991–92; 132 Cong. Rec. at 31,959, 31,964 (1986). Rep. Rowland offered a slight variation on the theme:

One of the discharge categories is “a discharge associated with an industrial activity.” A discharge is not considered to be associated with industrial activity unless it is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. Such discharges include [sic] those from parking lots and administrative areas and employee buildings.

132 Cong. Rec. at 31,968. Rep. Rowland apparently misspoke; he probably meant, like the other legislators who addressed the topic, to say “[s]uch discharges *do not* include” those from parking lots.

- 2 Thus, nothing turns on the assumption, attacked by my colleagues as unsupported by the record, *ante* at 1304, that industrial activities at this category of facilities will take place largely indoors. Where the assumption does not hold true, the permit requirement applies with full force. I also note that NRDC has pointed us to no evidence undermining EPA's assumption. Unlike my colleagues, I decline to assume that EPA will not carry out its responsibility to identify and to require permits of facilities where industrial activities are in fact exposed to storm water, or that such facilities will ignore their statutory duty to apply for permits. Should that occur, a lawsuit challenging EPA's failure to enforce its regulations might well be in order. An unsubstantiated suspicion that EPA may not vigorously enforce its regulations, however, does not make those regulations arbitrary or capricious.
- 3 EPA did admit that “[e]ven small construction sites may have a significant negative impact on water quality in localized areas,” *55 Fed.Reg. at 48,033*. In the absence of any indication of what EPA meant by “small,” however, that statement does not undermine EPA's exemption of sites under five acres.
- 4 Because I conclude that the rule falls within the permissible bounds of the statutory definition of “discharges associated with industrial activity,” I need not consider the applicability of the *de minimis* exception.

ATTACHMENT C-3



KeyCite Yellow Flag - Negative Treatment

Opinion Amended on Denial of Rehearing by [Defenders of Wildlife v. Browner](#), 9th Cir., December 7, 1999

191 F.3d 1159
United States Court of Appeals,
Ninth Circuit.

DEFENDERS OF WILDLIFE and The Sierra Club, Petitioners,

v.

Carol M. BROWNER, in her official capacity as Administrator of
the United States Environmental Protection Agency, Respondent.
City of Tempe, Arizona; City of Tucson, Arizona; City of Mesa, Arizona; Pima
County, Arizona; and City of Phoenix, Arizona, Intervenors–Respondents.

No. 98–71080.

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Argued and Submitted Aug. 11, 1999.

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Decided Sept. 15, 1999.

Environmental organizations sought review of Environmental Protection Agency (EPA) decision to issue National Pollution Discharge Elimination System (NPDES) permits to five municipalities, for their separate storm sewers, without requiring numeric limitations to ensure compliance with state water-quality standards. The Court of Appeals, [Graber](#), Circuit Judge, held that: (1) organizations had standing; (2) municipal storm-sewer discharges did not have to strictly comply with state water-quality standards; but (3) EPA had discretion to require that municipal discharges comply with such standards.

Petition denied.

West Headnotes (8)

[1] **Environmental Law** 🔑 Cognizable interests and injuries, in general

For purpose of statute authorizing any interested person to seek judicial review of Environmental Protection Agency (EPA) decision issuing or denying any National Pollution Discharge Elimination System (NPDES) permit, “any interested person” means any person that satisfies the injury-in-fact requirement for Article III standing. [U.S.C.A. Const. Art. 3, § 2, cl. 1](#); Federal Water Pollution Control Act Amendments of 1972, § 509(b)(1)(F), [33 U.S.C.A. § 1369\(b\)\(1\)\(F\)](#).

[2 Cases that cite this headnote](#)

[2] **Environmental Law** 🔑 Organizations, associations, and other groups

Environmental organizations had standing to seek judicial review of Environmental Protection Agency (EPA) decision to issue National Pollution Discharge Elimination System (NPDES) permits for municipalities' storm sewers based on allegation that organizations' members used and enjoyed ecosystems affected by storm water discharges and sources thereof governed by the permits. [U.S.C.A. Const. Art. 3, § 2, cl. 1](#); Federal Water Pollution Control Act Amendments of 1972, § 509(b)(1)(F), [33 U.S.C.A. § 1369\(b\)\(1\)\(F\)](#).

6 Cases that cite this headnote

[3] **Environmental Law** 🔑 Permit and certification proceedings

Although best practicable control technology (BPT) requirement for National Pollution Discharge Elimination System (NPDES) permits takes into account issues of practicability, the Environmental Protection Agency (EPA) also is under a specific obligation to require that level of effluent control which is needed to implement existing water quality standards without regard to the limits of practicability. Federal Water Pollution Control Act Amendments of 1972, §§ 301(b)(1)(A, C), 402(a)(1), 33 U.S.C.A. §§ 1311(b)(1)(A, C), 1342(a)(1).

11 Cases that cite this headnote

[4] **Environmental Law** 🔑 Discharge of pollutants

Water Quality Act amendments to the Clean Water Act do not require municipal storm-sewer discharges to strictly comply with state water-quality standards, in order to obtain National Pollution Discharge Elimination System (NPDES) permit, but instead prescribe separate standard requiring reduction of discharge of pollutants to maximum extent practicable, in view of Act's distinction between municipal and industrial discharges. Federal Water Pollution Control Act Amendments of 1972, §§ 301(b)(1)(C), 402(p)(3)(B)(iii), 33 U.S.C.A. §§ 1311(b)(1)(C), 1342(p)(3)(B)(iii).

15 Cases that cite this headnote

[5] **Administrative Law and Procedure** 🔑 Plain, literal, or clear meaning;ambiguity

Questions of congressional intent that can be answered with traditional tools of statutory construction are still firmly within the province of the courts under *Chevron*, which governs review of an agency's interpretation of a statute.

5 Cases that cite this headnote

[6] **Statutes** 🔑 Language and intent, will, purpose, or policy

Statutes 🔑 Statute as a Whole;Relation of Parts to Whole and to One Another

Using traditional tools of statutory construction when interpreting a statute, courts look first to the words that Congress used, and, rather than focusing just on the word or phrase at issue, courts look to the entire statute to determine Congressional intent.

5 Cases that cite this headnote

[7] **Statutes** 🔑 Express mention and implied exclusion;expressio unius est exclusio alterius

Where Congress includes particular language in one section of a statute but omits it in another section of the same act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.

5 Cases that cite this headnote

[8] **Environmental Law** 🔑 Conditions and limitations

Environmental Protection Agency (EPA) is not prohibited from requiring, under Clean Water Act, that municipal storm-sewer discharges strictly comply with state water-quality standards, but has discretion to

determine appropriate pollution controls. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3)(B)(iii), 33 U.S.C.A. § 1342(p)(3)(B)(iii).

[13 Cases that cite this headnote](#)

Attorneys and Law Firms

***1160** [Jennifer Anderson](#) and David Baron, Arizona Center for Law in the Public Interest, Phoenix, Arizona, for the petitioners.

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[Craig Reece](#), Phoenix City Attorney's Office, Phoenix, Arizona; [Stephen J. Burg](#), Mesa City Attorney's Office, Mesa, Arizona; [Timothy Harrison](#), Tucson City Attorney's Office, Tucson, Arizona; [Harlan C. Agnew](#), Deputy County Attorney, Tucson, Arizona; and [Charlotte Benson](#), Tempe City Attorney's Office, Tempe, Arizona, for the intervenors-respondents.

***1161** [David Burchmore](#), Squire, Sanders & Dempsey, Cleveland, Ohio, for amici curiae.

Petition to Review a Decision of the Environmental Protection Agency. EPA No. 97-3.

Before: [NOONAN](#), [THOMPSON](#), and [GRABER](#), Circuit Judges.

Opinion

[GRABER](#), Circuit Judge:

Petitioners challenge the Environmental Protection Agency's (EPA) decision to issue National Pollution Discharge Elimination System (NPDES) permits to five municipalities, for their separate storm sewers, without requiring numeric limitations to ensure compliance with state water-quality standards. Petitioners sought administrative review of the decision within the EPA, which the Environmental Appeals Board (EAB) denied. This timely petition for review ensued. For the reasons that follow, we deny the petition.

FACTUAL AND PROCEDURAL BACKGROUND

[Title 26 U.S.C. § 1342\(a\)\(1\)](#) authorizes the EPA to issue NPDES permits, thereby allowing entities to discharge some pollutants. In 1992 and 1993, the cities of Tempe, Tucson, Mesa, and Phoenix, Arizona, and Pima County, Arizona (Intervenors), submitted applications for NPDES permits. The EPA prepared draft permits for public comment; those draft permits did not attempt to ensure compliance with Arizona's water-quality standards.

Petitioner Defenders of Wildlife objected to the permits, arguing that they must contain numeric limitations to ensure strict compliance with state water-quality standards. The State of Arizona also objected.

Thereafter, the EPA added new requirements:

To ensure that the permittee's activities achieve timely compliance with applicable water quality standards (Arizona Administrative Code, Title 18, Chapter 11, Article 1), the permittee shall implement the [Storm Water Management Program], monitoring, reporting and other

requirements of this permit in accordance with the time frames established in the [Storm Water Management Program] referenced in Part I.A.2, and elsewhere in the permit. This timely implementation of the requirements of this permit shall constitute a schedule of compliance authorized by [Arizona Administrative Code, section R18-11-121\(C\)](#).

The Storm Water Management Program included a number of structural environmental controls, such as storm-water detention basins, retention basins, and infiltration ponds. It also included programs to remove illegal discharges.

With the inclusion of those “best management practices,” the EPA determined that the permits ensured compliance with state water-quality standards. The Arizona Department of Environmental Quality agreed:

The Department has reviewed the referenced municipal NPDES storm-water permit pursuant to Section 401 of the Federal Clean Water Act to ensure compliance with State water quality standards. We have determined that, based on the information provided in the permit, and the fact sheet, adherence to provisions and requirements set forth in the final municipal permit, will protect the water quality of the receiving water.

On February 14, 1997, the EPA issued final NPDES permits to Intervenor. Within 30 days of that decision, Petitioners requested an evidentiary hearing with the regional administrator. *See* 40 C.F.R. § 124.74. Although Petitioners requested a hearing, they conceded that they raised only a legal issue and that a hearing was, in fact, unnecessary. Specifically, Petitioners raised only the legal question whether the Clean Water Act (CWA) requires numeric limitations to ensure strict compliance with state water-quality standards; they did not raise the factual question whether the management practices that the EPA chose would be effective.

***1162** On June 16, 1997, the regional administrator summarily denied Petitioners' request. Petitioners then filed a petition for review with the EAB. *See* 40 C.F.R. § 124.91(a). On May 21, 1998, the EAB denied the petition, holding that the permits need not contain numeric limitations to ensure strict compliance with state water-quality standards. Petitioners then moved for reconsideration, *see* 40 C.F.R. § 124.91(i), which the EAB denied.

JURISDICTION

[1] [2] [Title 33 U.S.C. § 1369\(b\)\(1\)\(F\)](#) authorizes “any interested person” to seek review in this court of an EPA decision “issuing or denying any permit under [section 1342](#) of this title.” “Any interested person” means any person that satisfies the injury-in-fact requirement for Article III standing. *See* [Natural Resources Defense Council, Inc. v. EPA](#), 966 F.2d 1292, 1297 (9th Cir.1992) [*NRDC II*]. It is undisputed that Petitioners satisfy that requirement. Petitioners allege that “[m]embers of Defenders and the Club use and enjoy ecosystems affected by storm water discharges and sources thereof governed by the above-referenced permits,” and no other party disputes those facts. *See* [Lujan v. Defenders of Wildlife](#), 504 U.S. 555, 565–66, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992) (“[A] plaintiff claiming injury from environmental damage must use the area affected by the challenged activity.”); *see also* [NRDC II](#), 966 F.2d at 1297 (“NRDC claims, inter alia, that [the] EPA has delayed unlawfully promulgation of storm water regulations and that its regulations, as published, inadequately control storm water contaminants. NRDC's allegations ... satisfy the broad standing requirement applicable here.”).

Intervenors argue, however, that they were not parties when this action was filed and that this court cannot redress Petitioners' injury without them. Their real contention appears to be that they are indispensable parties under [Federal Rule of Civil Procedure 19](#). We need not consider that contention, however, because in fact Intervenor has been permitted to intervene in this action and to present their position fully. In the circumstances, Intervenor has suffered no injury.

DISCUSSION

A. *Standard of Review*

The Administrative Procedures Act (APA), 5 U.S.C. §§ 701–06, provides our standard of review for the EPA's decision to issue a permit. *See American Mining Congress v. EPA*, 965 F.2d 759, 763 (9th Cir.1992). Under the APA, we generally review such a decision to determine whether it was “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A).

On questions of statutory interpretation, we follow the approach from *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). *See NRDC II*, 966 F.2d at 1297 (so holding). In *Chevron*, 467 U.S. at 842–44, 104 S.Ct. 2778, the Supreme Court devised a two-step process for reviewing an administrative agency's interpretation of a statute that it administers. *See also Bicycle Trails Council of Marin v. Babbitt*, 82 F.3d 1445, 1452 (9th Cir.1996) (“The Supreme Court has established a two-step process for reviewing an agency's construction of a statute it administers.”). Under the first step, we employ “traditional tools of statutory construction” to determine whether Congress has expressed its intent unambiguously on the question before the court. *Chevron*, 467 U.S. at 843 n. 9, 104 S.Ct. 2778. “If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.” *Id.* at 842–43, 104 S.Ct. 2778 (footnote omitted). If, instead, Congress has left a gap for the administrative agency to fill, we proceed to step two. *See id.* at 843, 104 S.Ct. 2778. At step two, we must uphold the administrative regulation unless it is “arbitrary, capricious, or manifestly contrary to the statute.” *Id.* at 844, 104 S.Ct. 2778.

*1163 B. *Background*

The CWA generally prohibits the “discharge of any pollutant,” 33 U.S.C. § 1311(a), from a “point source” into the navigable waters of the United States. *See* 33 U.S.C. § 1362(12)(A). An entity can, however, obtain an NPDES permit that allows for the discharge of some pollutants. *See* 33 U.S.C. § 1342(a)(1).

[3] Ordinarily, an NPDES permit imposes effluent limitations on such discharges. *See* 33 U.S.C. § 1342(a)(1) (incorporating effluent limitations found in 33 U.S.C. § 1311). First, a permit-holder “shall ... achiev[e] ... effluent limitations ... which shall require the application of the best practicable control technology [BPT] currently available.” 33 U.S.C. § 1311(b)(1)(A). Second, a permit-holder “shall ... achiev[e] ... any more stringent limitation, including those necessary to meet water quality standards, treatment standards or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title).” 33 U.S.C. § 1311(b)(1)(C) (emphasis added). Thus, although the BPT requirement takes into account issues of practicability, *see Rybachek v. EPA*, 904 F.2d 1276, 1289 (9th Cir.1990), the EPA also “is under a specific obligation to require that level of effluent control which is needed to implement existing water quality standards without regard to the limits of practicability,” *Oklahoma v. EPA*, 908 F.2d 595, 613 (10th Cir.1990) (internal quotation marks omitted), *rev'd on other grounds sub nom. Arkansas v. Oklahoma*, 503 U.S. 91, 112 S.Ct. 1046, 117 L.Ed.2d 239 (1992). *See also Ackels v. EPA*, 7 F.3d 862, 865–66 (9th Cir.1993) (similar).

The EPA's treatment of storm-water discharges has been the subject of much debate. Initially, the EPA determined that such discharges generally were exempt from the requirements of the CWA (at least when they were uncontaminated by any industrial or commercial activity). *See* 40 C.F.R. § 125.4 (1975).

The Court of Appeals for the District of Columbia, however, invalidated that regulation, holding that “the EPA Administrator does not have authority to exempt categories of point sources from the permit requirements of § 402 [33 U.S.C. § 1342].” *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d 1369, 1377 (D.C.Cir.1977). “Following this

decision, [the] EPA issued proposed and final rules covering storm water discharges in 1980, 1982, 1984, 1985 and 1988. These rules were challenged at the administrative level and in the courts.” *American Mining Congress*, 965 F.2d at 763.

Ultimately, in 1987, Congress enacted the Water Quality Act amendments to the CWA. See *NRDC II*, 966 F.2d at 1296 (“Recognizing both the environmental threat posed by storm water runoff and [the] EPA’s problems in implementing regulations, Congress passed the Water Quality Act of 1987 containing amendments to the CWA.”) (footnotes omitted). Under the Water Quality Act, from 1987 until 1994,¹ most entities discharging storm water did not need to obtain a permit. See 33 U.S.C. § 1342(p).

Although the Water Quality Act generally did not require entities discharging storm water to obtain a permit, it did require such a permit for discharges “with respect to which a permit has been issued under this section before February 4, 1987,” 33 U.S.C. § 1342(p)(2)(A); discharges “associated with industrial activity,” 33 U.S.C. § 1342(p)(2)(B); discharges from a “municipal separate sewer system serving a population of [100,000] or more,” 33 U.S.C. § 1342(p)(2)(C) & (D); and “[a] discharge for which the Administrator ... determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States,” 33 U.S.C. § 1342(p)(2)(E).

***1164** When a permit is required for the discharge of storm water, the Water Quality Act sets two different standards:

(A) Industrial discharges

Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and *section 1311* of this title.

(B) Municipal discharge

Permits for discharges from municipal storm sewers—

(i) may be issued on a system or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator ... determines appropriate for the control of such pollutants.

33 U.S.C. § 1342(p)(3) (emphasis added).

C. Application of Chevron

[4] The EPA and Petitioners argue that the Water Quality Act is ambiguous regarding whether Congress intended for municipalities to comply strictly with state water-quality standards, under 33 U.S.C. § 1311(b)(1)(C). Accordingly, they argue that we must proceed to step two of *Chevron* and defer to the EPA’s interpretation that the statute does require strict compliance. See *Zimmerman v. Oregon Dep’t of Justice*, 170 F.3d 1169, 1173 (9th Cir.1999) (“At step two, we must uphold the administrative regulation unless it is arbitrary, capricious, or manifestly contrary to the statute.”) (citation and internal quotation marks omitted), *cert. denied*, 531 U.S. 1189, 121 S.Ct. 1186, 149 L.Ed.2d 103, 68 USLW 3129 (1999).

Intervenors and *amici*, on the other hand, argue that the Water Quality Act expresses Congress’ intent unambiguously and, thus, that we must stop at step one of *Chevron*. See, e.g., *National Credit Union Admin. v. First Nat’l Bank & Trust Co.*, 522 U.S. 479, 118 S.Ct. 927, 938–39, 140 L.Ed.2d 1 (1998) (“Because we conclude that Congress has made it clear

that the *same* common bond of occupation must unite each member of an occupationally defined federal credit union, we hold that the NCUA's contrary interpretation is impermissible under the first step of *Chevron*.”) (emphasis in original); *Sierra Club v. EPA*, 118 F.3d 1324, 1327 (9th Cir.1997) (“Congress has spoken clearly on the subject and the regulation violates the provisions of the statute. Our inquiry ends at the first prong of *Chevron*.”). We agree with Intervenor and *amici*: For the reasons discussed below, the Water Quality Act unambiguously demonstrates that Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C). That being so, we end our inquiry at the first step of the *Chevron* analysis.

[5] [6] “[Q]uestions of congressional intent that can be answered with ‘traditional tools of statutory construction’ are still firmly within the province of the courts” under *Chevron*. *NRDC II*, 966 F.2d at 1297 (citation omitted). “Using our ‘traditional tools of statutory construction,’ *Chevron*, 467 U.S. at 843 n. 9, 104 S.Ct. 2778, 81 L.Ed.2d 694, when interpreting a statute, we look first to the words that Congress used.” *Zimmerman*, 170 F.3d at 1173 (alterations, citations, and internal quotation marks omitted). “Rather than focusing just on the word or phrase at issue, we look to the entire statute to determine Congressional intent.” *Id.* (alterations, citations, and internal quotation marks omitted).

As is apparent, Congress expressly required *industrial* storm-water discharges to comply with the requirements of 33 U.S.C. § 1311. See 33 U.S.C. § 1342(p)(3)(A) (“Permits for discharges associated with industrial activity *shall meet all applicable provisions of this section and section 1311 of this title.*”) (emphasis added). By incorporation, then, industrial *1165 storm-water discharges “*shall ... achiev[e] ... any more stringent limitation, including those necessary to meet water quality standards, treatment standards or schedules of compliance, established pursuant to any State law or regulation (under authority preserved by section 1370 of this title).*” 33 U.S.C. § 1311(b)(1)(C) (emphasis added); see also Sally A. Longroy, *The Regulation of Storm Water Runoff and its Impact on Aviation*, 58 J. Air. L. & Com. 555, 565–66 (1993) (“Congress further *singled out* industrial storm water dischargers, all of which are on the high-priority schedule, and requires them to satisfy all provisions of section 301 of the CWA [33 U.S.C. § 1311].... Section 301 further mandates that NPDES permits include requirements that receiving waters meet water quality based standards.”) (emphasis added). In other words, industrial discharges must comply strictly with state water-quality standards.

Congress chose not to include a similar provision for municipal storm-sewer discharges. Instead, Congress required municipal storm-sewer discharges “to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator ... determines appropriate for the control of such pollutants.” 33 U.S.C. § 1342(p)(3)(B)(iii).

[7] The EPA and Petitioners argue that the difference in wording between the two provisions demonstrates ambiguity. That argument ignores precedent respecting the reading of statutes. Ordinarily, “[w]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.” *Russello v. United States*, 464 U.S. 16, 23, 104 S.Ct. 296, 78 L.Ed.2d 17 (1983) (citation and internal quotation marks omitted); see also *United States v. Hanousek*, 176 F.3d 1116, 1121 (9th Cir.1999) (stating the same principle), *petition for cert. filed*, 68 USLW 3138 (Aug. 23, 1999). Applying that familiar and logical principle, we conclude that Congress' choice to require industrial storm-water discharges to comply with 33 U.S.C. § 1311, but not to include the same requirement for municipal discharges, must be given effect. When we read the two related sections together, we conclude that 33 U.S.C. § 1342(p)(3)(B)(iii) does not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C).

Application of that principle is significantly strengthened here, because 33 U.S.C. § 1342(p)(3)(B) *is not merely silent* regarding whether municipal discharges must comply with 33 U.S.C. § 1311. Instead, § 1342(p)(3)(B)(iii) *replaces* the requirements of § 1311 with the requirement that municipal storm-sewer dischargers “reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator ... determines appropriate for the control

of such pollutants.” 33 U.S.C. § 1342(p)(3)(B)(iii). In the circumstances, the statute unambiguously demonstrates that Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C).

Indeed, the EPA's and Petitioners' interpretation of 33 U.S.C. § 1342(p)(3)(B)(iii) would render that provision superfluous, a result that we prefer to avoid so as to give effect to all provisions that Congress has enacted. See *Government of Guam ex rel. Guam Econ. Dev. Auth. v. United States*, 179 F.3d 630, 634 (9th Cir.1999) (“This court generally refuses to interpret a statute in a way that renders a provision superfluous.”), *as amended*, 1999 WL 604218 (9th Cir. Aug.12, 1999). As all parties concede, § 1342(p)(3)(B)(iii) creates a lesser standard than § 1311. Thus, if § 1311 continues to apply to municipal storm-sewer discharges, *1166 the more stringent requirements of that section always would control.

Contextual clues support the plain meaning of § 1342(p)(3)(B)(iii), which we have described above. The Water Quality Act contains other provisions that undeniably exempt certain discharges from the permit requirement altogether (and therefore from § 1311). For example, “[t]he Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture.” 33 U.S.C. § 1342(l)(1). Similarly, a permit is not required for certain storm-water runoff from oil, gas, and mining operations. See 33 U.S.C. § 1342(l)(2). Read in the light of those provisions, Congress' choice to exempt municipal storm-sewer discharges from strict compliance with § 1311 is not so unusual that we should hesitate to give effect to the statutory text, as written.

Finally, our interpretation of § 1342(p)(3)(B)(iii) is supported by this court's decision in *NRDC II*. There, the petitioner had argued that “the EPA has failed to establish substantive controls for municipal storm water discharges as required by the 1987 amendments.” *NRDC II*, 966 F.2d at 1308. This court disagreed with the petitioner's interpretation of the amendments:

Prior to 1987, municipal storm water dischargers were subject to the same substantive control requirements as industrial and other types of storm water. In the 1987 amendments, *Congress retained the existing, stricter controls for industrial storm water dischargers but prescribed new controls for municipal storm water discharge.*

Id. (emphasis added). The court concluded that, under 33 U.S.C. § 1342(p)(3)(B)(iii), “*Congress did not mandate a minimum standards approach.*” *Id.* (emphasis added). The question in *NRDC II* was not whether § 1342(p)(3)(B)(iii) required strict compliance with state water-quality standards, see 33 U.S.C. § 1311(b)(1)(C). Nonetheless, the court's holding applies equally in this action and further supports our reading of 33 U.S.C. § 1342(p).

In conclusion, the text of 33 U.S.C. § 1342(p)(3)(B), the structure of the Water Quality Act as a whole, and this court's precedent all demonstrate that Congress did not require municipal storm-sewer discharges to comply strictly with 33 U.S.C. § 1311(b)(1)(C).

D. Required Compliance with 33 U.S.C. § 1311(b)(1)(C)

[8] We are left with Intervenor's contention that the EPA may not, under the CWA, require strict compliance with state water-quality standards, through numerical limits or otherwise. We disagree.

Although Congress did not require municipal storm-sewer discharges to comply strictly with § 1311(b)(1)(C), § 1342(p)(3)(B)(iii) states that “[p]ermits for discharges from municipal storm sewers ... shall require ... *such other provisions as the Administrator ... determines appropriate for the control of such pollutants.*” (Emphasis added.) That provision gives the EPA discretion to determine what pollution controls are appropriate. As this court stated in *NRDC II*, “Congress gave the administrator discretion to determine what controls are necessary.... NRDC's argument that the EPA rule is inadequate cannot prevail in the face of the clear statutory language.” 966 F.2d at 1308.

Under that discretionary provision, the EPA has the authority to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants. The EPA also has the authority to require less than strict compliance with state water-quality standards. The EPA has adopted an interim approach, which “uses best management practices (BMPs) in first-round storm water permits ... to provide for the attainment of water quality standards.” The EPA applied that approach to the permits at issue here. Under [33 U.S.C. § 1342\(p\)\(3\)\(B\)\(iii\)](#), the EPA's choice to include *1167 either management practices or numeric limitations in the permits was within its discretion. See [NRDC II, 966 F.2d at 1308](#) (“Congress did not mandate a minimum standards approach or specify that [the] EPA develop minimal performance requirements.”). In the circumstances, the EPA did not act arbitrarily or capriciously by issuing permits to Intervenor.

PETITION DENIED.

All Citations

191 F.3d 1159, 30 Env'tl. L. Rep. 20,116, 99 Cal. Daily Op. Serv. 7618, 1999 Daily Journal D.A.R. 9661, 1999 Daily Journal D.A.R. 12,369

Footnotes

- 1 As enacted, the Water Quality Act extended the exemption to October 1, 1992. Congress later amended the Act to change that date to October 1, 1994. See [Pub.L. No. 102-580](#).

ATTACHMENT C-4

 KeyCite Yellow Flag - Negative Treatment

Declined to Follow by [Mrosek v. City of Peachtree City](#), N.D.Ga., December 22, 2014

344 F.3d 832

United States Court of Appeals,
Ninth Circuit.

ENVIRONMENTAL DEFENSE CENTER, INC., Petitioner,
[Natural Resources Defense Council, Inc.](#), Petitioner–Intervenor,

v.

[UNITED STATES ENVIRONMENTAL PROTECTION AGENCY](#), Respondent.

American Forest & Paper Association; National Association of Home Builders, Petitioners,

v.

[United States Environmental Protection Agency](#), Respondent,
[Natural Resources Defense Council, Inc.](#), Applicant–Intervenor.

Texas Cities Coalition on Stormwater; Texas Counties Storm Water Coalition, Petitioners,

v.

[United States Environmental Protection Agency](#), Respondent,
[Natural Resources Defense Council, Inc.](#), Respondent–Intervenor.

Nos. 00–70014, 00–70734, 00–70822.

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Argued and Submitted Dec. 3, 2001.

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Filed Sept. 15, 2003.

Environmental, municipal, and industry groups brought petitions for review of Environmental Protection Agency (EPA) rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements. On denial of rehearing, the Court of Appeals, [James R. Browning](#), Circuit Judge, held that: (1) EPA had authority to impose rule; (2) rule did not violate the Tenth Amendment; (3) rule improperly failed to provide for review of notices of intent and public participation in NPDES permitting process; (4) EPA's failure to designate industrial sources of storm water pollution for permitting requirements was not arbitrary and capricious; (5) challenge to rule's exclusion of forest roads was not time-barred; (6) forestry trade association lacked standing to challenge rule; (7) EPA properly consulted with state and local officials; (8) sites subject to rule were properly designated; and (9) EPA properly retained authority to designate future sources of storm water pollution for regulation.

Petitions for review granted in part and denied in part.

[Tallman](#), Circuit Judge, filed opinion concurring in part and dissenting in part, and would have granted petition for rehearing.

Opinion, [319 F.3d 398](#), vacated.

West Headnotes (33)

[1] **Environmental Law** 🔑 Sewage and sewers

Environmental Law 🔑 Discharge of pollutants

Storm sewers are established “point sources” subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA). Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

[4 Cases that cite this headnote](#)

[2] **Environmental Law** 🔑 Substances, Sources, and Activities Regulated

Diffuse runoff, such as rainwater that is not channeled through point source, is considered “nonpoint source” pollution and is not subject to federal regulation under Clean Water Act (CWA). Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

[3 Cases that cite this headnote](#)

[3] **Constitutional Law** 🔑 Resolution of non-constitutional questions before constitutional questions

Court of Appeals avoids considering constitutionality of a rule if an issue may be resolved on narrower grounds.

[5 Cases that cite this headnote](#)

[4] **Environmental Law** 🔑 Discharge of pollutants

Environmental Protection Agency (EPA) interpretation of rule promulgated under Clean Water Act (CWA), whereby EPA would require that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, was reasonable, and thus EPA acted within its statutory mandate in formulating permit program under rule; even though permitting was not included on statutory list of elements for EPA's comprehensive program to regulate small sewer systems, list was non-exclusive, and statutory language requiring imposition of permits for “municipal storm sewers” was reasonably interpreted to extend to small systems. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(6), 33 U.S.C.A. § 1342(p)(6).

[9 Cases that cite this headnote](#)

[5] **Environmental Law** 🔑 Conditions and limitations

Minimum measures set forth by rule as conditions for issuance of stormwater discharge permit to operator of small municipal storm sewers did not exceed authority of Environmental Protection Agency (EPA) under Clean Water Act (CWA), as statute's list of elements for regulatory program was nonexclusive, and rule included at least one alternative to minimum measures. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(6), 33 U.S.C.A. § 1342(p)(6); 40 C.F.R. §§ 122.26(d), 122.26, 122.33(b)(1), 122.34(b), (d)(1)(i).

[4 Cases that cite this headnote](#)

[6] **States** 🔑 Surrender of state sovereignty and coercion of state

Under the Tenth Amendment, the Federal Government may not compel States to implement, by legislation or executive action, federal regulatory programs. [U.S.C.A. Const.Amend. 10](#).

[1 Cases that cite this headnote](#)

[7] States [↔ Surrender of state sovereignty and coercion of state](#)

Under the Tenth Amendment, the federal government may not force the States to regulate third parties in furtherance of a federal program. [U.S.C.A. Const.Amend. 10](#).

[1 Cases that cite this headnote](#)

[8] States [↔ Powers of United States and Infringement on State Powers](#)

Protections of Tenth Amendment, whereby federal government may not compel States to implement federal regulatory programs by legislation or executive action, nor force the States to regulate third parties in furtherance of a federal program, extend to municipalities. [U.S.C.A. Const.Amend. 10](#).

[1 Cases that cite this headnote](#)

[9] United States [↔ State and local governments and agencies](#)

While federal government may not compel them to do so, it may encourage States and municipalities to implement federal regulatory programs; for example, the federal government may make certain federal funds available only to those States or municipalities that enact a given regulatory regime. [U.S.C.A. Const.Amend. 10](#).

[Cases that cite this headnote](#)

[10] States [↔ Surrender of state sovereignty and coercion of state](#)

The crucial proscribed element under the Tenth Amendment, as to federal government's ability to have states implement federal programs, is coercion; the residents of the State or municipality must retain the ultimate decision as to whether or not the State or municipality will comply with the federal regulatory program, but as long as the alternative to implementing a federal regulatory program does not offend the Constitution's guarantees of federalism, the fact that the alternative is difficult, expensive, or otherwise unappealing is insufficient to establish a Tenth Amendment violation. [U.S.C.A. Const.Amend. 10](#).

[1 Cases that cite this headnote](#)

[11] Environmental Law [↔ Validity](#)

States [↔ Surrender of state sovereignty and coercion of state](#)

Environmental Protection Agency (EPA) rule promulgated under Clean Water Act (CWA), whereby discharges from small municipal storm sewers and construction sites were subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, did not wrongfully compel municipalities to regulate third parties under federal law as condition of receiving permit to operate, as would contravene Tenth Amendment; although one means of obtaining permit would require municipality to adopt various enforcement procedures, permit applicants retained option of applying for Alternative Permit. [U.S.C.A. Const.Amend. 10](#); Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#); [40 C.F.R. §§ 122.26\(d\), 122.34](#).

[1 Cases that cite this headnote](#)

[12] Constitutional Law  Political speech, beliefs, or activity in general**Environmental Law**  Discharge of pollutants

Environmental Protection Agency (EPA) adoption of “Public Education” and “Illicit Discharge” Minimum Measures within rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), did not wrongfully compel municipalities to deliver EPA's political messages, and thus did not violate municipalities' free speech rights under First Amendment; requiring providers of storm sewers that discharged into national waters to educate public about impacts of storm water discharge, and to inform affected parties, including public, about hazards of improper waste disposal fell short of compelling political speech, since they did not dictate specific ideological message. [U.S.C.A. Const.Amend. 1](#); Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[10 Cases that cite this headnote](#)

[13] Administrative Law and Procedure  Notice and comment, sufficiency

In determining whether notice to interested parties was adequate under informal rulemaking strictures of Administrative Procedure Act (APA) when final regulation has varied from proposal, court must consider whether new round of notice and comment would have provided first opportunity for interested parties to offer comments that could have persuaded agency to modify its ruling. [5 U.S.C.A. § 553](#).

[3 Cases that cite this headnote](#)

[14] Environmental Law  Notice and comment

Environmental Protection Agency (EPA) adoption of Alternative Permit option within rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), properly complied with minimum notice and comment procedures required in informal rulemaking under Administrative Procedure Act (APA), since Alternative Permit option was logical outgrowth of comments received by EPA in response to proposed rule, and option contained no elements that were not part of proposed rule, even though it was configured differently. [5 U.S.C.A. § 553](#); Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[3 Cases that cite this headnote](#)

[15] Environmental Law  Ripeness

Challenge to Environmental Protection Agency (EPA) rule allowing operators of small municipal storm sewers to pursue general permit option to meet National Pollutant Discharge Elimination System (NPDES) requirements under Clean Water Act (CWA) was ripe for review, as issue did not involve merits of any specific permit but was purely one of statutory interpretation that would not benefit from further factual development; issue specifically was whether EPA accomplished the substantive controls for municipal stormwater that Congress mandated in the CWA. Federal Water Pollution Control Act Amendments of 1972, § 402(p), [33 U.S.C.A. § 1342\(p\)](#).

[11 Cases that cite this headnote](#)

[16] Environmental Law  Discharge of pollutants

General permitting scheme of Environmental Protection Agency (EPA) rules governing discharges from small municipal storm sewers and construction sites, whereby such discharges would be subject to National Pollutant Discharge Elimination System (NPDES) requirements under Clean Water Act (CWA), improperly allowed sewer system operators to design storm water pollution control programs without adequate regulatory and public oversight, and thus contravened CWA, since permitting scheme did not require EPA to review content of dischargers' notices of intent, and did not contain express requirements for public participation in NPDES permitting process. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3), [33 U.S.C.A. § 1342\(p\)\(3\)](#); [40 C.F.R. § 122.34](#).

[6 Cases that cite this headnote](#)

[17] Administrative Law and Procedure 🔑 [Administrative construction](#)

Administrative Law and Procedure 🔑 [Theory and grounds of administrative decision](#)

Court of Appeals normally defers to an agency's interpretations of its own regulations, but it may decline to defer to the post hoc rationalizations of appellate counsel.

[8 Cases that cite this headnote](#)

[18] Environmental Law 🔑 [Discharge of pollutants](#)

Failure of Environmental Protection Agency (EPA) to designate industrial sources of storm water pollution for discharge permit program, whereby such discharges would become subject to National Pollutant Discharge Elimination System (NPDES) requirements, was not arbitrary and capricious, and thus did not violate Clean Water Act (CWA); rather than designating industrial discharge sources on nationwide basis under NPDES program, EPA sought to establish local and regional designation authority for such sources. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., as amended, [33 U.S.C.A. § 1251 et seq.](#)

[10 Cases that cite this headnote](#)

[19] Environmental Law 🔑 [Accrual, computation, and tolling](#)

Petitioners' challenge to failure of Environmental Protection Agency (EPA) to regulate stormwater drainage from forest roads did not have to be raised either when EPA initially promulgated silviculture regulations excluding certain silvicultural activities from National Pollutant Discharge Elimination System (NPDES) permitting requirements, or when EPA considered amending such regulations but chose not to do so, and challenge was thus not time-barred, to extent that present challenge was made to EPA's decision not to address forest roads under later-enacted portion of Clean Water Act (CWA) directed to municipal and industrial stormwater discharges. Federal Water Pollution Control Act Amendments of 1972, §§ 402(p), 509(b)(1), [33 U.S.C.A. §§ 11342\(p\), 1369\(b\)\(1\)](#); [40 C.F.R. § 122.27\(b\)\(1\)](#).

[11 Cases that cite this headnote](#)

[20] Environmental Law 🔑 [Water pollution](#)

Petitioners' comments during rulemaking process in connection with Environmental Protection Agency (EPA) rule governing municipal and industrial stormwater discharges pursuant to Clean Water Act (CWA) were not so inadequate as to preclude appellate court jurisdiction to hear petitioners' subsequent challenge to rule's failure to address stormwater drainage from forest roads; comments comprised two paragraphs, with footnotes, stating objections and providing support, EPA was aware of forest road sedimentation problem at time of rulemaking,

and EPA responded to comments without disputing that problem was serious. Federal Water Pollution Control Act Amendments of 1972, § 402(p), [33 U.S.C.A. § 1342\(p\)](#).

[2 Cases that cite this headnote](#)

[21] Environmental Law  [Organizations, associations, and other groups](#)

Forestry and paper association lacked sufficient standing to challenge Environmental Protection Agency (EPA) rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), since association's interest in avoiding future regulation of forest roads was not actually or imminently affected by rule at issue. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[6 Cases that cite this headnote](#)

[22] Environmental Law  [Permit and certification proceedings](#)

Environmental Protection Agency (EPA), in promulgating rule mandating that discharges from small municipal storm sewers and construction sites be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, properly consulted with state and local officials, and thus did not violate Clean Water Act (CWA); draft of first report pertaining to proposed rule was circulated to states and municipalities, EPA regional offices, professional associations and other stakeholders, and rule was revised based upon comments received. Federal Water Pollution Control Act Amendments of 1972, § 402(p), [33 U.S.C.A. § 1342\(p\)](#).

[2 Cases that cite this headnote](#)

[23] Environmental Law  [Organizations, associations, and other groups](#)

Environmental Law  [Government entities, agencies, and officials](#)

Home builders' association and municipalities possessed sufficient standing to challenge designation by Environmental Protection Agency (EPA) of municipal storm sewers and construction sites for regulation under Clean Water Act (CWA), whereby National Pollutant Discharge Elimination System (NPDES) permits would be required for discharges by such entities, since association and municipalities were able to allege procedural harm from purported lack of notice or from effects of regulation itself. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[Cases that cite this headnote](#)

[24] Environmental Law  [Discharge of pollutants](#)

Designation by Environmental Protection Agency (EPA) of municipal storm sewers to be subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements, according to areas defined by Census Bureau as "urbanized," was not arbitrary and capricious, as would violate Clean Water Act (CWA), since EPA articulated reasoned basis for its conclusion that Census Bureau's designation was correlated to actual levels of pollution runoff in storm water; record evidence demonstrated compelling and widespread relationship between urban storm water runoff and deleterious impacts on water quality. Federal Water Pollution Control Act Amendments of 1972, § 402(p), [33 U.S.C.A. § 1342\(p\)](#).

[5 Cases that cite this headnote](#)

[25] Environmental Law  **Discharge of pollutants**

Decision by Environmental Protection Agency (EPA) to subject construction sites disturbing between one and five acres of land to National Pollutant Discharge Elimination System (NPDES) permitting requirements was not arbitrary and capricious, as would violate Clean Water Act (CWA); record evidence included numerous studies of sedimentation from construction sites, which EPA specifically reviewed in promulgating challenged regulation, and EPA's extrapolation of data from studies involving larger sites had reasonable basis. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[10 Cases that cite this headnote](#)

[26] Environmental Law  **Discharge of pollutants**

Allowance by Environmental Protection Agency (EPA) of regulatory waivers for small construction sites not likely to cause adverse water quality impacts, as would exempt such sites from National Pollutant Discharge Elimination System (NPDES) permit requirements, was not arbitrary and capricious, as would violate Clean Water Act (CWA); EPA's waiver approach promoted fairness and efficiency in permitting process, and did not create presumption applicable to evidentiary hearing. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

[Cases that cite this headnote](#)

[27] Environmental Law  **Discharge of pollutants**

Decision by Environmental Protection Agency (EPA) to subject small construction sites to National Pollutant Discharge Elimination System (NPDES) permitting requirements was consistent with its decisions to exempt other potential storm water runoff sources from such requirements, notwithstanding alleged lack of quantifiable data regarding runoff, and thus was not arbitrary and capricious, as would violate Clean Water Act (CWA); record evidence demonstrated that construction sites of all sizes had greater erosion rates than almost any other land use, and thus were not similarly situated to potential polluters that EPA chose not to regulate. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

[4 Cases that cite this headnote](#)

[28] Environmental Law  **Substances, Sources, and Activities Regulated**

Language in Clean Water Act (CWA) conferring authority to Environmental Protection Agency (EPA) to regulate "a discharge" determined to threaten water quality does not preclude EPA from designating entire categories of discharge sources for regulation. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[4 Cases that cite this headnote](#)

[29] Environmental Law  **Discharge of pollutants**

Residual designation authority retained by Environmental Protection Agency (EPA) for subjecting storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system was not ultra vires as to Clean Water Act (CWA); applicable statutory sections authorized designation of class of discharges to be identified on case-by-case, location-specific bases by NPDES permitting authority, consistent with comprehensive program to protect water quality. Federal Water Pollution Control Act Amendments of 1972, § 402(p), 33 U.S.C.A. § 1342(p).

[3 Cases that cite this headnote](#)

[30] **Constitutional Law** 🔑 Environment and natural resources

Environmental Law 🔑 Discharge of pollutants

Residual designation authority retained by Environmental Protection Agency (EPA) for subjecting storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system under Clean Water Act (CWA) did not effect unconstitutional delegation of legislative power, since such authority manifested statutory directive to restore and maintain chemical, physical and biological integrity of national waters. [U.S.C.A. Const. Art. 1, § 1](#); Federal Water Pollution Control Act Amendments of 1972, § 402(p), [33 U.S.C.A. § 1342\(p\)](#).

[1 Cases that cite this headnote](#)

[31] **Environmental Law** 🔑 Notice and comment

Environmental Protection Agency (EPA) provided proper notice and comment for rule allowing agency to retain residual designation authority subjecting categories of storm water discharge sites to future regulation under National Pollutant Discharge Elimination System (NPDES) permitting system under Clean Water Act (CWA), even though proposed rule would have only allowed such designation on case-by-case basis, since final rule was logical outgrowth of comments received by EPA; elements in proposed rule explicitly envisioned categorical designation of sources at watershed level. Federal Water Pollution Control Act Amendments of 1972, § 402(p), [33 U.S.C.A. § 1342\(p\)](#).

[4 Cases that cite this headnote](#)

[32] **Administrative Law and Procedure** 🔑 Economic or social impact statement

Under Regulatory Flexibility Act (RFA), federal agency must prepare regulatory flexibility analysis and assessment of economic impact of proposed rule on small business entities, unless agency certifies that proposed rule will not have significant economic impact on a substantial number of small entities, and provides a factual basis for that certification. [5 U.S.C.A. § 604](#).

[4 Cases that cite this headnote](#)

[33] **Environmental Law** 🔑 Permit and certification proceedings

Environmental Protection Agency (EPA), in promulgating rule subjecting categories of storm water discharge sites to National Pollutant Discharge Elimination System (NPDES) permitting requirements under Clean Water Act (CWA), reasonably certified that rule would not have significant economic impact on small business entities, as required under Regulatory Flexibility Act (RFA); EPA convened small business advocacy review panel before publishing notice of proposed rule, and included provisions in rule designed to minimize impacts on such entities. [5 U.S.C.A. § 604](#); Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., [33 U.S.C.A. § 1251 et seq.](#)

[3 Cases that cite this headnote](#)

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On Petition for Review of an Order of the Environmental Protection Agency. EPA No. Clean Water 40 CFR.

Before [BROWNING](#), [REINHARDT](#), and [TALLMAN](#), Circuit Judges.

Opinion by Judge [JAMES R. BROWNING](#); Partial Concurrence and Partial Dissent by Judge [TALLMAN](#).

ORDER AND OPINION

ORDER

The opinion and dissent filed in this case on January 14, 2003, and published at 319 F.3d 398 are vacated. They are replaced by the Opinion and Dissent filed today.

With the filing of the new Opinion and Dissent, the panel has voted to deny the petitions for rehearing and the petition for rehearing en banc. (Judge Tallman would grant the petition for rehearing filed by *840 the Environmental Protection Agency.) The full court has been advised of the new Opinion, new Dissent, and petition for rehearing en banc. No judge has requested a vote on the petition for rehearing en banc. [Fed. R.App. P. 35](#).

The petitions for rehearing and the petition for rehearing en banc are DENIED. The clerk is instructed not to accept for filing any new petitions for rehearing or petitions for rehearing en banc in this case.

Each party shall bear its own costs in this appeal.

OPINION

JAMES R. BROWNING, Circuit Judge.

Petitioners challenge a rule issued by the United States Environmental Protection Agency pursuant to the Clean Water Act, 33 U.S.C. §§ 1251–1387, to control pollutants introduced into the nation's waters by storm sewers.

Storm sewers drain rainwater and melted snow from developed areas into water bodies that can handle the excess flow. Draining stormwater picks up a variety of contaminants as it filters through soil and over pavement on its way to sewers. Sewers are also used on occasion as an easy (if illicit) means for the direct discharge of unwanted contaminants. Since storm sewer systems generally channel collected runoff into federally protected water bodies, they are subject to the controls of the Clean Water Act.

In October of 1999, after thirteen years in process, the Environmental Protection Agency (“EPA”) promulgated a final administrative rule (the “Phase II Rule”¹ or “the Rule”) under § 402(p) of the Clean Water Act, 33 U.S.C. § 1342(p), mandating that discharges from small municipal separate storm sewer systems and from construction sites between one and five acres in size be subject to the permitting requirements of the National Pollutant Discharge Elimination System (“NPDES”), 33 U.S.C. §§ 1311(a), 1342. EPA preserved authority to regulate other harmful stormwater discharges in the future.

In the three cases consolidated here, petitioners and intervenors challenge the Phase II Rule on twenty-two constitutional, statutory, and procedural grounds. We remand three aspects of the Rule concerning the issuance of notices of intent under the Rule's general permitting scheme, and a fourth aspect concerning the regulation of forest roads. We affirm the Rule against all other challenges.

I.

BACKGROUND

A. The Problem of Stormwater Runoff

Stormwater runoff is one of the most significant sources of water pollution in the nation, at times “comparable to, if not greater than, contamination from industrial and sewage sources.”² Storm sewer waters carry suspended metals, sediments, algae-promoting nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, pesticides, and other toxic contaminants into streams, rivers, lakes, *841 and estuaries across the United States.³ In 1985, three-quarters of the States cited urban stormwater runoff as a major cause of waterbody impairment, and forty percent reported construction site runoff as a major cause of impairment.⁴ Urban runoff has been named as the foremost cause of impairment of surveyed ocean waters.⁵ Among the sources of stormwater contamination are urban development, industrial facilities, construction sites, and illicit discharges and connections to storm sewer systems.⁶

B. Stormwater and the Clean Water Act

Congress enacted the Clean Water Act in 1948 to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” 33 U.S.C. § 1251(a) (originally codified as the Federal Water Pollution Control Act, 62 Stat. 1155). The Clean Water Act prohibits the discharge of pollutants from a “point source”⁷ into the waters of the United States without a permit issued under the terms of the National Pollutant Discharge Elimination System, 33 U.S.C. §§ 1311(a),

1342, which requires dischargers to comply with technology-based pollution limitations (generally according to the “best available technology economically achievable,” or “BAT” standard). 33 U.S.C. § 1311(b)(2)(A). NPDES permits are issued by EPA or by States that have been authorized by EPA to act as NPDES permitting authorities. 33 U.S.C. § 1342(a)-(b). The permitting authority must make copies of all NPDES permits and permit applications available to the public, 33 U.S.C. §§ 1342(j), 1342(b)(3); state permitting authorities must provide EPA notice of each permit application, 33 U.S.C. § 1342(b)(4); and a permitting authority must provide an opportunity for a public hearing before issuing any permit, 33 U.S.C. §§ 1342(a)(1), 1342(b)(3); cf. 33 U.S.C. § 1251(e) (requiring public participation).

[1] [2] Storm sewers are established point sources subject to NPDES permitting requirements. *Natural Res. Def. Council v. Costle*, 568 F.2d 1369, 1379 (D.C.Cir.1977) (holding unlawful EPA's exemption of stormwater discharges from NPDES permitting requirements); *Natural Res. Def. Council v. EPA*, 966 F.2d 1292, 1295 (9th Cir.1992).⁸ In 1987, to better regulate pollution conveyed by stormwater runoff, Congress enacted Clean Water Act § 402(p), 33 U.S.C. § 1342(p), “Municipal and Industrial Stormwater Discharges.” Sections 402(p)(2) and 402(p)(3) mandate NPDES permits for stormwater discharges “associated with industrial activity,” discharges from large and medium-sized municipal storm sewer systems, and certain other discharges. Section 402(p)(4) sets out a timetable for promulgation of the first of a *842 two-phase overall program of stormwater regulation. *Id.* at § 1342(p)(2)-(4); *Natural Res. Def. Council*, 966 F.2d at 1296. In 1990, pursuant to § 402(p)(4), EPA issued the Phase I Rule regulating large discharge sources.⁹

C. The Phase II Stormwater Rule

In Clean Water Act § 402(p), Congress also directed a second stage of stormwater regulation by ordering EPA to identify and address sources of pollution not covered by the Phase I Rule. Section 402(p)(1) placed a temporary moratorium (expiring in 1994) on the permitting of other stormwater discharges pending the results of studies mandated in § 402(p)(5) to identify the sources and pollutant content of such discharges and to establish procedures and methods to control them as “necessary to mitigate impacts on water quality.” 33 U.S.C. § 1342(p)(5). Section 402(p)(6) required that EPA establish “a comprehensive program to regulate” these stormwater discharges “to protect water quality,” following the studies mandated in § 402(p)(5) and consultation with state and local officials. *Id.* at § 1342(p)(6).

EPA proposed the Phase II Rule in January of 1998.¹⁰ In October, 1999, Congress passed legislation precluding EPA from promulgating the new Rule until EPA submitted an additional report to Congress supporting certain anticipated aspects of the Rule.¹¹ EPA was also required to publish its report in the Federal Register for public comment. *Pub. L. No. 106-74*, § 431(c), 113 Stat. at 1097. Later that month, EPA submitted the required (“Appropriations Act”) study and promulgated the Rule.¹²

Under the Phase II Rule, NPDES permits are required for discharges from small municipal separate storm sewer systems (“small MS4s”) and stormwater discharges from construction activity disturbing between one and five acres (“small construction sites”). 40 C.F.R. §§ 122.26(a)(9)(i)(A)-(B). Small MS4s may seek permission to discharge by submitting an individualized set of best-management plans in six specified categories, *id.* at § 122.34, either in the form of an individual permit application, or in the form of a notice of intent to comply with a general permit. *Id.* at § 122.33(b). Small MS4s may also seek permission to discharge through an alternative process, under which a permit may be sought without requiring the operator to regulate third parties, *id.* at §§ 122.33(b)(2)(ii), 122.26(d).¹³ Small construction sites may *843 apply for individual NPDES permits or seek coverage under a promulgated general permit. *Id.* at § 122.26(c). EPA also preserved authority to regulate other categories of harmful stormwater discharges on a regional, as-needed basis. *Id.* at § 122.26(a)(9)(i)(C)-(D).

D. Facial Challenges to the Phase II Rule

The Rule was challenged in the Fifth, Ninth, and D.C. Circuits in three separate actions ultimately consolidated before the Ninth Circuit.

The Texas Cities Coalition on Stormwater and the Texas Counties Stormwater Coalition (collectively, “the Municipal Petitioners”) assert that EPA lacked authority to require permitting, that its promulgation of the Rule was procedurally defective, that the Rule establishes categories that are arbitrary and capricious, and that the Rule impermissibly requires municipalities to regulate their own citizens in contravention of the Tenth Amendment and to communicate a federally mandated message in contravention of the First Amendment. The Natural Resources Defense Council (“NRDC”) intervened on behalf of EPA.

Environmental Defense Center, joined by petitioner-intervenor NRDC (“the Environmental Petitioners”), asserts that the regulations fail to meet minimum Clean Water Act statutory requirements because they constitute a program of impermissible self-regulation, fail to provide required avenues of public participation, and neglect to address stormwater runoff associated with forest roads and other significant sources of runoff pollution.

The American Forest & Paper Association (“AF&PA”) and the National Association of Home Builders (“the Industrial Petitioners”) assert that promulgation of the Rule was procedurally defective and violated the Regulatory Flexibility Act, that EPA's retention of authority to regulate future sources of runoff pollution is *ultra vires*, and that the decision to regulate discharge from construction sites one to five acres in size is arbitrary and capricious. NRDC again intervened on behalf of EPA.

We have jurisdiction pursuant to section 509(b)(1) of the Clean Water Act, [33 U.S.C. § 1369\(b\)\(1\)](#) (assigning review of EPA effluent and permitting regulations to the Federal Courts of Appeals).

II.

DISCUSSION

A. The Permit Requirements

[3] The Municipal Petitioners' primary contention is that the Phase II Rule compels small MS4s to regulate citizens as a condition of receiving a permit to operate, and that EPA lacks both statutory and constitutional authority to impose such a requirement. Because we avoid considering constitutionality if an issue may be resolved on narrower grounds, [Greater New Orleans Broadcasting Ass'n v. United States](#), 527 U.S. 173, 184, 119 S.Ct. 1923, 144 L.Ed.2d 161 (1999), we first ask whether the Phase II Rule is supported by statutory authority.

1. Statutory Authority

[4] The Municipal Petitioners assert that the statutory command in Clean Water Act § 402(p)(6) that EPA develop a “comprehensive program to regulate” small MS4s did not authorize a program based on NPDES permits. Petitioners argue that because § 402(p)(6) explicitly indicates elements that the program may *844 contain (performance standards, guidelines, etc.) without mentioning “permits,” Congress must have intended that the program exclude permitting.¹⁴

The fact that “permitting” is not included on a statutory list of elements that the program “may” include is not determinative, because the list is manifestly nonexclusive. The only constraints are that the § 402(p)(6) regulations be based on the § 402(p)(5) studies, that they be issued in consultation with state and local officials, and that—“at a minimum”—they establish priorities, requirements for state stormwater management programs, and expeditious deadlines, and constitute a comprehensive program “to protect water quality.” [33 U.S.C. § 1342\(p\)\(6\)](#). EPA was free to adopt any regulatory program, including a permitting program, that included these elements. *See Chevron, U.S.A.*

v. Natural Res. Def. Council, 467 U.S. 837, 842–43, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984) (deference to an agency's reasonable interpretation is required unless Congress expressed its intent unambiguously). It is more reasonable to interpret congressional silence about permits as an indication of EPA's flexibility not to use them than as an outright prohibition.¹⁵

The Municipal Petitioners further contend that their interpretation is supported by the structure of § 402(p), which expressly requires permits for large and medium sized MS4s in a separate section, § 402(p)(3)(B).¹⁶ However, as EPA counters, the language in § 402(p)(3) requiring permits for municipal storm sewers may be interpreted to apply both to Phase I *and* Phase II MS4s. Moreover, as respondent-intervenor NRDC notes, the mere existence of the § 402(p)(1) permitting moratorium, designed to apply only to Phase II dischargers, necessarily implies that EPA has the authority to require permits from these sources after the 1994 expiration of the moratorium.

Since there would have been no need to establish a permitting moratorium for these sources if the sources could *never* be subject to permitting requirements, petitioners' interpretation violates the bedrock principle that statutes not be interpreted to render any provision superfluous. See *Burrey v. Pacific Gas & Elec. Co.*, 159 F.3d 388, 394 (9th Cir.1998). EPA's interpretation of its mandate under § 402(p)(6) was reasonable and EPA acted within its statutory authority in formulating the Phase II Rule as a permitting program.

2. The Tenth Amendment

The Municipal Petitioners contend that the Phase II Rule on its face compels *845 operators of small MS4s to regulate third parties in contravention of the Tenth Amendment. We conclude that the Rule does not violate the Tenth Amendment, because it directs no unconstitutional coercion.

The Phase II Rule contemplates several avenues through which a small MS4 may obtain permission to discharge. First, if the NPDES Permitting Authority overseeing the small MS4 has issued an applicable general permit, the small MS4 may submit a notice of intent wherein the small MS4 agrees to comply with the terms of the general permit and specifies plans for implementing six “Minimum Measures” designed to protect water quality. 40 C.F.R. §§ 122.33(b)(1), 122.34(d)(1)(i), 122.34(b). Second, the small MS4 may apply for an individual permit under 40 C.F.R. § 122.34, which would again require compliance with the six Minimum Measures. *Id.* at §§ 122.33(b)(2)(i), 122.34(a), 122.34(b). Third, under an “Alternative Permit” option, the small MS4 may apply for an individualized permit under 40 C.F.R. § 122.26(d), the permitting program established by the Phase I Rule for large and medium-sized MS4s. *Id.* at §§ 122.33(b)(2)(ii), 122.26(d).¹⁷

[5] The Minimum Measures mentioned above require small MS4s to implement programs for: (1) conducting public education and outreach on stormwater impacts, *id.* at § 122.34(b)(1); (2) engaging public participation in the development of stormwater management programs, *id.* at § 122.34(b)(2); (3) detecting and eliminating illicit discharges to the MS4, *id.* at § 122.34(b)(3); (4) reducing pollution to the MS4 from construction activities disturbing one acre or more, *id.* at § 122.34(b)(4); (5) minimizing water quality impacts from development and redevelopment activities that disturb one acre or more, *id.* at § 122.34(b)(5); and (6) preventing or reducing pollutant runoff from municipal activities, *id.* at § 122.34(b)(6).¹⁸

*846 The Municipal Petitioners contend that the measures regulating illicit discharges, small construction sites, and development activities unconstitutionally compel small MS4 operators to regulate third parties, *i.e.*, upstream dischargers. The Illicit Discharge Detection and Elimination measure requires that a permit seeker prohibit non-stormwater discharges to the MS4 and implement appropriate enforcement procedures. 40 C.F.R. § 122.34(b)(3)(ii)(B).¹⁹ The Construction Site Stormwater Runoff Control measure requires a permit seeker to implement and enforce a program to reduce stormwater pollutants from small construction sites. *Id.* at §§ 122.34(b)(4)(i)-(ii).²⁰ It mandates

erosion and sedimentation controls, site plan reviews that take account of water quality impacts, site inspections, and the consideration of public comment, and requires that construction site operators implement erosion, sedimentation, and waste management best management practices. *Id.* The Post-Construction/New Development measure requires permit seekers to address post-construction runoff from new development and redevelopment projects disturbing one acre or more. *Id.* at § 122.34(b)(5)(ii)(B).²¹

Noting that most MS4s are operated by municipal governments, and that “[t]he drainage of a city in the interest of the public health and welfare is one of the most important purposes for which the police power can be exercised,” *New Orleans Gaslight Co. v. Drainage Comm'n*, 197 U.S. 453, 460, 25 S.Ct. 471, 49 L.Ed. 831 (1905), the Municipal Petitioners argue that requiring operators of small MS4s to implement “through ordinance or other regulatory mechanism” the regulations required by the Minimum Measures contravenes the Tenth Amendment. *See, e.g., New York v. United States*, 505 U.S. 144, 188, 112 S.Ct. 2408, 120 L.Ed.2d 120 (1992).

EPA counters that the Phase II Rule does not violate the Tenth Amendment because operators of small MS4s may opt to avoid the Minimum Measures by seeking a permit under the Alternative Permit *847 option, 40 C.F.R. § 122.33(b)(2)(ii).²²

[6] [7] [8] Under the Tenth Amendment, “the Federal Government may not compel States to implement, by legislation or executive action, federal regulatory programs.” *Printz v. United States*, 521 U.S. 898, 925, 117 S.Ct. 2365, 138 L.Ed.2d 914 (1997); *see also New York*, 505 U.S. at 188, 112 S.Ct. 2408. Similarly, the federal government may not force the States to regulate third parties in furtherance of a federal program. *See Reno v. Condon*, 528 U.S. 141, 151, 120 S.Ct. 666, 145 L.Ed.2d 587 (2000) (upholding a federal statutory scheme because it “does not require the States in their sovereign capacity to regulate their own citizens”). These protections extend to municipalities. *See, e.g., Printz* 521 U.S. at 931 n. 15, 117 S.Ct. 2365.

[9] [10] However, while the federal government may not *compel* them to do so, it may *encourage* States and municipalities to implement federal regulatory programs. *See New York*, 505 U.S. at 166–68, 112 S.Ct. 2408. For example, the federal government may make certain federal funds available only to those States or municipalities that enact a given regulatory regime. *See, e.g., South Dakota v. Dole*, 483 U.S. 203, 205–08, 107 S.Ct. 2793, 97 L.Ed.2d 171 (1987) (upholding federal statute conditioning state receipt of federal highway funds on state adoption of minimum drinking age of twenty-one). The crucial proscribed element is coercion; the residents of the State or municipality must retain “the ultimate decision” as to whether or not the State or municipality will comply with the federal regulatory program. *New York*, 505 U.S. at 168, 112 S.Ct. 2408. However, as long as “the alternative to implementing a federal regulatory program does not offend the Constitution's guarantees of federalism, the fact that the alternative is difficult, expensive or otherwise unappealing is insufficient to establish a Tenth Amendment violation.” *City of Abilene v. EPA*, 325 F.3d 657, 662 (5th Cir.2003).

[11] With the Phase II Rule, EPA gave the operators of small MS4s a choice: either implement the regulatory program spelled out by the Minimum Measures described at 40 C.F.R. § 122.34(b), or pursue the Alternative Permit option and seek a permit under the Phase I Rule as described at 40 C.F.R. § 122.26(d). Thus, unless § 122.26(d) itself offends the Constitution's guarantees of federalism, the Phase II Rule does not violate the Tenth Amendment.

Pursuing a permit under the Alternative Permit option does require permit seekers, in their application for a permit to discharge, to propose management programs that address substantive concerns similar to those addressed by the Minimum Measures. *See* 40 C.F.R. § 122.26(d). However, § 122.26(d) lists the requirements for an *application* for a permit to discharge, not the requirements of the permit itself. Therefore, nothing in § 122.26(d) requires the operator of an MS4 to implement a federal regulatory program in order to receive a permit to discharge, because nothing in § 122.26(d) specifies the contents of the permit that will result from the application process.

City of Abilene, 325 F.3d 657, provides a helpful illustration. The cities of Abilene and Irving, Texas, have populations between 100,000 and 250,000, and so were *848 required to apply for permits under the Phase I Rule, 40 C.F.R. § 122.26(d). *City of Abilene*, 325 F.3d at 659–60. Under § 122.26(d) the cities were required to submit proposed stormwater management programs. *Id.* at 660. They negotiated the terms of those programs with EPA, and EPA eventually presented the cities with proposed management permits that contained conditions requiring the implementation of stormwater regulatory programs, and potentially requiring the regulation of third parties. *Id.* But, as the Fifth Circuit noted, this did not mean that the cities had no choice but to implement a federal regulatory program. Instead:

The Cities filed comments objecting to those conditions, and negotiations continued until the EPA offered the Cities the option of pursuing numeric end-of-pipe permits, which would have required the Cities to satisfy specific effluent limitations rather than implement management programs. The Cities declined this offer, electing to continue negotiations on the management permits.

Id. The Fifth Circuit rejected the cities' contention that the resulting permits violated the Tenth Amendment by requiring the cities to regulate third parties according to federal standards. *Id.* at 661–63. Because the cities chose to pursue the management permits despite the fact that EPA provided them with an option for obtaining permits that would not have involved implementing a management program or regulating third parties, no unconstitutional coercion occurred. *Id.* at 663. The ultimate decision to implement the federal program remained with the cities.

Any operator of a small MS4 that wishes to avoid the Minimum Measures may seek a permit under § 122.26(d), and, as *City of Abilene* demonstrates, nothing in § 122.26(d) will compel the operator of a small MS4 to implement a federal regulatory program or regulate third parties, because § 122.26(d) specifies application requirements, not permit requirements. Therefore, by presenting the option of seeking a permit under § 122.26(d), the Phase II Rule avoids any unconstitutional coercion. The Municipal Petitioners' claim that the Phase II Rule violates the Tenth Amendment therefore fails.

3. *The First Amendment and the Minimum Measures*

The Municipal Petitioners contend that the Public Education and Illicit Discharge Minimum Measures compel municipalities to deliver EPA's political message in violation of the First Amendment. The Phase II Rule's "Public Education and Outreach" Minimum Measure directs regulated small MS4s to "distribute educational materials to the community ... about the impacts of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff." 40 C.F.R. § 122.34(b)(1)(i). The "Illicit Discharge Detection and Elimination" measure requires regulated small MS4s to "[i]nform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste." 40 C.F.R. § 122.34(b)(3)(ii)(D).

[12] The Municipal Petitioners argue that the First Amendment prohibits EPA from compelling small MS4s to communicate messages that they might not otherwise wish to deliver. They further contend that EPA's interpretation of § 402(p) as authorizing these Measures does not warrant *Chevron* deference because it raises serious constitutional issues, but that even if deference were given, the resulting rule is unconstitutional because neither Congress nor EPA may dictate the speech of MS4s. They contend that municipalities are protected by the First Amendment, *849 *Pacific Gas & Elec. v. Public Utilities Comm'n*, 475 U.S. 1, 8, 106 S.Ct. 903, 89 L.Ed.2d 1 (1986) ("Corporations and other associations, like individuals, contribute to the [discourse] that the First Amendment seeks to foster...."), which applies as much to compelled statements of "fact" as to those of "opinion." *Riley v. Nat'l Fed. of the Blind*, 487 U.S. 781, 797–98, 108 S.Ct. 2667, 101 L.Ed.2d 669 (1988).

We conclude that the purpose of the challenged provisions is legitimate and consistent with the regulatory goals of the overall scheme of the Clean Water Act, *cf.* *Glickman v. Wileman Bros. & Elliott, Inc.*, 521 U.S. 457, 476, 117 S.Ct. 2130, 138 L.Ed.2d 585 (1997), and does not offend the First Amendment.²³ The State may not constitutionally require an individual to disseminate an ideological message, *Wooley v. Maynard*, 430 U.S. 705, 713, 97 S.Ct. 1428, 51 L.Ed.2d 752

(1977), but requiring a provider of storm sewers that discharge into national waters to educate the public about the impacts of stormwater discharge on water bodies and to inform affected parties, including the public, about the hazards of improper waste disposal falls short of compelling such speech.²⁴ These broad requirements do not dictate a specific message. They require appropriate educational and public information activities that need not include any specific speech at all. A regulation is facially unconstitutional only when every possible reading compels it, *Meinhold v. U.S. Dep't of Def.*, 34 F.3d 1469, 1476 (9th Cir.1994),²⁵ but this is clearly not the case here.

As in *Zauderer v. Office of Disciplinary Counsel of the Sup. Ct. of Ohio*, 471 U.S. 626, 105 S.Ct. 2265, 85 L.Ed.2d 652 (1985), where the Supreme Court upheld certain disclosure requirements in attorney advertising, “[t]he interests at stake in this case are not of the same order as those discussed in *Wooley* [invalidating a law requiring that drivers display the motto ‘Live Free or Die’ on New Hampshire license plates] ... and *Barnette* [forbidding the requirement that public school students salute the flag because the State may not impose on the individual ‘a ceremony so touching matters of opinion and political attitude’].” *Id.* at 651. EPA has not attempted to “prescribe what shall be orthodox in politics, nationalism, religion, or other matters of opinion or force citizens to confess by word or act their faith therein.” *West Virginia State Bd. of Ed. v. Barnette*, 319 U.S. 624, 642, 63 S.Ct. 1178, 87 L.Ed. 1628 (1943).

***850** Informing the public about safe toxin disposal is non-ideological; it involves no “compelled recitation of a message” and no “affirmation of belief.” *Prune Yard Shopping Ctr. v. Robins*, 447 U.S. 74, 88, 100 S.Ct. 2035, 64 L.Ed.2d 741 (1980) (upholding state law protecting petitioning in malls and noting that “*Barnette* is inapposite because it involved the compelled recitation of a message containing an affirmation of belief”). It does not prohibit the MS4 from stating its own views about the proper means of managing toxic materials, or even about the Phase II Rule itself. Nor is the MS4 prevented from identifying its dissemination of public information as required by federal law, or from making available federally produced informational materials on the subject and identifying them as such.

Even if such a loosely defined public information requirement could be read as compelling speech, the regulation resembles another regulation that the Supreme Court has held permissible. In *Glickman*, 521 U.S. 457, 117 S.Ct. 2130, 138 L.Ed.2d 585, the Court upheld a generic advertising assessment promulgated by the Department of Agriculture on behalf of California tree fruit growers because the order was consistent with an overall regulatory program that did not abridge protected speech:

Three characteristics of the regulatory scheme at issue distinguish it from laws that we have found to abridge the freedom of speech protected by the First Amendment. First, the marketing orders impose no restraint on the freedom of any producer to communicate any message to any audience. Second, they do not compel any person to engage in any actual or symbolic speech. Third, they do not compel the producers to endorse or to finance any political or ideological views. Indeed, since all of the respondents are engaged in the business of marketing California nectarines, plums, and peaches, it is fair to presume that they agree with the central message of the speech that is generated by the generic program.

Id. at 469–70, 117 S.Ct. 2130 (footnotes omitted). Here, as in *Glickman*, the Phase II regulations impose no restraint on the freedom of any MS4 to communicate any message to any audience. They do not compel any specific speech, nor do they compel endorsement of political or ideological views. And since all permittees are engaged in the handling of stormwater runoff that must be conveyed in reasonably unpolluted form to national waters, it is similarly fair to presume that they will agree with the central message of a public safety alert encouraging proper disposal of toxic materials.²⁶ The Phase II regulation departs only from the second element in the *Glickman* analysis, because the public information requirement may compel a ***851** regulated party to engage in some speech at some time; but unlike the offensive messages in *Maynard* and *Barnette* (and even the inoffensive advertising messages at issue in *Glickman*) that speech is not specified by the regulation.²⁷

The public information requirement does not impermissibly compel speech, and nothing else in the Phase II Rule offends the First Amendment.²⁸ The Rule does not compel a recitation of a specific message, let alone an affirmation of belief. To the extent MS4s are regulated by the public information requirement, the regulation is consistent with the overall regulatory program of the Clean Water Act and the responsibilities of point source dischargers.

4. Notice and Comment on the Alternative Permit Option

The Municipal Petitioners contend that, in adopting the Alternative Permit option, EPA did not comply with the minimum notice and comment procedures required in informal rulemaking by the Administrative Procedures Act (“APA”), 5 U.S.C. § 553. The APA requires an agency to publish notice of a proposed rulemaking that includes “either the terms or substance of the proposed rule or a description of the subjects and issues involved.” *Id.* at § 553(b)(3).

[13] We have held that a “final regulation that varies from the proposal, even substantially, will be valid as long as it is ‘in character with the original proposal and a logical outgrowth of the notice and comments.’” *Hodge v. Dalton*, 107 F.3d 705, 712 (9th Cir.1997). In determining whether notice was adequate, we consider whether the complaining party should have anticipated that a particular requirement might be imposed. The test is whether a new round of notice and comment would provide the first opportunity for interested parties to offer comments that could persuade the agency to modify its rule. *Am. Water Works Ass'n v. EPA*, 40 F.3d 1266, 1274 (D.C.Cir.1994).

The Municipal Petitioners argue that the Alternative Permit option is not a logical outgrowth of EPA's proposed rule because, although numerous alternatives were discussed in the Preamble to the proposed rule, 63 Fed. Reg. at 1554–1557, the Alternative Permit option eventually adopted was not. EPA counters that the proposed rule included a supplementary alternative permitting system based on concepts similar to those in the Minimum *852 Measures, including “simplified individual permit application requirements.”²⁹ EPA contends that the Alternative Permit option was a logical outgrowth of the comments it received on the proposal expressing concern that the Minimum Measures might violate the Tenth Amendment. 64 Fed. Reg. at 68,765.

[14] The Alternative Permit option passes the *Hodge* test. The proposed rule suggested an individualized permitting option to be developed in response to comments during the notice and comment period. The Alternative option contains no elements that were not part of the original rule, even if they are configured differently in the final rule. Petitioners had, and took, their opportunity to object to the aspects of the Rule that they did not support in their comments on the Minimum Measures.

B. The General Permit Option and Notices of Intent

The Environmental Petitioners contend that the general permitting scheme of the Phase II Rule allows regulated small MS4s to design stormwater pollution control programs without adequate regulatory and public oversight, and that it contravenes the Clean Water Act because it does not require EPA to review the content of dischargers' notices of intent and does not contain express requirements for public participation in the NPDES permitting process.

In reviewing a federal administrative agency's interpretation of a statute it administers, we first determine whether Congress has expressed its intent unambiguously on the question before the court. *See Chevron*, 467 U.S. 837, 842–44, 104 S.Ct. 2778, 81 L.Ed.2d 694 (“If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.”). “If, instead, Congress has left a gap for the administrative agency to fill, we proceed to step two. At step two, we must uphold the administrative regulation unless it is arbitrary, capricious, or manifestly contrary to the statute.” *Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1162, amended by 197 F.3d 1035 (9th Cir.1999) (citations and internal quotations omitted).

[15] We conclude that the Phase II General Permit option violates the Clean Water Act's requirement that permits for discharges “require controls to reduce the discharge of pollutants to the maximum extent practicable,” 33 U.S.C. § 1342(p)(3)(B)(iii). We also conclude that the Phase II General Permit option violates the Clean Water Act because it does not contain express requirements for public participation in the NPDES permitting process. We remand these aspects of the Phase II Rule.³⁰

***853 1. Phase II General Permits and Notices of Intent**

Primary responsibility for enforcement of the requirements of the Clean Water Act is vested in the Administrator of the EPA. 33 U.S.C. § 1251(d); see also 33 U.S.C. § 1361(a) (“The Administrator [of EPA] is authorized to prescribe such regulations as are necessary to carry out his functions under this chapter.”). The Clean Water Act renders illegal any discharge of pollutants not specifically authorized by a permit. 33 U.S.C. § 1311(a) (“Except in compliance with this section and [other sections detailing permitting requirements] of this title, the discharge of any pollutant by any person shall be unlawful.”). Under the Phase II Rule, dischargers may apply for an individualized permit with the relevant permitting authority, or may file a “Notice of Intent” (“NOI”) to seek coverage under a “general permit.” 40 C.F.R. § 122.33(b).

A general permit is a tool by which EPA regulates a large number of similar dischargers. Under the traditional general permitting model, each general permit identifies the output limitations and technology-based requirements necessary to adequately protect water quality from a class of dischargers. Those dischargers may then acquire permission to discharge under the Clean Water Act by filing NOIs, which embody each discharger's agreement to abide by the terms of the general permit. Because the NOI represents no more than a formal acceptance of terms elaborated elsewhere, EPA's approach does not require that permitting authorities review an NOI before the party who submitted the NOI is allowed to discharge. General permitting has long been recognized as a lawful means of authorizing discharges. *Natural Res. Def. Council v. Costle*, 568 F.2d 1369 (D.C.Cir.1977).

The Phase II general permitting scheme differs from the traditional general permitting model. The Clean Water Act requires EPA to ensure that operators of small MS4s “reduce the discharge of pollutants to the maximum extent practicable.” 33 U.S.C. § 1342(p)(3)(B). To ensure that operators of small MS4s achieve this “maximum extent practicable” standard, the Phase II Rule requires that each NOI contain information on an individualized pollution control program that addresses each of the six general criteria specified in the Minimum Measures; thus, according to the Phase II Rule, submitting an NOI and implementing the Minimum Measures it contains “constitutes compliance with the standard of reducing pollutants to the ‘maximum extent practicable.’ ” 40 C.F.R. § 122.34(a).

Because a Phase II NOI establishes what the discharger will do to reduce discharges to the “maximum extent practicable,” the Phase II NOI crosses the threshold from being an item of procedural correspondence to being a substantive component of a regulatory regime. The text of the Rule itself acknowledges that a Phase II NOI is a permit application that is, at least in some regards, functionally equivalent to a detailed application for an individualized permit. See, e.g., 40 C.F.R. § 122.34(d)(1) (“In your permit application (either a notice of intent for coverage under a general permit or an individual permit application), you must identify and submit to your NPDES permitting authority the following information....”). For this reason, EPA rejected the possibility of providing a “form NOI” to Phase II permittees, explaining that “[w]hat will be required on an MS4's NOI ... is more extensive than what is usually required on *854 an NOI, so a ‘form’ NOI for MS4s may be impractical.” 64 Fed. Reg. at 68,764.

2. Failure to Regulate

The Environmental Petitioners argue that, by allowing NPDES authorities to grant dischargers permits based on unreviewed NOIs, the Rule creates an impermissible self-regulatory system.³¹ Petitioners contend the Rule impermissibly fails to require that the permitting authority review an NOI to assure compliance with Clean Water Act

standards, including the standard that municipal stormwater pollution be reduced to “the maximum extent practicable.” 33 U.S.C. § 1342(p)(3)(B)(iii). See 40 C.F.R. § 123.35 (setting out requirements for permitting authorities, but not requiring review of NOI); 64 Fed. Reg. at 68,764 (“EPA disagrees that formal approval or disapproval by the permitting authority is needed”).

EPA maintains that the Phase II permit system is fully consistent with the authorizing statute. It contends that § 402(p)(6) granted EPA flexibility in designing the Phase II “comprehensive program,” and notes that while the statute does not require general permits, neither does it preclude them. EPA contends that Congress delegated the task of designing the program to EPA, and that EPA reasonably adopted a “flexible version” of the NPDES permit program to suit the unique needs of the Phase II program. It disputes that the general permit program creates “paper tigers,” especially since EPA, States, and citizens may initiate enforcement actions. Finally, EPA argues that the Rule does not create a self-regulatory program, but that even if it did, nothing in § 402(p)(6) precludes such a program.

Reviewing the Phase II Rule under the first step of *Chevron*, we note that the plain language of § 402(p) of the Clean Water Act, 33 U.S.C. § 1342(p), expresses unambiguously Congress's intent that EPA issue no permits to discharge from municipal storm sewers unless those permits “require controls to reduce the discharge of pollutants to the maximum extent practicable.”

Phase II general permits will likely impose requirements that ensure that operators of small MS4s comply with many of the standards of the Clean Water Act. Thus, general permits issued under Phase II will ordinarily contain numerous substantive requirements, just as did the permits issued under Phase I. See 40 C.F.R. §§ 123.35 & 123.35(a) (“§ 123.35 As the NPDES Permitting Authority for regulated small MS4s, what is my role? (a) You must comply with the requirements for all NPDES permitting authorities under Parts 122, 123, 124 and 125 of this chapter.”); see also 40 C.F.R. § 122.28 (outlining requirements for NPDES authorities issuing general permits). And every operator of a small MS4 who files an NOI under Phase II “must comply with other applicable NPDES permit requirements, standards, and conditions established in *855 the ... general permit.” See 40 C.F.R. §§ 122.34 & 122.34(f).

[16] However, while each Phase II general permit will likely ensure that operators of small MS4s comply with certain standards of the Clean Water Act, they will not “require controls to reduce the discharge of pollutants to the maximum extent practicable.” According to the Phase II Rule, the operator of a small MS4 has complied with the requirement of reducing discharges to the “maximum extent practicable” when it implements its stormwater management program, *i.e.*, when it implements its Minimum Measures. 40 C.F.R. § 122.34(a); see also 64 Fed. Reg. at 68753 (stating EPA's anticipation that limitations more stringent than the minimum control measures “will be unnecessary”). Nothing in the Phase II regulations requires that NPDES permitting authorities review these Minimum Measures to ensure that the measures that any given operator of a small MS4 has decided to undertake will *in fact* reduce discharges to the maximum extent practicable.³²

See 40 C.F.R. § 123.35 (“As the NPDES Permitting Authority for regulated small MS4s, what is my role?”). Therefore, under the Phase II Rule, nothing prevents the operator of a small MS4 from misunderstanding or misrepresenting its own stormwater situation and proposing a set of minimum measures for itself that would reduce discharges by far less than the maximum extent practicable.

In fact, under the Phase II Rule, in order to receive the protection of a general permit, the operator of a small MS4 needs to do nothing more than decide for itself what reduction in discharges would be the maximum practical reduction. No one will review that operator's decision to make sure that it was reasonable, or even good faith.³³ Therefore, as the Phase II Rule stands, EPA would allow permits to issue that would do less than *require* controls to reduce the discharge of pollutants to the maximum extent practicable.³⁴ See *856 64 Fed. Reg. at 68753 (explaining that the minimum control measures will protect water quality if they are “properly implemented”). We therefore must reject this aspect of

the Phase II Rule as contrary to the clear intent of Congress. *Cf. Natural Res. Def. Council*, 966 F.2d at 1305 (rejecting as arbitrary and capricious a permitting system that allowed regulated industrial stormwater dischargers to “self-report” whether they needed permit coverage).

Involving regulated parties in the development of individualized stormwater pollution control programs is a laudable step consistent with the directive to consult with state and local authorities in the development of the § 402(p)(6) comprehensive program. But EPA is still required to ensure that the individual programs adopted are consistent with the law. Our holding should not prevent the Phase II general permitting program from proceeding mostly as planned. Our holding does not preclude regulated parties from designing aspects of their own stormwater management programs, as contemplated under the Phase II Rule. However, stormwater management programs that are designed by regulated parties must, in every instance, be subject to meaningful review by an appropriate regulating entity to ensure that each such program reduces the discharge of pollutants to the maximum extent practicable. We therefore remand this aspect of the Rule.

3. Public Participation

The Environmental Petitioners contend that the Phase II Rule fails to provide for public participation as required by the Clean Water Act, because the public receives neither notice nor opportunity for hearing regarding an NOI. The EPA replies on the one hand by arguing that NOIs are not “permits” and therefore are not subject to the public availability and public hearing requirements of the Clean Water Act, and on the other hand by arguing that the combination of the public involvement minimum measure, 40 C.F.R. § 122.34(b)(2), the Federal Freedom of Information Act, 5 U.S.C. § 552, and state freedom of information acts would fulfill any such requirements if NOIs were permits.

Reviewing the Phase II Rule under *Chevron* step one, we conclude that clear Congressional intent requires that NOIs be subject to the Clean Water Act's public availability and public hearings requirements. The Clean Water Act requires that “[a] copy of each permit application and each permit issued under [the NPDES permitting program] shall be available to the public,” 33 U.S.C. § 1342(j), and that the public shall have an opportunity for a hearing before an permit application is approved, 33 U.S.C. § 1342(a)(1). Congress identified public participation rights as a critical means of advancing the goals of the Clean Water Act in its primary statement of the Act's approach and philosophy. *See* 33 U.S.C. § 1251(e); *see also Costle v. Pacific Legal Found.*, 445 U.S. 198, 216, 100 S.Ct. 1095, 63 L.Ed.2d 329 (1980) (noting the “general policy of encouraging public participation is applicable to the administration of the NPDES permit program”). EPA has acknowledged that technical issues relating to the issuance of NPDES permits should be decided in “the most open, accessible forum possible, *857 and at a stage where the [permitting authority] has the greatest flexibility to make appropriate modifications to the permit.” 44 Fed. Reg. 32,854, 32,885 (June 7, 1979).

As we noted above, under the Phase II Rule it is the NOIs, and not the general permits, that contain the substantive information about how the operator of a small MS4 will reduce discharges to the maximum extent practicable. Under the Phase II Rule, NOIs are functionally equivalent to the permit applications Congress envisioned when it created the Clean Water Act's public availability and public hearing requirements. Thus, if the Phase II Rule does not make NOIs “available to the public,” and does not provide for public hearings on NOIs, the Phase II Rule violates the clear intent of Congress. EPA's first argument—that NOIs are not subject to the public availability and public hearings requirements of the Clean Water Act—therefore fails.

We therefore reject the Phase II Rule as contrary to the clear intent of Congress insofar as it does not provide for public hearings on NOIs as required by 33 U.S.C. § 1342(a)(1). However, Congress has not directly addressed the question of what would constitute an NOI being “available to the public” as required by 33 U.S.C. § 1342(j). Under *Chevron* step two, we must defer to EPA's interpretation of “available to the public” unless it is arbitrary, capricious, or manifestly contrary to the statute.

[17] EPA argues that the NOIs are “available to the public” as a result of the combined effects of the public participation minimum measures, and of federal and state freedom of information acts. This argument is unconvincing. First, the public participation Minimum Measure only requires dischargers to design a program minimally consistent with State, Tribal, and local requirements. 40 C.F.R. § 122.34(b)(2). Second, the federal Freedom of Information Act only applies to documents that are actually in EPA's possession, not to documents that are in the possession of state or tribal NPDES authorities, *see* 40 C.F.R. § 2 (providing EPA's policy for releasing documents under the federal Freedom of Information Act), and nothing in the Phase II Rule provides that EPA obtain possession of every NOI that is submitted to a NPDES permitting authority. *See* 40 C.F.R. § 123.41(a) (making information provided to state NPDES authorities available to EPA only *upon request*). Thus, under the Phase II Rule, NOIs will only “be available to the public” subject to the vagaries of state and local freedom of information acts. We conclude that EPA's interpretation of 33 U.S.C. § 1342(j), as embodied in the provisions of the Phase II Rule providing for the public availability of NOIs, is manifestly contrary to the Clean Water Act, which contemplates greater scope, greater certainty, and greater uniformity of public availability than the Phase II Rule provides. We therefore reject this aspect of the Phase II Rule.³⁵

*858 In sum, we conclude that EPA's failure to require review of NOIs, which are the functional equivalents of permits under the Phase II General Permit option, and EPA's failure to make NOIs available to the public or subject to public hearings contravene the express requirements of the Clean Water Act. We therefore vacate those portions of the Phase II Rule that address these procedural issues relating to the issuance of NOIs under the Small MS4 General Permit option, and remand so that EPA may take appropriate action to comply with the Clean Water Act.

C. Failure to Designate

We reject the Environmental Petitioners' contention that EPA's failure to designate for Phase II regulation serious sources of stormwater pollution, including certain industrial (“Group A”) sources and forest roads, was arbitrary and capricious. *See Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378, 109 S.Ct. 1851, 104 L.Ed.2d 377 (1989).³⁶

1. “Group A” Facilities

In addition to the small MS4s and construction sites ultimately designated for regulation under the Phase II Rule, EPA evaluated a variety of other point-source discharge categories for potential Phase II regulation. One group of dischargers (referred to as the “Group A” facilities) included sources that “are very similar, or identical” to regulated stormwater discharges associated with industrial activity that were not designated for Phase I regulation for administrative reasons unrelated to their environmental impacts.³⁷ 64 Fed. Reg. at 68,779. EPA estimates that Group A includes approximately 100,000 facilities, including auxiliary facilities and secondary activities (“*e.g.*, maintenance of construction equipment and vehicles, local trucking for an unregulated facility such as a grocery store,” *id.*) and facilities intentionally omitted from Phase I designation (“*e.g.*, publicly owned treatment works with a design flow of less than 1 million gallons per day, landfills that have not received industrial waste,” *id.*).

*859 The Environmental Petitioners contend that EPA should have designated the Group A facilities for categorical Phase II regulation after finding (1) that stormwater discharges from these facilities are the same as those from the industrial sources regulated under Phase I, and (2) that such discharges may cause “adverse water quality impacts.” *Id.* Petitioners argue that these findings, and EPA's failure to provide individualized analysis regarding whether any specific source category within Group A requires regulation, render EPA's decision not to regulate any of these sources under the Rule arbitrary and capricious. They maintain that EPA's “line-drawing,” which regulates some pollution sources but leaves nearly identical sources unregulated without any persuasive rationale, is necessarily arbitrary and capricious. *See Natural Res. Def. Council*, 966 F.2d at 1306 (EPA's decision not to regulate construction sites smaller than five acres was arbitrary when EPA provided no data to justify the five-acre threshold and admitted that unregulated sites could have significant water quality impacts).

Petitioners argue that § 402(p)(6) at least required EPA to make findings with respect to individual Group A categories, and that data collected from Phase I permit applications could be used to evaluate the pollutant potential of the identical Group A sources. They contend that these findings should have sufficed as a basis for designating at least some Group A sources, and that EPA's conclusion that it lacked adequate nationwide data upon which to designate any of these sources is not supported by the record evidence. Comparing EPA's identification of the serious polluting potential of some of these sources with its statutory mandate under § 402(p)(6) "to protect water quality," they argue that EPA fails even the forgiving standard of arbitrary and capricious review in that it has "offered an explanation for its decision that runs counter to the evidence before [it]" and "is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." See *Motor Vehicle Mfrs.*, 463 U.S. at 43, 103 S.Ct. 2856.

EPA maintains that it considered Group A facilities' similarity to already regulated sources as only one of several criteria that it used in designating sources for regulation under Phase II, 64 Fed. Reg. at 68,780, and that sources that appear "similarly situated" under one criterion are not necessarily similarly situated under all. EPA asserts that nothing in § 402(p)(6) implied a responsibility to make individualized findings regarding each Group A subcategory, and it maintains that it simply lacked sufficient data to support nationwide designation of the Group A facilities. EPA notes that, after failing to receive requested comment providing such data, it proposed instead "to protect water quality" by allowing regional regulation of problem Group A facilities under the residual designation authority. EPA contends that agencies must be afforded deference in determining the data necessary to support regulatory decisionmaking and that it reasonably determined the quantum of data it would need to support the designation of additional sources on a nationwide basis. See *Sierra Club v. EPA*, 167 F.3d 658, 662 (D.C.Cir.1999).

[18] We conclude that sufficient evidence supports EPA's decision not to designate Group A sources on a nationwide basis, and instead to establish local and regional designation authority to account for these sources and protect water quality. Although we are troubled by the purely administrative basis for the distinction between facilities regulated under the Phase I Rule and the Group A facilities *860 that remain unregulated under Phase II,³⁸ EPA's choice of the Phase I standard for designation is not the issue before us. Before us is whether EPA acted arbitrarily in declining to designate the Group A sources on a nationwide basis under the Phase II Rule, and we cannot say that it did.

EPA has articulated a rational connection between record facts indicating insufficient data to categorically regulate Group A facilities and its corresponding conclusion not to do so, and we defer to that decision. See *Washington v. Daley*, 173 F.3d 1158, 1169 (9th Cir.1999). In the text of the Rule, EPA explains that the process behind its decision not to nationally designate Group A sources for Phase II regulation focused not only on the likelihood of contamination from a source category, but also on the sufficiency of national data about each category and whether pollution concerns were adequately addressed by existing environmental regulations.³⁹ We cannot say that EPA relied on factors Congress had not intended it to consider, that it failed to consider an important aspect of the problem, or that its rationale is implausible. See *Motor Vehicle Mfrs.*, 463 U.S. at 43, 103 S.Ct. 2856. Nor did EPA's decision run counter to the evidence before it. *Id.* The Environmental Petitioners allege that its decision not to regulate Group A facilities runs counter to evidence that similar sources are highly polluting, but as EPA considered evidence beyond those similarities that persuaded it not to regulate, we cannot say that EPA's decision is unsupported by the record. Nothing in § 402(p)(6) unambiguously requires EPA to evaluate the Group A source categories individually, and we defer to EPA's interpretation of the statute it is charged with administering. See *Royal Foods Co. v. RJR Holdings*, 252 F.3d 1102, 1106 (9th Cir.2001).

2. Forest Roads

The Environmental Petitioners also contend that EPA arbitrarily failed to regulate forest roads under the Rule despite clear evidence in the record documenting the need for stormwater pollution control *861 of drainage from these roads. Petitioners again contend that this agency action is arbitrary, because EPA has offered an explanation for its decision that runs counter to the evidence before it.

Petitioners point to EPA's own conclusion that forest roads "are considered to be the major source of erosion from forested lands, contributing up to 90 percent of the total sediment production from forestry operations."⁴⁰ They note that both unimproved forest roads and construction sites create large expanses of non-vegetated soil subject to stormwater erosion, and argue that construction site data thus also support regulation of forest roads. Petitioners observe that EPA has cited no contrary evidence indicating that forest roads are not sources of stormwater pollutant discharges to U.S. waters, and they argue that Phase II regulation is necessary "to protect water quality," because proper planning and road design can minimize erosion and prevent stream sedimentation. Petitioners note that this court has previously held that, in the absence of such "supportable facts," EPA is not entitled to the usual assumption that it has "rationally exercised the duties delegated to it by Congress." *Natural Res. Def. Council*, 966 F.2d at 1305.

[19] EPA's response is that we have no jurisdiction to hear this challenge, chiefly because, it believes, the challenge is time-barred by Clean Water Act § 509(b)(1), 33 U.S.C. § 1369(b)(1) (providing that "application for review shall be made within 120 days from the date of [agency action]"). EPA promulgated silviculture regulations in 1976 that exclude from NPDES permit requirements certain silvicultural activities that EPA determined constitute non-point source activities, including "surface drainage, or road construction and maintenance from which there is natural runoff." 40 C.F.R. § 122.27(b)(1).⁴¹ EPA asserts that the exclusion applies to forest roads in general, not only to "construction" and "maintenance"—an assertion disputed by Petitioners—and that any challenge to the decision not to regulate forest roads should have been brought within 120 days of the promulgation of that rule. See 33 U.S.C. § 1369(b)(1).

EPA's argument might be more persuasive if Petitioners' contention could be understood essentially as a direct challenge to the 1976 silviculture regulations, but this is not the case. Even were we to assume that EPA exempted forest roads from NPDES permit requirements in 1976 under 40 C.F.R. § 122.27(b)(1), that would not resolve the question whether EPA should have addressed forest roads in its "comprehensive program ... to protect *862 water quality" under § 402(p)(6), because § 402(p)(6) was not enacted until 1987. Petitioners challenge EPA's decision not to regulate under the new portion of the statute, not the decision not to regulate under other provisions that were in effect earlier.

EPA argues in the alternative that Petitioners should have sought judicial review when EPA considered amending § 122.27(b)(1)—to delete the language that it asserts renders forest roads non-point sources—but then determined not to make the amendment. However, we are aware of no statute or legal doctrine providing that a party's failure to challenge an agency's decision *not* to amend its rules in one proceeding deprives the party of the right to challenge, in a contemporaneous proceeding, the promulgation of an entire new rule which could have, but did not, provide the full relief the party seeks. Assuming that EPA is correct that § 122.27(b)(1) defines forest roads as non-point sources, both the Phase II Rule proceedings and the proceedings in which the proposed amendment to § 122.27(b)(1) was considered and rejected were proper proceedings in which to raise the issue whether discharges from forest roads should be regulated. Petitioners chose to raise the issue in their comments to the proposed Phase II Rule, because they believed that Clean Water Act § 402(p)(6) mandates the regulation of forest roads. They did not lose their right to challenge the final Phase II Rule's failure to regulate forest roads simply because they did not also raise a challenge to EPA's failure to adopt an amendment to § 122.27(b)(1) that the agency initially proposed. (We note, incidentally, that it appears that even a successful challenge to § 122.27(b)(1) would likely not have achieved the objective the Environmental Petitioners sought: it would only have allowed case-by-case coverage for forest roads, and not for overall coverage.)

[20] Finally, EPA suggests that Petitioners' comments during the Phase II rulemaking process were too short to create jurisdiction in this court to hear this challenge. However, EPA exaggerates the slightness of those comments, which comprised two paragraphs, with footnotes, stating objections and providing support. We also agree with Petitioners that EPA was aware of the forest road sedimentation problem at the time of the rulemaking.⁴² Indeed, EPA responded to the comments without disputing that the problem is serious. 3 EPA, *Response to Public Comments* 8 (Oct. 29, 1999).

Rather, the agency relied on [40 C.F.R. § 122.27\(b\)\(1\)](#), indicating that it was barred from acting under the Phase II Rule by [§ 122.27\(b\)\(1\)](#).

EPA does not seriously address the merits of Petitioners' objections to the Rule in its brief to this court. Instead, EPA relies almost entirely on its assertion that we lack jurisdiction to decide this question. It does, however, strongly imply that its failure to adopt its own proposed amendment in the proceeding pertaining to [§ 122.27\(b\)\(1\)](#) relieves it of its obligation to consider including forest roads in the Phase II Rule proceedings. We reject any such contention. Petitioners' assertion that [§ 402\(p\)\(6\)](#) requires that the Phase II Rule contain provisions regulating forest roads necessitates a response from EPA on the merits.

***863** Having concluded that the objections of the Environmental Petitioners are not time-barred, and that we have jurisdiction to hear them, but that EPA failed to consider those objections on the merits, we remand this issue to the EPA, so that it may consider in an appropriate proceeding Petitioners' contention that [§ 402\(p\)\(6\)](#) requires EPA to regulate forest roads. EPA may then either accept Petitioners' arguments in whole or in part, or reject them on the basis of valid reasons that are adequately set forth to permit judicial review.

D. AF&PA's Standing

The American Forestry & Paper Association (AF&PA), a national trade association representing the forest, pulp, paperboard, and wood products industry, is one of the two Industry Petitioners asserting the remaining claims.⁴³ Before considering these challenges, however, we consider whether AF&PA has standing to raise them.

EPA argues that AF&PA lacks standing because it cannot show that it represents entities that suffer a cognizable injury under the Phase II Rule as promulgated. EPA argues that the interests of AF&PA entities might have supported standing had EPA decided to regulate forest roads as Phase II stormwater dischargers, but since EPA declined to do so, none of AF&PA's members are currently subject to the Rule. AF&PA contends that its members have a cognizable legal interest in the Rule because they risk becoming subject to regulation at any future time under the continuing designation authority.

[21] We agree that AF&PA lacks standing. A claimant meeting Article III standing requirements must show that “(1) it has suffered an ‘injury in fact’ ...; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.” *Friends of the Earth v. Laidlaw Envtl. Servs. (TOC)*, 528 U.S. 167, 180–81, 120 S.Ct. 693, 145 L.Ed.2d 610 (2000). Standing requires an injury that is “actual or imminent, not ‘conjectural or hypothetical.’” *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992). AF&PA's interest in avoiding future regulation of forest roads is not actually or imminently threatened by any potential result in this case. No ripe claim about misuse of the residual authority to regulate forest road discharge, or any other kind of discharge, is before the court. Should members of AF&PA become subject to Phase II regulation through subsequent administrative action, it will have standing to challenge those actions at that time. In the meanwhile, we proceed to the merits of the remaining claims on behalf of AF&PA's co-petitioner, the National Association of Home Builders, which has established its standing to raise them.

E. Consultation with State and Local Officials

The Industry Petitioners contend that EPA failed to consult with the States on the Phase II Rule as required by [§ 402\(p\)\(5\)](#), which instructs EPA to conduct studies “in consultation with the States,” and [§ 402\(p\)\(6\)](#), which instructs the Administrator to issue regulations based on these studies “in consultation with State and local officials.” 33 U.S.C. [§ 1342\(p\)\(5\)-\(6\)](#). We conclude that EPA satisfied its statutory duty of consultation. See *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851.

*864 Petitioners concede several instances in which EPA circulated drafts of the Phase II Rule to state and local authorities, but argue that these consultations were meaningless because (1) the reports were circulated too far in advance of the actual rulemaking, (2) the rulemaking wrongfully proceeded based on other sources of input, (3) standard APA notice and comment procedures could not suffice because Congress must have intended something more when it added the consultation requirements to the language of § 402, and (4) consultation at the final stage of rulemaking was inadequate because comment was sought on the final report only after it had been submitted to Congress and the Phase II Rule had been promulgated. Petitioners provide examples of state feedback that allegedly went unheeded by EPA in its promulgation of the final Rule.

EPA maintains that it consulted extensively with States and localities in developing the Phase II Rule, discharging its obligations under §§ 402(p)(5) & (6). EPA contends that the comments Petitioners cite as unheeded by EPA demonstrate that EPA *did* consult with States concerning the Rule, even if some States did not concur in EPA's ultimate conclusion, and that the final rule adopted a good measure of the flexibility sought by state representatives. EPA argues that Industry Petitioners cannot complain that consultation was inadequate simply because it did not result in the adoption of Petitioners' preferred views.

EPA also disputes Petitioners' allegation that while EPA did comply with the terms of the 1999 Appropriations Act (requiring EPA to defend the proposed Phase II Rule before Congress and then publish the final report for public comment), it demonstrated its failure to adequately consult by publishing the report for public comment *after* the Phase II Rule had been formally promulgated, rendering any subsequent public comment meaningless. EPA counters that these actions do not indicate that it failed to satisfy Congress's directive that it consult with state and local officials, because EPA had engaged in extensive consultation before Congress requested the Appropriations Act report, and Congress did not require further consultation when it conditioned promulgation of the Rule only on the submission of this final report. EPA claims that while Congress required it to publish the report after its submission, public comment on the report was not required before promulgation, and that the statutory deadline structure rendered any other interpretation impossible.

[22] We conclude that the overall record indicates EPA met its statutory duty of consultation. A draft of the first report was circulated to States, EPA regional offices, the Association of State and Interstate Water Pollution Control Administrators (“ASIWPCA”), and other stakeholders in November, 1993, and was revised based on comments received. EPA established the Urban Wet Weather Flows Federal Advisory Committee (“FACA Committee”), balancing membership between EPA's various outside stakeholder interests, including representatives from States, municipalities, Tribes, commercial and industrial sectors, agriculture, and environmental and public interest groups. 64 Fed. Reg. 68,724. The 32 members of the Phase II FACA Subcommittee, reflecting the same balance of interests, met fourteen times over three years and state and municipal representatives provided substantial input regarding the draft reports, the ultimate Phase II Rule, and the supporting data.⁴⁴ *Id.* EPA *865 instituted the Phase II Subcommittee meetings in addition to the standard APA notice and comment procedures, which EPA also followed.

The fact that the Rule did not conform to Petitioners' hopes and expectations does not bear on whether EPA adequately consulted state and local officials. Although required to consult with States and localities, EPA was free to chart the substantive course it saw fit. EPA was not required to consult with States on the Appropriations Act report. Even if EPA should have sought further comment at that late stage, failure to do so does not outweigh the evidence demonstrating extensive consultation and cooperation with local authorities on development of the Rule.

F. Designation of Certain Small MS4s and Construction Sites

The Industry Petitioners contend that, in designating certain small MS4s and construction sites for regulation under the Phase II Rule, EPA failed to adhere to the statutorily required regulatory basis and misinterpreted record evidence. We disagree.

1. Regulatory Basis

The Industry Petitioners and the Municipal Petitioners contend that EPA violated the statutory command to base the Phase II regulations on § 402(p)(5) studies. We review EPA's interpretation of its statutory authority under the *Chevron* standard, 467 U.S. at 842–44, 104 S.Ct. 2778, and affirm.

Petitioners argue that the studies mandated by § 402(p)(5) were intended to provide the sole substantive basis for the “comprehensive program” envisioned in § 402(p)(6), but that EPA also (and thus improperly) based its designation of small MS4s and construction sites on (1) public comment received in the aftermath of judicial invalidation of the scope of construction sites regulated by the Phase I Rule,⁴⁵ and (2) additional research discussed in the Preamble to the Phase II Rule.⁴⁶

EPA contends that the statute did not require it to base its designations exclusively on the § 402(p)(5) studies, and that it was in fact required to take account of information from other sources in promulgating the regulations. It argues that it based the Phase II Rule on conclusions reported in the § 402(p)(5) studies, but then appropriately supported these results with data described in the additional study requested by Congress in the Appropriations Act, comments submitted during the statutorily required notice-and-comment process, and other available information. To read the authorizing statute as limiting reliance to the § 402(p)(5) studies, EPA claims, would preclude it from relying on recommendations received through the separate, post-study requirement to “consult with State and local officials” under *866 § 402(p)(6), and through the notice and comment process mandated by the APA, 5 U.S.C. § 553(b).

Respondent-intervenor NRDC adds that the Phase II Rule is consistent with the § 402(p)(5) studies reported in 1995, and moreover, that the Industry Petitioners lack standing to raise the “regulatory basis” claim because they cannot show the requisite injury. See *Friends of the Earth*, 528 U.S. at 180–81, 120 S.Ct. 693.

a. Standing. Industry Petitioners⁴⁷ contend that they have suffered injury in fact, because their members are now either automatically regulated by the permitting requirements or subject to future regulation (under the residual authority, discussed below) that otherwise would not have been authorized, and that this is a direct result of EPA's failure to adhere to the framework of the 1995 Report, which allegedly would have precluded these aspects of the Rule. NRDC contends that the Industry Petitioners lack standing because they cannot show that being subject to NPDES permitting is the causal result of the procedural injury they urge, and because they cannot base standing on hypothetical injury that may arise in the future.

NRDC argues that the injuries Petitioners allege are not consistent with the guidelines laid out in *Friends of the Earth*, 528 U.S. at 180–81, 120 S.Ct. 693. It insists that Petitioners' only possible claims of injury from the alleged “regulatory basis” violation are purported harm to members caused by the final Phase II Rule itself or harm to members caused by EPA's alleged failure to provide adequate notice of future regulatory requirements in the 1995 Report. However, NRDC contends that Petitioners have not suffered the requisite injury, because they had actual notice that EPA might regulate small construction sites, 63 Fed. Reg. at 1583, and they can show no chain of causation linking their alleged injury from the Rule itself to the actions challenged here.

NRDC's causation argument is complex. Although the Petitioners purport to challenge EPA's failure to follow all of the 1995 Report's recommendations in the final Phase II Rule, NRDC contends, they are really challenging the subsequent proceedings through which EPA developed the final Rule. Even if there were some unlawful variance between the 1995 report and final rule, NRDC continues, the cause of that variance would have been some failure to abide by rulemaking standards during administrative proceedings that produced the text of the final Rule—not EPA's attention to sources of input other than the 1995 Report. NRDC maintains that these intervening acts of rulemaking (e.g., Phase II Subcommittee activities and the notice-and-comment process) break the requisite chain of causation between EPA's alleged failure to adhere to recommendations in the 1995 report and the flaws Petitioners allege in the Phase II Rule,

which NRDC claims would have been due to “purportedly unlawful EPA decisions on the merits during the subsequent administrative proceedings.” See *Northside Sanitary Landfill v. Thomas*, 804 F.2d 371, 381–84 (7th Cir.1986) (finding no standing to challenge EPA statements concerning the fate of a hazardous waste facility when subsequent state administrative acts, not EPA comments, would determine the facility's actual fate).

[23] We note that NRDC's standing arguments apply equally to the Municipal Petitioners, who can also assert only the *867 harms resulting to members from the Rule itself or from a lack of notice, and that we are thus not only considering the standing of the Industry Petitioners but also that of the Municipal Petitioners to raise the “regulatory basis” claim.⁴⁸ That established, we find standing for both.

NRDC essentially argues that petitioners lack standing because (1) they cannot show that being subject to NPDES permitting is the causal result of the procedural injury they urge, (2) they cannot claim any actual notice injury from the alleged procedural wrong because notice was actually given, and (3) they cannot claim standing based on hypothetical injury that may (or may not) arise from future regulation under the residual authority. We can readily agree with the latter two contentions. As discussed above, the “actual injury” requirement of Article III standing precludes judicial consideration of exactly the kind of hypothetical harm the Industry Petitioners allege may follow from use of Phase II authority for future designations of regional sources. *Friends of the Earth*, 528 U.S. at 180–81, 120 S.Ct. 693. If future Phase II designations cause identifiable injury to Petitioners, they will then be free to pursue that ripe claim. And because EPA clearly issued notice to all regulated parties that they may be subject to regulation under the proposed rule, 63 Fed. Reg. at 1568 (MS4s) and 1582 (construction), petitioners cannot show injury from lack of actual notice.

However, NRDC's causation argument is less persuasive. NRDC correctly argues that the petitioners cannot establish a definite chain of causation between the EPA's alleged failure to limit their regulatory basis to the § 402(p)(5) studies and the fact that they now must obtain permits. But this will almost always be true of petitions challenging an agency's failure to abide by statutory procedural requirements. Because all administrative decisionmaking following an alleged procedural irregularity could always be considered an intervening factor breaking the chain of causation, NRDC's interpretation of the requisite chain of causation would dubiously shield administrative decisions from procedural review.

For this reason, we have held that the failure of an administrative agency to comply with procedural requirements in itself establishes sufficient injury to confer standing, even though the administrative result might have been the same had proper procedure been followed. *City of Davis v. Coleman*, 521 F.2d 661, 671 (9th Cir.1975) (agency's failure to comply with National Environmental Policy Act's procedural requirements constituted injury sufficient to support standing of a geographically related plaintiff regardless of potentially similar regulatory outcome). In *City of Davis*, we noted that the standing inquiry represents “a broad test, but because the nature and scope of environmental consequences are often highly uncertain before study we think it an appropriate test.” *Id.* A plaintiff who shows that a causal relation is “probable” has standing, even if the chain cannot be definitively established. *Johnson v. Stuart*, 702 F.2d 193, 195–96 (9th Cir.1983) (school students and their parents had standing to challenge a statute that limited the texts that might be selected for teaching, even *868 though it could not be shown whether any specific book had been rejected under this statute or for other reasons).

The Supreme Court has also acknowledged that standing may be established by harm resulting indirectly from the challenged acts, *Warth v. Seldin*, 422 U.S. 490, 504–05, 95 S.Ct. 2197, 45 L.Ed.2d 343 (1975), and that causation may be established if the plaintiff shows a good probability that, absent the challenged action, the alleged harm would not have occurred, *Arlington Heights v. Metro. Hous. Dev. Corp.*, 429 U.S. 252, 262–64, 97 S.Ct. 555, 50 L.Ed.2d 450 (1977).

Thus, although the petitioners cannot show with certainty that the alleged “regulatory basis” violation caused them to be wrongfully subjected to Phase II permitting requirements, we hold that they have alleged a procedural injury sufficient to support their standing to bring the claim.

b. Merits. Although we resolve the standing issue in favor of the petitioners, we nevertheless affirm the Rule against their claim that EPA violated procedural constraints implied by the authorizing statute, § 402(p)(6).

Congress intended EPA to use all sources of information in developing a comprehensive program to protect water quality to the maximum extent practicable. The statute unambiguously required EPA to base its regulations both on the § 402(p)(5) studies and on consultation with state and local officials. Congress enacted § 402 with full knowledge that EPA would also be required to take account of public comments during the notice and comment phase of administrative rulemaking prescribed by the APA.⁴⁹

2. MS4s in Urbanized Areas

The Municipal Petitioners contend that the designation of small MS4s for Phase II regulation according to Census Bureau defined areas of population density (“urbanized areas”) is arbitrary and capricious. They argue that EPA has not established that the Census Bureau's designation of urbanized areas is correlated with actual levels of pollution runoff in stormwater, and that EPA adopted the designations simply for administrative convenience. We affirm, because the record reflects a reasoned basis for EPA's decision. See *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851.

Conceding that the Preamble cites studies purporting to establish “a high correlation between the degree of development/urbanization and adverse impacts on receiving waters due to stormwater,” 64 Fed. Reg. at 68,751, the Municipal Petitioners nevertheless contend that the record contains no “demonstrably correlated, *quantified* basis on which EPA may reasonably have concluded that any particular population, or any population density, *per se* establishes that all urban areas having that same characteristic in gross are necessarily appropriate for inclusion as Phase II sources.” Pointing to *Leather Industries of America v. EPA*, 40 F.3d 392, 401 (D.C.Cir.1994) (rejecting as arbitrary EPA's regulation of pollutant levels in the absence of data supporting a relationship between the caps and level of risk), Petitioners argue that EPA simply assumed the relationship Congress contemplated it would establish by the § 402(p)(5) studies.

EPA responds that it extensively documented the relationship between urbanization and harmful water quality impacts from stormwater runoff, pointing to its findings that the degree of surface imperviousness in an area directly corresponds *869 to the degree of harmful downstream pollution from stormwater runoff, 64 Fed. Reg. at 68,724–27, and that it articulated a rational connection between these record facts and its decision to designate small MS4s serving areas of high population density (“urbanized areas”) to protect water quality.

[24] We treat EPA's decision with great deference because we are reviewing the agency's technical analysis and judgments, based on an evaluation of complex scientific data within the agency's technical expertise. See *Baltimore Gas & Elec. Co. v. NRDC*, 462 U.S. 87, 103, 103 S.Ct. 2246, 76 L.Ed.2d 437 (1983); see also *Chem. Mfrs. Ass'n v. EPA*, 919 F.2d 158, 167 (D.C.Cir.1990) (“It is not the role of courts to ‘second-guess the scientific judgments of the EPA....’”). We conclude that the record supports EPA's choice.

The statute simply called upon EPA to “designate stormwater discharges,” other than those designated in Phase I, “to be regulated to protect water quality.” 33 U.S.C. § 1342(p)(6). EPA did so, based on record evidence showing a compelling and widespread correlation between urban stormwater runoff and deleterious impacts on water quality. Petitioners' assertion that EPA failed to establish a “quantified” basis for its designation is inapposite. The statute did not require EPA to establish with pinpoint precision a numeric population threshold within urbanized areas that would justify regulation under Phase II. In areas implicating technical expertise and judgment, courts do not require “perfect stud[ies]” or data. *Sierra Club*, 167 F.3d at 662. EPA satisfied the *Leather Industries* standard by adopting a threshold consistent with the criterion of “protecting water quality,” and did not assume, but instead sufficiently documented, the relationship between urbanization and harmful stormwater discharge.

3. Small Construction Sites

Industry and Municipal Petitioners also argue that EPA's decision to regulate under Phase II all construction sites disturbing between one and five acres of land ("small construction sites") is arbitrary and unsupported by the record. We do not agree. See *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851.

a. Record Evidence. Municipal Petitioners claim that EPA arrived at the one-acre standard based not on factual findings in the record but instead as a reaction to the earlier Ninth Circuit remand of the Phase I five-acre designation. They allege that the one-acre standard is no more based on supporting data than the rejected five-acre standard, and is thus quantitatively arbitrary.

Industry Petitioners argue that EPA's findings do not support regulation of *all* small construction sites, but indicate only that small construction sites, taken cumulatively, may cause effects similar to large sites in a given area. They contend that EPA's conclusion that adverse effects are possible under certain circumstances cannot support categorical designation of all small construction sites nationwide, and that the Rule is arbitrary because (1) it is based on an analysis that fails to take account of the frequency of negative impacts, (2) it fails to take account of acknowledged factors that determine whether small construction activities cumulatively cause harm (such as the degree of development in a watershed at any given time), and (3) EPA has acknowledged that the actual water quality impact of construction sites of all sizes varies widely from area to area depending on climatological, geological, geographical, *870 and hydrological influences.⁵⁰

Industry Petitioners further contend that the record does not support the designation of small sites, because almost all of the technical papers EPA relied on focused on larger sites or failed to take account of size,⁵¹ and because the lack of an adequate factual basis for nationwide regulation of small sites makes the Phase II Rule arbitrary and capricious. *Am. Petroleum Inst. v. EPA*, 216 F.3d 50, 58 (D.C.Cir.2000) (invalidating a solid waste rule because EPA "failed to provide a rational explanation for its decision" declining to exclude oilbearing waste waters from the statutory definition of solid waste).

EPA maintains that construction sites regulated under the Phase II Rule degrade water quality across the United States and that the administrative record unambiguously documents that harm. EPA disputes Petitioners' assertion that it failed to establish the need to regulate small sites nationwide, but also contends that it is not required to base every administrative decision on a precise quantitative analysis. See *Sierra Club*, 167 F.3d at 662 ("EPA typically has wide latitude in determining the extent of data-gathering necessary to solve a problem.").

EPA also disputes petitioners' assertions that data from studies involving larger construction sites are irrelevant to the Phase II Rule. EPA explains that discharges of sediment due to erosion are the result of the interaction of several factors including soils, slope, precipitation, and vegetation:

For construction sites that are one acre or more, none of the environmental factors contributing to sediment discharges is dependent on the size of the site disturbed. A one-acre site can have the same combination of soils, slope, degree of disturbance and precipitation as a 100-acre site, and consequently can lose soil at the same rate ... and discharge sediments in the same concentrations ... as a 100-acre site.

EPA contends that it is thus reasonable to extrapolate data about small sites from studies of larger ones—and that such an extrapolation may even be forgiving, since small sites are currently less likely to have effective erosion and sedimentation control plans.⁵²

*871 Indeed, EPA argues that although adverse water quality impacts of small construction sites have been widely recognized, effective local erosion and sedimentation control programs have not been adopted in many areas.⁵³ Though not all watersheds are currently adversely effected by small construction sites,⁵⁴ EPA notes that the Phase II Rule acts "to protect water quality" both remedially and preventively, and argues that it need not quantify the cumulative effects

of discharges from these sites or identify all watersheds that are currently harmed before acting to limit pollution from small sites.⁵⁵

[25] We reverse under the arbitrary and capricious standard only if the agency has relied on factors Congress did not intend it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision contrary to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise. *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43, 103 S.Ct. 2856. Petitioners' contention that EPA relied on factors Congress did not intend it to consider was rejected in our earlier discussion of the regulatory basis challenge. They submit no evidence that EPA failed to consider an important aspect of the problem. We cannot say that EPA's designation of small construction sites is implausible (especially given the support of twenty-some-odd studies of sedimentation from construction sites that EPA reviewed in promulgating the challenged regulations, 64 Fed. Reg. 68,728–31). We could remand this aspect of the Rule only if, as the petitioners urge, EPA's explanation for its decision to regulate small construction sites were contrary to the record evidence, and it is not.

Petitioners' primary contention is that evidence in the record suggests it is not possible to provide an explicit, quantitative link between small construction sites and an adverse effect on water quality. But even if this were so, EPA's decision to regulate preventively small construction sites “to protect water quality” is not inconsistent with the record. Petitioners contend that EPA's reliance on data from studies of large construction sites is insufficient to support EPA's designation of small sites, but EPA has adequately supported its contention that experts can reasonably *872 extrapolate projected water quality impacts from large to small sites. We apply the substantial evidence standard when reviewing the factual findings of an agency, *Dickinson v. Zurko*, 527 U.S. 150, 156–58, 119 S.Ct. 1816, 144 L.Ed.2d 143 (1999),⁵⁶ and find it satisfied here.

Moreover, EPA is not required to conduct the “perfect study.” *Sierra Club*, 167 F.3d at 662. We defer to an agency decision not to invest the resources necessary to conduct the perfect study, and we defer to a decision to use available data unless there is no rational relationship between the means EPA uses to account for any imperfections in its data and the situation to which those means are applied. *Id.*; *Am. Iron & Steel Inst. v. EPA*, 115 F.3d 979, 1004 (D.C.Cir.1997). The record indicates a reasoned basis for EPA's decision that regulating small construction sites was necessary “to protect water quality” as required by § 402(p)(6).

[26] *b. Waivers.* Industry Petitioners further contend that EPA's allowance of regulatory waivers for small construction sites not likely to cause adverse water quality impacts inappropriately supplements the permitting regulations.

Petitioners argue that EPA has the burden of establishing a comprehensive program to control sources as necessary to protect water quality, and that shifting the burden to individual contractors, businesses, and homeowners to prove they do not harm water quality falls short of meeting this statutory obligation. Citing *National Mining Association v. Babbitt*, 172 F.3d 906, 910 (D.C.Cir.1999), they argue that EPA's rebuttable regulatory presumption of water quality impact from small construction activity is unreasonable because the agency has established no scientific likelihood that any given small site will affect water quality. EPA defends the waiver approach as fair and efficient, and argues that the Industrial Petitioners are confusing arguments about the limits of presumptions in evidentiary hearings conducted under the APA.⁵⁷

EPA is correct; the Phase II Rule creates no presumption applicable to an evidentiary hearing, and a regulation creating exemptions by waiver is reviewed under the familiar arbitrary and capricious standard. The use of waivers to allow permit exemptions for small sites unlikely to cause adverse impacts is reasonable under that standard.

[27] *c. Consistency.* Industry Petitioners also argue that EPA's decision to regulate all small construction sites under the Phase II Rule is arbitrary and capricious because EPA applied a different standard in regulating small construction projects than it applied to other potential sources of stormwater runoff subject to Phase II regulation.

Petitioners contend that EPA decided not to designate other potential sources identified in the § 402(p)(5) studies because it determined that there are not “sufficient data ... available at this time on which to make a determination of potential adverse water quality impacts for the category of sources.” 64 Fed. Reg. at 68,780. Petitioners contend this standard should have been applied to small construction sites as well, but EPA opted to *873 regulate these sources despite an alleged lack of coherent data on small site impacts as a general category.

EPA counters, once again, that it did have adequate data to regulate small construction sites. It contends that construction sites of all sizes have greater erosion rates than almost any other land use, and thus are not similarly situated to the potential polluters that EPA chose not to regulate at this time.⁵⁸ These sources include secondary industrial activities (for example, maintenance of construction equipment or local trucking for an unregulated facility such as a grocery store) and other unregulated commercial activities (for example, car and truck rental facilities). 64 Fed. Reg. at 68,779. EPA reports that it decided not to categorically regulate these potential sources based both on available data about water quality impacts and on the extent to which potentially adverse water quality impacts are mitigated by existing regulations to which these sources are already subject. *Id.* at 68,780.

We find no error. See *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851. EPA acted reasonably in designating all small construction sites for Phase II regulation, and Industry Petitioners point to no record evidence that the nature of pollutant contributions from small construction site discharge is sufficiently similar to pollutants from the non-regulated sources to support the analogy they seek to draw. *New Orleans Channel 20 v. FCC*, 830 F.2d 361, 366 (D.C.Cir.1987) (an agency does not act irrationally when it treats parties differently, unless the parties are similarly situated). Sufficient evidence supports EPA's conclusion that small construction sites are not similar enough to these “other sources” to support petitioner's challenge.

G. Continuing (“Residual”) Designation Authority

The Industry Petitioners argue that EPA acted improperly in retaining authority to designate future sources of stormwater pollution for Phase II regulation as needed to protect federal waters. We disagree.

The Phase II Rule preserves authority for EPA and authorized States to designate currently unregulated stormwater dischargers as requiring permits under the Rule if future circumstances indicate that they warrant regulation “to protect water quality” under the terms of § 402(p)(6). 40 C.F.R. § 122.26(a)(9). In the Phase II Preamble, EPA explains this aspect of the Rule:

Under today's rule, EPA and authorized States continue to exercise the authority to designate remaining unregulated discharges composed entirely of stormwater for regulation on a case-by-case basis.... Individual sources are subject to regulation if EPA or the State, as the case may be, determines that the stormwater discharge from the source contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This standard is based on the text of section CWA 402(p). In today's rule, EPA believes, as Congress did in drafting section CWA 402(p)(2)(E), that individual instances of stormwater discharge might warrant special regulatory attention, but do not fall neatly into a discrete, predetermined category. Today's rule preserves the regulatory authority *874 to subsequently address a source (or category of sources) of stormwater discharges of concern on a localized or regional basis.

64 Fed. Reg. 68,781. The text of the Rule requires a discharger to obtain a permit if the NPDES permit authority determines that “stormwater controls are needed for the discharge based on wasteload allocations that are part of ‘total

maximum daily loads' (TMDLs⁵⁹) that address the pollutant(s) of concern” or that “the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.” 40 C.F.R. §§ 122.26(a)(9)(i)(C)-(D).

1. Statutory Authority

The Industry Petitioners contend that this “residual” designation authority, which would allow a NPDES permitting authority to require at any future time a permit from any stormwater discharge not already regulated, is *ultra vires*. Although they concede that Congress authorized case-by-case designation in § 402(p)(2)(E),⁶⁰ they argue that this authority attached only during the permitting moratorium that ended in 1994, prior to the Phase II rulemaking. They object that EPA has impermissibly designated a category of “not yet identified” sources and preserved authority to regulate them on a case-by-case basis indefinitely into the future.⁶¹

[28] Petitioners contend that § 402(p)(6)⁶² cannot rescue the residual authority because it does not authorize case-by-case identification of discharges to be regulated, and that Congress, had it intended otherwise, would have included language in § 402(p)(6) similar to the case-by-case authority explicitly granted in § 402(p)(2)(E).⁶³ They also contend that *875 continuing authority to designate sources based on waste load allocations that are part of TMDLs exceeds the scope of authority in § 402(p)(2), which nowhere mentions TMDLs. Finally, they argue that the categorical designation authorized by § 402(p)(6) is only permissible when based on the § 402(p)(5) studies and carried out in consultation with state and local authorities, but that the Rule allows future designations based on agency discretion unaccompanied by adequate demonstration that the source itself is a significant threat to water quality.

EPA counters that § 402(p)(6) authorized the designation, made on the basis of statutorily required sources of input and in consultation with the States, of a third class of discharges to be identified on location-specific bases by the NPDES permitting authority. EPA contends that Petitioners mistake the source of its authority for continuing designations as arising only from § 402(p)(2), discounting the full scope of its authority under § 402(p)(6). EPA argues that it permissibly interpreted § 402(p)(6) as allowing the residual designation authority because its language does not expressly preclude it, and because such authority is consistent with (and arguably required by) that section's mandate to establish a “comprehensive program” to protect water quality from adverse stormwater discharges. EPA maintains that the structure of § 402(p) reflects “Congress' intent to assure regulation of all problematic stormwater discharges as expeditiously as reasonably possible—not to limit EPA to a one-time-only opportunity to designate discharges for regulation.”

[29] We review EPA's interpretation of the statute it administers with deference, *Royal Foods Co.*, 252 F.3d at 1106, and affirm this aspect of the Phase II Rule as a legitimate exercise of regulatory authority conferred by § 402(p). The residual designation authority is grounded both on § 402(p)(6), which broadly authorizes a comprehensive program to protect water quality, and on § 402(p)(2)(5), which authorizes case-by-case designation of certain polluters and categories of polluters.

While not a blank check, § 402(p)(6) authorizes a comprehensive program that allows regional designation of polluting discharges that compromise water quality locally, even if they have not been established as compromising water quality nationally at the time Phase II was promulgated. In allowing continuing designation authority, EPA permissibly designated a third category of dischargers subject to Phase II regulation—those established locally as polluting U.S. waters—following all required studies and consultation with state and local officials. EPA reasonably determined that discharges other than those from small MS4s and construction sites were likely to require regulation “to protect water quality” in satisfaction of the § 402(p)(6) mandate. EPA reasonably determined that, although it lacked sufficient data to support nationwide, categorical *876 designation of these sources, particularized data might support their designations

on a more localized basis. EPA reasonably interpreted § 402(p)(6) as authorizing regional designation of sources and regional source categories, based on water quality standards including TMDLs.

Petitioners' § 402(p)(2)(5) argument (that EPA could not draw support for the residual designation authority from § 402(p)(2)(5) because such authority expired in 1994) is contradicted by the plain language of the statute. Respondent-intervenor NRDC correctly notes that § 402(p)(1) sets forth a permitting moratorium for stormwater discharges prior to 1994, and that § 402(p)(2) exempts certain categories of sources from that permitting moratorium, including those to be regulated on a case-by-case basis under § 402(p)(2)(5). Specifically, the statute provides that the 1994 date "shall not apply" to the five categories of discharges listed in § 402(p)(2). The termination of a moratorium that "shall not apply" to the continuing designation authority under § 402(p)(2)(5) cannot rescind EPA's authority to regulate sources in that category. Nothing in § 402(p) suggests that authority to designate these sources ends at any time, and EPA remains free to designate § 402(p)(2)(E) dischargers.

Finally, although Petitioners may be legitimately concerned that a permitting authority may designate a source without adequately establishing its eligibility, this issue must be addressed in the context of an actual case or controversy. Whether a NPDES authority may impose permitting requirements on a discharger without an adequate finding of polluting activity is not yet ripe for judicial review. *Thomas v. Anchorage Equal Rights Comm'n*, 220 F.3d 1134, 1141 (9th Cir.2000) ("A concrete factual situation is necessary to delineate the boundaries of what conduct the government may or may not regulate.").

2. Nondelegation Doctrine

[30] Industry Petitioners contend that EPA's interpretation of § 402(p) to allow the residual designation authority must be rejected because it would render the statute unconstitutional under the nondelegation doctrine. We deny petitioners' claim, both because it is not properly raised and because it rests on an interpretation explicitly overturned by the United States Supreme Court.

Petitioners base their contention on *American Trucking Ass'ns v. EPA*, 175 F.3d 1027, 1034 (D.C.Cir.1999),⁶⁴ in which the D.C. Circuit remanded a regulation under the nondelegation doctrine because, although EPA had applied reasonable factors in establishing the air quality standards in question, the agency had articulated no "intelligible principle" to channel its application of these factors. *Id.* Petitioners argue that if § 402(p) authorizes a NPDES permitting authority to require Phase II permitting of any stormwater source deemed to be a "significant contributor" of pollutants to U.S. waters, then that grant of authority likewise constitutes an unconstitutional delegation of legislative authority because—as did the *American Trucking* delegation—it "leaves [EPA] free to pick any point" at which a regulatory burden will attach. *Id.* at 1037.

However, in reversing *American Trucking*, the Supreme Court rejected the notion that an agency has the power to interpret a statute so as to either save it from being, or transform it into, an unconstitutional delegation. *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 473, 121 S.Ct. 903, 149 L.Ed.2d 1 (2001). Whether a statute delegates legislative power "is a question for the courts, and an agency's [interpretation] has no bearing upon the answer." *Id.* Petitioner's argument to the contrary rests on the very reasoning in *American Trucking* that was overturned in *Whitman*. The relevant question is not whether EPA's interpretation is unconstitutional, but whether the statute itself is unconstitutional—a challenge Industry Petitioners do not raise.

But even if the challenge were properly raised, § 402(p) would, like the Clean Air Act standard-setting provision at issue in *Whitman*, survive constitutional review. The Supreme Court has upheld against nondelegation attacks many similar statutes establishing nonquantitative standards. *Am. Power & Light Co. v. SEC*, 329 U.S. 90, 104, 67 S.Ct. 133, 91 L.Ed. 103 (1946) (upholding statute giving SEC authority to modify corporate structures so that they are not "unduly or unnecessarily complicate[d]" and do not "unfairly or inequitably distribute voting power among security holders");

Yakus v. United States, 321 U.S. 414, 419–20, 423–27, 64 S.Ct. 660, 88 L.Ed. 834 (1944) (upholding statute giving agency power to set prices that “will be generally fair and equitable”). In *Yakus*, the Court held that a statutory command to “effectuate the purposes” of the overall statutory scheme withstood scrutiny. *Id.* Section 402(p)(6)'s directive “to protect water quality” summarizes the central purpose of the Clean Water Act, “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters,” 33 U.S.C. § 1251(a). It establishes a determinate criterion of the kind the Supreme Court upheld in *Yakus* and *American Power & Light*.

3. Notice and Comment

[31] Industry Petitioners also contend that, to the extent it allows the designation of entire categories of sources, rather than individual sources, the residual designation authority violates the APA, 5 U.S.C. § 553(b)(3), because EPA did not provide public notice that it was considering such a rule. *Ober v. EPA*, 84 F.3d 304, 315 (9th Cir.1996) (invalidating EPA rule where it deviated from proposal); *Shell Oil Co. v. EPA*, 950 F.2d 741, 746–47 (D.C.Cir.1991). Petitioners contend that while the proposed rule would have allowed case-by-case designation where an authority “determines that the discharge contributes to a violation,” 63 Fed. Reg. at 1635 (proposing 40 C.F.R. § 122.26(a)(9)(i)(D)), the final rule authorizes case-by-case designation where “the discharge, or category of discharges within a geographic area, contributes to a violation,” 40 C.F.R. § 122.26(a)(9)(i)(D).

EPA notes that it had proposed to promulgate continuing designation authority in some form, and points to elements in the proposed rule that explicitly envision the categorical designation of sources at the local/watershed level.⁶⁵

*878 According to the “logical outgrowth” standard, a final regulation must be “in character with the original proposal and a logical outgrowth of the notice and comments.” *Hodge*, 107 F.3d at 712. EPA emphasized that it was considering continuing designations based on watershed data rather than designating these sources on a national basis, and invited comment regarding this proposal. 63 Fed. Reg. at 1536. This supports the necessary relationship between the proposed and final rule.

H. Regulatory Flexibility Act

The Industry Petitioners contend that the Phase II Rule will impose substantial compliance costs on their members and other small entities, but that EPA failed to conduct the analysis required by the Regulatory Flexibility Act (“RFA”), 5 U.S.C. §§ 601–11. They argue that EPA seeks to excuse its noncompliance by falsely certifying that the Rule does not have a significant impact on a substantial number of small entities. 64 Fed. Reg. at 68,800. We are not persuaded.

[32] The RFA requires a federal agency to prepare a regulatory flexibility analysis and an assessment of the economic impact of a proposed rule on small business entities, 5 U.S.C. § 604, unless the agency certifies that the proposed rule will not have a “significant economic impact on a substantial number of small entities” and provides a factual basis for that certification, *id.* at § 605; *N.W. Mining Ass'n v. Babbitt*, 5 F.Supp.2d 9, 15–16 (D.D.C.1998).

EPA did certify that the Phase II Rule would not yield “significant impacts,” 64 Fed. Reg. at 68,800, but Petitioners contend this certification is erroneous because (1) EPA treats as “not significant” costs that are in fact significant, and (2) EPA failed to account for the entire universe of small entities affected (including small home construction contractors) and all significant costs to those entities. They urge that the failure to consider a significant segment of the affected small entity community requires invalidation of the Rule, citing *North Carolina Fisheries Ass'n v. Daley*, 27 F.Supp.2d 650, 659 (E.D.Va.1998) (certification failed to comply with RFA where agency ignored several categories of affected small entities), and *Northwest Mining*, 5 F.Supp.2d at 15 (RFA was violated where improper definition of small entity excluded analysis of affected entities).

EPA maintains that its certification was appropriate, and, moreover, that it has already voluntarily followed the additional RFA procedures that the Industry Petitioners now request. EPA argues that Petitioners have incorrectly

specified the costs that the small entities they represent will bear, referring erroneously to EPA's total annual compliance costs estimates for all entities, rather than to costs estimated for small entities as defined under the RFA. EPA maintains that it did consider economic impacts on small home construction contractors who might be denied discharge permits, and that it evaluated the annual costs of Phase II compliance associated with any land disturbance between one and five acres. 64 Fed. Reg. at 68,800–01.

Respondent-intervenor NRDC contends that Petitioners' reliance on measures of the aggregate impact of the Rule on small entities to determine compliance with the threshold test under the RFA fails as a matter of law because aggregate measures are not consistent with the statutory language setting out that test. NRDC notes that the plain language of § 605(b) sets out a three-component test indicating that EPA need not perform a regulatory flexibility analysis if it finds that the proposed *879 rule will not have: (1) “a significant economic impact” on (2) “a substantial number” of (3) “small entities.” 5 U.S.C. § 605(b). NRDC contends that EPA satisfied the statutory test, and that Petitioners' interpretation, which rewrites the test to omit the “substantial number” component, is erroneous.

[33] We believe NRDC correctly interprets the statute, *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851, and that EPA reasonably certified that the Phase II Rule would not have a significant economic impact in compliance with the Regulatory Flexibility Act. We also conclude that, even if EPA had failed to properly comply with the procedural requirements of the RFA, its actual assessment of the Rule's economic impacts renders any defective compliance harmless error. In granting relief under RFA § 611, a court may order an agency “to take corrective action consistent with” the RFA and APA, including remand to the agency, 5 U.S.C. § 611(a)(4)(A), but EPA has already conducted the economic analyses Petitioners seek when it convened the “Small Business Advocacy Review Panel” before publishing notice of the proposed rule. 64 Fed. Reg. at 68,801. That Panel evaluated the Rule and considered the comments of small entities on a number of issues, consistent with the procedures described in RFA § 603. *Id.* Appendix 5 of EPA's preamble to the proposed rule explained provisions that had been designed to minimize impacts on small entities, based on advice and recommendations from the Panel. 63 Fed. Reg. 1615, 64 Fed. Reg. 68,811. Modifications for small entities included alternative compliance and reporting mechanisms responsive to the resources of small entities, simplified procedures, performance rather than design standards, and waivers.

Any hypothetical noncompliance would thus have been harmless, since the available remedy would simply require performance of the economic assessments that EPA actually made. Like the Notice and Comment process required in administrative rulemaking by the APA, the analyses required by RFA are essentially procedural hurdles; after considering the relevant impacts and alternatives, an administrative agency remains free to regulate as it sees fit. We affirm the Rule against this challenge.⁶⁶

III.

CONCLUSION

We conclude that the EPA's failure to require review of NOIs, which are the functional equivalents of permits under the Phase II General Permit option, and its failure to make NOIs available to the public or subject to public hearings contravene the express requirements of the Clean Water Act. We therefore remand these aspects of the Small MS4 General Permit option so that EPA may take appropriate action to comply with the Clean Water Act. We also remand so that EPA may consider in an appropriate proceeding the Environmental Petitioners' contention that § 402(p)(6) requires EPA to regulate forest roads. We affirm all other aspects of the Phase II Rule against the statutory, administrative, and constitutional challenges raised in this action.

*880 Petitions for Review GRANTED IN PART and DENIED IN PART.

TALLMAN, Circuit Judge, concurring in part and dissenting in part:

I concur in most of the majority's opinion, but I dissent from Section II.B, which remands the Phase II Rule because its system of general permits is "arbitrary and capricious." I believe EPA's design of a system of general permits supported by notices of intent was a reasonable exercise of EPA's administrative discretion. We must give deference to EPA's interpretation of the laws it is charged with enforcing, so long as EPA's reading of those laws is permissible. Because EPA acted reasonably in designing a National Pollutant Discharge Elimination System ("NPDES") based on general permits and supported by NOIs, I respectfully dissent from the court's decision to remand this portion of the Phase II Rule.

I

As the majority concedes, we evaluate EPA's interpretation of the Clean Water Act with deference. Majority Op. 13796. If Congress's intent is unclear as to whether a system of general permits supplemented by NOIs is allowed, we simply ask "whether EPA's interpretation is permissible." *Ober v. Whitman*, 243 F.3d 1190, 1193 (9th Cir.2001).

II

As an initial matter, then, we must ask if Congress was clear in its intent concerning the propriety of a system of general permits augmented by NOIs.

Five legislative commands guide this inquiry. First, [33 U.S.C. § 1342\(p\)\(6\)](#) charges EPA with creating a system to regulate stormwater discharges. Plainly, nothing in this section speaks to whether EPA may utilize a general permit approach in regulating stormwater discharge.

Second, [33 U.S.C. § 1311\(a\)](#) makes it illegal to discharge pollutants "except as in compliance" with several sections of the Clean Water Act. Again, nothing in this section addresses whether EPA may make use of general permits reinforced by NOIs.

Third, [33 U.S.C. § 1342](#) in general (as opposed to the limited charge in [section 1342\(p\)\(6\)](#) discussed above) authorizes EPA to issue NPDES permits, provided that the permits satisfy several conditions. But nothing in [section 1342](#) prohibits the use of a system of general permits.

Fourth, the Clean Water Act mandates that "a copy of each permit application and each permit issued under" the NPDES permitting program be made available to the public for inspection and photocopying. [33 U.S.C. § 1342\(j\)](#). The Act does not elaborate on this naked requirement. There is no explanation of the manner in which NPDES permits and applications are to be made publicly available. Nor does the Act define what constitutes a "permit" that would trigger these requirements.

And fifth, the Clean Water Act authorizes the issuance of an NPDES "permit" "after opportunity for public hearing." [33 U.S.C. § 1342\(a\)\(1\)](#). The Act does not provide a definition of "permit," nor does it further detail what triggers the requirement of a public hearing.

In short, the Clean Water Act fails to address the propriety of a general permit system, or whether NOIs ought to be considered "permits." Therefore, we should uphold EPA's creation of a system of general permits buttressed by NOIs so long as it is "permissible." See *881 *Chevron, U.S.A., Inc. v. Natural Resources Defense Council*, 467 U.S. 837, 843–

44, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). Our duty to defer to EPA in such a situation is based on sound policy. Given the overwhelming challenge and complexity of the programs administered by federal agencies today, it is sensible to trust agencies with the design of those programs so long as the programs are reasonable interpretations of congressional mandates.

The central issues regarding EPA's general permit system are whether the Clean Water Act allows such a system and whether NOIs should be considered "permits." The resolution of these issues requires a complicated weighing of policies (e.g., administrative streamlining vs. robust inquiry) that is precisely what agencies are designed to do and courts are without the resources or expertise to do. "[I]f the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction." *Chevron*, 467 U.S. at 843, 104 S.Ct. 2778.

III

The Phase II Rule promulgates a system of general permits. EPA contemplated that these general permits will be issued on a watershed basis, with individual stormwater dischargers then filing NOIs to operate under general permits. The federal regulations implementing this system repeatedly emphasize that "[t]he use of general permits, instead of individual permits, reduces the administrative burden of permitting authorities, while also limiting the paperwork burden on regulated parties." 64 Fed. Reg. 68,722, 68,737, 68,762 (Dec. 8, 1999).

The use of a general permit system for the administration of the NPDES system has been considered and approved before. In *NRDC v. Costle*, 568 F.2d 1369 (D.C.Cir.1977), the District of Columbia Circuit considered a challenge to EPA's regulations under the Federal Water Pollution Control Act, which was the precursor to the Clean Water Act. In *Costle*, EPA sought approval of its design for the NPDES system. EPA had issued regulations exempting broad categories of point sources from the requirement that an NPDES permit be obtained before discharging into federal waters. Part of EPA's rationale in creating the exempted categories was that otherwise EPA would be overwhelmed by the administrative burden of issuing NPDES permits. *Id.* at 1377–79. The *Costle* court affirmed the lower court's rejection of these exemptions because the legislation in question plainly required that all point sources obtain some kind of NPDES permit. *Id.* But in rejecting EPA's regulations, the *Costle* court discussed the options available to EPA in promulgating an NPDES system that was considerate of the enormous burden such a system could impose on EPA. *Id.* at 1380–81. In particular, the court recommended "the use of area or general permits. *The Act allows such techniques.* Area-wide regulation is one well-established means of coping with administrative exigency." *Id.* at 1381 (emphasis added).

Against this backdrop, EPA's creation of a general permit system was entirely permissible. And if the creation of a general permit system is permissible, then it does not matter whether NOIs are given a public airing.

The majority contends that the general permit system prevents EPA from fulfilling its duty to make sure that municipalities do not discharge pollutants in violation of the Clean Water Act. The majority reasons that by failing to require EPA review of NOIs, the Rule fails to ensure that a regulated MS4's stormwater pollution control program will satisfy the Clean Water Act requirement that the MS4 "reduce *882 discharges to the maximum extent practicable." Majority Op. 855. But the majority's analysis ignores the effects of the general permit. By filing an NOI, a discharger obligates itself to comply with the limitations and controls imposed by the general permit under which it intends to operate. EPA mandates that all permits (including general permits) condition their issuance on satisfaction of pollution limitations imposed by the Clean Water Act. 40 C.F.R. § 122.44. In particular, EPA requires permits to satisfy the restrictions imposed by Clean Water Act section 307(a). *Id.* at § 122.44(b)(1). Therefore, the *general permit* imposes the obligations with which the discharger must comply (including applicable Clean Water Act standards), and EPA's decision not to review every NOI is not a failure to insure compliance with the Clean Water Act.

The majority also objects to EPA's general permit system because it fails to allow for sufficient public participation in the NOIs. Majority Op. 856–858. The majority's position fails to give deference to EPA and imposes the majority's own wishes instead. EPA would have been justified in creating a system entirely reliant on general or area permits. Its imposition of NOIs is an indulgence to certain policy prerogatives, namely public involvement and the collection of additional information. But the power to create a general permit system necessarily implies the power to require subordinate steps for NOIs that do not quite reach the level of inquiry associated with actual permits.

IV

We function as an adjudicator of disputes, not as a policy-making body. Where an agency promulgates rules after a deliberative process, it is incumbent upon us to respect the agency's decisions or else risk trivializing the function of that agency. In this case, EPA made a permissible decision to create a general permit program supported by NOIs. Therefore, I respectfully dissent from Section II.B of the majority's opinion.

All Citations

344 F.3d 832, 57 ERC 1039, 33 Env'tl. L. Rep. 20,269, 03 Cal. Daily Op. Serv. 8398, 2003 Daily Journal D.A.R. 10,479

Footnotes

- 1 The “Phase II Rule” reviewed here is the product of the second stage of EPA's two-phase stormwater rulemaking effort. The “Phase I Rule,” governing larger-scale stormwater discharges, was issued in 1990 and reviewed by this court in *Natural Res. Def. Council v. EPA*, 966 F.2d 1292 (9th Cir.1992).
- 2 Richard G. Cohn–Lee and Diane M. Cameron, *Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation*, THE ENVIRONMENTAL PROFESSIONAL, Vol. 14, p. 10, at 10 (1992); see also *Natural Res. Def. Council*, 966 F.2d at 1295 (citing a study by the Nationwide Urban Runoff Program).
- 3 [Regulation for Revision of the Water Pollution Control Program Addressing Storm Water](#), 64 Fed. Reg. 68,722, 68,724, 68,727 (Dec. 8, 1999) (codified at 40 C.F.R. pts. 9, 122, 123, and 124).
- 4 *Id.* at 68,726.
- 5 *Id.*
- 6 *Id.* at 68,725–31.
- 7 A point source is “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14).
- 8 Diffuse runoff, such as rainwater that is not channeled through a point source, is considered nonpoint source pollution and is not subject to federal regulation. *Oregon Natural Desert Ass'n v. Dombek*, 172 F.3d 1092, 1095 (9th Cir.1998).
- 9 [National Pollutant Discharge Elimination System Permit Application Regulations for Stormwater Discharges](#), 55 Fed. Reg. 47,990 (Nov. 16, 1990) (codified at 40 C.F.R. pt. 122–124). The Phase I rule was challenged in this court in *Natural Res. Def. Council*, 966 F.2d at 1292. We held, *inter alia*, that EPA must impose deadlines for permit approvals, *id.* at 1300, that EPA's decision to regulate construction sites only over five acres in size was arbitrary and capricious, *id.* at 1306, and that EPA did not act capriciously in defining “municipal,” *id.* at 1304, or in placing differently-sized municipalities on different permitting schedules, *id.* at 1301.
- 10 [Proposed Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges](#), 63 Fed. Reg. 1536 (proposed Jan. 9, 1998).
- 11 Pub. L. No. 106–74, § 431(a), 113 Stat. 1047, 1096 (1999) (“Appropriations, 2000—Department of Veterans Affairs and Housing and Urban Development, and Independent Agencies”).
- 12 [Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges](#), 64 Fed. Reg. 68,722 (Dec. 8, 1999) (codified at 40 C.F.R. pts. 9, 122, 123, and 124).
- 13 The Rule also allows a small MS4 to be regulated under an individual NPDES permit covering a nearby large or medium MS4, with provisions adapted to address the small MS4. 40 C.F.R. § 122.33(b)(3).

14 The text of that section reads: “Not later than October 1, 1993, [EPA], in consultation with state and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.” 33 U.S.C. § 1342(p)(6).

15 The lesser category of “permits” may also be implied by the inclusion of “performance standards” in the list of possible program features.

16 “Where Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.” *Bates v. United States*, 522 U.S. 23, 29–30, 118 S.Ct. 285, 139 L.Ed.2d 215 (1997).

17 The Phase II Rule also allows a small MS4 to be regulated under an NPDES permit covering a nearby large or medium-sized MS4, with provisions adapted to address the small MS4. 40 C.F.R. § 122.33(b)(3).

18 The Municipal Petitioners argue that the Minimum Measures exceed EPA’s statutory authority under § 402(p) of the Clean Water Act. We disagree. The list of elements for a regulatory program that appears in § 402(p)(6) is nonexclusive, and EPA’s adoption of the Minimum Measures represents a permissible interpretation of its authority under § 402(p)(6). See *Chevron*, 467 U.S. at 843–44, 104 S.Ct. 2778.

The Municipal Petitioners argue that EPA is not entitled to *Chevron* deference, and that the Minimum Measures must be rejected absent a clear statement of congressional intent that EPA enact the Minimum Measures. The Municipal Petitioners argue that this clear statement requirement arises because there are “significant constitutional questions” about the permissibility of the Minimum Measures under the Tenth Amendment, and because the Minimum Measures alter “the federal-state framework by permitting federal encroachment upon a traditional state power.” *Solid Waste Agency of N. Cook County v. Army Corps of Eng’rs*, 531 U.S. 159, 173, 121 S.Ct. 675, 148 L.Ed.2d 576 (2001).

As we explain, because the Phase II Rule includes at least one alternative to the Minimum Measures, *i.e.*, the option of seeking a permit under 40 C.F.R. § 122.26(d), the Minimum Measures do not present significant Tenth Amendment problems demanding a clear statement of congressional intent. Nor does the Phase II Rule alter the federal-state balance. To the contrary, the option of seeking a permit under 40 C.F.R. § 122.26(d) maintains precisely the same federal-state balance as existed prior to the Phase II Rule. See, *e.g.*, *Natural Res. Def. Council v. EPA*, 966 F.2d 1292 (9th Cir.1992) (reviewing Phase I Rule); *Natural Res. Def. Council v. Costle*, 568 F.2d 1369, 1379 (D.C.Cir.1977) (denying EPA authority to exempt MS4s from regulation under the Clean Water Act). Furthermore, even if a clear statement of congressional intent were necessary, § 402(p) of the Clean Water Act is replete with clear statements that Congress intended EPA to require MS4s either to obtain NPDES permits or to stop discharging stormwater.

19 This subsection provides that permit seekers must, “[t]o the extent allowable under State, Tribal, or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into your storm sewer systems and implement appropriate enforcement procedures and actions....” 40 C.F.R. § 122.34(b)(3)(ii)(B).

20 This subsection provides that permit seekers “must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre.... [The] program must include the development and implementation of, at a minimum: (A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law; (B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices; (C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality; (D) Procedures for site plan review which incorporate consideration of potential water quality impacts; (E) Procedures for receipt and consideration of information submitted by the public, and (F) Procedures for site inspection and enforcement control measures.” 40 C.F.R. §§ 122.34(b)(4)(i)-(ii).

21 This subsection provides that permit seekers must “[u]se an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects [disturbing one acre or more] to the extent allowable under State, Tribal or local law.” 40 C.F.R. §§ 122.34(b)(5)(ii)(B).

22 EPA and NRDC also argue that the Minimum Measures are facially constitutional, and that the Phase II Rule presents no Tenth Amendment difficulties because operators of small MS4s may avoid stormwater regulation entirely by electing not to discharge stormwater into federal waters in the first place. In light of our holding with regard to the Alternative Permit option, we do not consider these arguments.

- 23 We decline to address two further arguments raised by EPA: first, that municipalities do not receive full First Amendment protections, under *Muir v. Alabama Educational Television Commission*, 688 F.2d 1033, 1038 n. 12 (5th Cir.1982) (*en banc*) (“Government expression, being unprotected by the First Amendment, may be subject to legislative limitation which would be impermissible if sought to be applied to private expression”), and *Aldrich v. Knab*, 858 F.Supp. 1480, 1491 (W.D.Wash.1994) (holding that “unlike private broadcasters, the state itself does not enjoy First Amendment rights”), and second, that even if the First Amendment were fully applicable, the Phase II regulations would satisfy them because MS4s may avoid the compulsion to speak by seeking a permit under the Alternative option, 40 C.F.R. § 122.26(d)(2)(iv), rather than under the Minimum Measures.
- 24 As a subsidiary matter, we note that it also falls short of compelling the MS4 to “regulate” third parties in contravention of the Tenth Amendment. Dispensing information to facilitate public awareness about safe disposal of toxic materials constitutes “encouragement,” not regulation.
- 25 “When the constitutional validity of a statute or regulation is called into question, it is a cardinal rule that courts must first determine whether a construction is possible by which the constitutional problem may be avoided.” *Meinhold*, 34 F.3d at 1476.
- 26 In its most recent treatment of compelled speech, the Supreme Court held that a generic advertising campaign violated free speech where the message was specific and antagonistic to the preferred advertising message of the plaintiff, and the regulation compelling participation was not part of a broader regulatory apparatus already constraining the plaintiff’s autonomy in the relevant arena. *United States Dep’t. of Agriculture v. United Foods*, 533 U.S. 405, 410–17, 121 S.Ct. 2334, 150 L.Ed.2d 438 (2001). The court distinguished this advertising program from the one in *Glickman* on the latter point: “[t]he program sustained in *Glickman* differs from the one under review in a most fundamental respect. In *Glickman* the mandated assessments for speech were ancillary to a more comprehensive program restricting market autonomy.” *Id.* at 411, 121 S.Ct. 2334. Although the Phase II Rule is not an advertising or marketing regulation, it constitutes a “comprehensive program” restricting the autonomy of MS4s in the relevant arena of controlling toxic discharges to storm sewers that drain to U.S. waters.
- 27 In deciding the similar question of whether a regulation impermissibly compelled speech by requiring manufacturers of mercury-containing products to inform consumers how to dispose safely of the toxic material, the Second Circuit held that “mandated disclosure of accurate, factual, commercial information does not offend the core First Amendment values of promoting efficient exchange of information or protecting individual liberty interests.” *Nat’l Elec. Mfrs. Ass’n v. Sorrell*, 272 F.3d 104, 114 (2d Cir.2001). What speech may follow from the Phase II directive will not be “commercial” in the same sense that manufacturer labeling is, but it will be similar in substance to *Sorrell* to the extent that it informs the public how to dispose safely of toxins. We think the policy considerations underlying the commercial speech treatment of labeling requirements, *see, e.g.*, the Federal Cigarette Labeling and Advertising Act, 15 U.S.C. §§ 1333–39, apply similarly in the context of the market-participant municipal storm sewer provider.
- 28 The Alternative option contains a public education requirement that is similar but even less specific, and therefore even less burdensome, than the requirements in the Minimum Measures. *See* § 122.26(d)(2)(iv)(B)(6) (requiring permit seekers to propose programs to counter illicit discharges, including a “description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials”).
- 29 Municipal Petitioners concede that “simplified individual permit application requirements” were discussed, but they contend that the permit requirements discussed are not sufficiently similar to those promulgated to establish a logical outgrowth.
- 30 EPA argues that the Environmental Petitioner’s challenge is not ripe for review because “the question of whether some general permit somewhere might fail to assure that pollutants are reduced to the maximum extent practicable is not ripe for review.” But we are not addressing the merits of any specific permit. Rather, the question before us “is purely one of statutory interpretation that would not benefit from further factual development of the issues presented.” *Whitman v. American Trucking*, 531 U.S. 457, 479, 121 S.Ct. 903, 149 L.Ed.2d 1 (2001). Specifically, we are addressing whether EPA, in promulgating the Phase II Rule, has accomplished the substantive controls for municipal stormwater that Congress mandated in § 402(p) of the Clean Water Act. As we held in *Natural Resources Defense Council v. EPA*, 966 F.2d at 1296–97, 1308, this question is ripe for review.
- 31 Petitioners suggest that EPA should be held to the standard it espoused to procure judicial approval for the Phase I program. In 1991, responding to NRDC’s assertion that the Phase I Rule failed to set “hard criteria” for review of MS4 stormwater programs, EPA responded that “inadequate proposals will result in the denial of permit applications.” Respondent’s Brief at 67, *Natural Res. Def. Council v. EPA*, 966 F.2d 1292 (9th Cir.1992) (Nos. 91–70200, 91–70176, & 90–70671). Petitioners contend that this court relied on that representation in ruling for EPA on that issue. *Natural Res. Def. Council v. EPA*, 966 F.2d at 1308 n. 17 (“Individual NPDES permit writers ... will decide whether application proposals are adequate....”).

32 That the Rule allows a permitting authority to review an NOI is not enough; every permit must comply with the standards articulated by the Clean Water Act, and unless every NOI issued under a general permit is reviewed, there is no way to ensure that such compliance has been achieved.

The regulations do require NPDES permitting authorities to provide operators of small MS4s with “menus” of management practices to assist in implementing their Minimum Measures, *see* 40 C.F.R. § 123.35(g), but again, nothing requires that the combination of items that the operator of a small MS4 selects from this “menu” will have the combined effect of reducing discharges to the maximum extent practicable.

Nor is the availability of citizen enforcement actions a substitute for EPA's enforcement responsibility, especially because, as discussed below, the Rule does not require that NOIs be publicly available. Absent review on the front end of permitting, the general permitting regulatory program loses meaning even as a procedural exercise.

33 EPA identifies no other general permitting program that leaves the choice of substantive pollution control requirements to the regulated entity, and we are not persuaded by the analogy it urges to the traditional model of general permitting (where NOIs routinely are not reviewed), because, as we have noted, the Phase II general permit model is substantially dissimilar.

34 In its petition for rehearing, EPA argues for the first time that because the regulations require NPDES Permitting Authorities to include in general permits “any additional measures necessary” to ensure that the maximum extent practicable standard is met, 40 C.F.R. §§ 123.35(h)(1), 123.35(f) (incorporating by reference the “maximum extent practicable” requirement of 40 C.F.R. §§ 122.34(a)), 122.34(f) (requiring small MS4s to comply with additional measures), the Phase II Rule ensures that discharges will be reduced to the maximum extent practicable.

The trouble with EPA's reasoning is that the Phase II Rule defines the “maximum extent practicable” standard in such a way that no “additional measures” will ever be necessary under § 123.35(h)(1). While a Permitting Authority may impose additional measures, nothing compels it to do so because, merely by implementing the best management practices that the operator of a small MS4 has chosen for itself, that small MS4 will already have met the “maximum extent practicable” standard. *See* 40 C.F.R. § 122.34(a).

35 EPA argues for the first time in its petition for rehearing that NOIs will be publicly available under 40 C.F.R. § 122.34(g)(2). Addressing operators of regulated small MS4s, this section provides: “You must make your records, including a description of your storm water management program, available to the public at reasonable times during regular business hours.” While this section does seem to provide for the public availability of a small MS4's records, we are troubled that nothing in EPA's initial briefs indicated that EPA considered NOIs to be subject to this section. We normally defer to an agency's interpretations of its own regulations, but we may decline to defer to the *post hoc* rationalizations of appellate counsel. *See, e.g., Martin v. Occupational Safety and Health Review Commission*, 499 U.S. 144, 150, 156, 111 S.Ct. 1171, 113 L.Ed.2d 117 (1991). If EPA intends this section to provide for the public availability of NOIs—for example because it intends NOIs to be among the records subject to this section—it may clarify on remand.

36 Agency determinations based on the record are reviewed under the “arbitrary and capricious” standard. 5 U.S.C. § 706(2)(A). The standard is narrow and the reviewing court may not substitute its judgment for that of the agency. *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851. However, the agency must articulate a rational connection between the facts found and the conclusions made. *Washington v. Daley*, 173 F.3d 1158, 1169 (9th Cir.1999). The reviewing court must determine whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. *Marsh*, 490 U.S. at 378, 109 S.Ct. 1851. The court may reverse under the “arbitrary and capricious” standard only if the agency:

has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Motor Vehicle Mfrs. Ass'n, 463 U.S. at 43, 103 S.Ct. 2856.

37 EPA explains that the Group A facilities were not regulated with the other Phase I sources because EPA used Standard Industrial Classification Index (SIC) codes in defining the universe of regulated industrial activities: “By relying on SIC codes, a classification system created to identify industries rather than environmental impacts from these industries [sic] discharges, some types of storm water discharges that might otherwise be considered ‘industrial’ were not included in the existing NPDES storm water program.” 64 Fed. Reg. at 68,779.

38 As discussed in footnote 37, Group A facilities were not regulated with other Phase I industrial sources based on a government coding system used to distinguish different types of industry (without reference to their similar environmental impacts). *See* 64 Fed. Reg. at 68,779.

39 “In identifying potential categories of sources for designation in today's notice, EPA considered designation of discharges from Group A and Group B facilities. EPA applied three criteria to each potential category in both groups to determine the need for designation: (1) The likelihood for exposure of pollutant sources included in that category, (2) whether such sources

were adequately addressed by other environmental programs, and (3) whether sufficient data were available at this time on which to make a determination of potential adverse water quality impacts for the category of sources. As discussed previously, EPA searched for applicable nationwide data on the water quality impacts of such categories of facilities....”

“EPA’s application of the first criterion showed that a number of Group A and B sources have a high likelihood of exposure of pollutants.... Application of the second criterion showed that some categories were likely to be adequately addressed by other programs.”

“After application of the third criterion, availability of nationwide data on the various storm water discharge categories, EPA concluded that available data would not support any such nationwide designations. While such data could exist on a regional or local basis, EPA believes that permitting authorities should have flexibility to regulate only those categories of sources contributing to localized water quality impairments.... If sufficient regional or nationwide data become available in the future, the permitting authority could at that time designate a category of sources or individual sources on a case-by-case basis.” 64 Fed. Reg. at 68,780.

40 *Guidance Specifying Management Measures For Sources of Nonpoint Pollution in Coastal Waters*, EPA guidance paper 840–B–93–001c (Jan. 1993), available at <http://www.epa.gov/owow/nps/mmgil/index.html> (last visited Sept. 18, 2002) (“Coastal Waters”).

41 The provision provides in full as follows:

Silvicultural point source means any discernible, confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. The term does not include non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. However, some of these activities (such as stream crossing for roads) may involve point source discharges of dredged or fill material which may require a CWA section 404 permit (See 33 CFR 209.120 and part 233).

40 C.F.R. § 122.27(b)(1).

42 Nonpoint Source Pollution: The Nation’s Largest Water Quality Problem, EPA841–F–96–004A (“Pointer # 1”) (“The latest *National Water Quality Inventory* indicates that agriculture is the leading contributor to water quality impairments, degrading 60 percent of the impaired river miles and half of the impaired lake acreage surveyed by states, territories, and tribes.”).

43 The Municipal Petitioners join in asserting the “regulatory basis” claim at Part II(F)(1).

44 NRDC argues that this claim is not only meritless for the reasons stated by EPA, but also frivolous, since industry petitioner National Association of Home Builders, as a member of the FACA Phase II Subcommittee, participated in and affirmed that such consultation took place.

45 *See Natural Res. Def. Council*, 966 F.2d at 1306 (remanding EPA’s decision to regulate only construction sites disturbing more than five acres, after EPA had initially proposed to regulate all sites disturbing more than one acre).

46 The Industry Petitioners contend that EPA lacked authority to issue the Phase II regulation of construction sites based on a process EPA itself characterized as “separate and distinct” from the development of the Report to Congress. 64 Fed. Reg. at 68,732. They add that the Phase II Rule was not “based on” the 1999 Report ultimately requested by Congress in the Appropriations Act, since EPA’s report in response was released on the very day that the final Phase II Rule was published.

47 Since we have already determined that AF & PA lacks standing to raise any of its claims, *see* Section D above, this discussion pertains to the remaining Industry Petitioner, National Association of Home Builders.

48 Although the issue of Municipal Petitioners’ standing has not been raised by the parties, we are obliged to consider it to determine whether the case-or-controversy requirement of Article III is satisfied. *See, e.g., Boeing Co. v. Van Gemert*, 444 U.S. 472, 488 n. 4, 100 S.Ct. 745, 62 L.Ed.2d 676 (1980); *Juidice v. Vail*, 430 U.S. 327, 331, 97 S.Ct. 1211, 51 L.Ed.2d 376 (1977).

49 Even if the statute were ambiguous, we would defer to EPA’s reasonable interpretation. *Chevron*, 467 U.S. at 843–44, 104 S.Ct. 2778.

50 The Industrial Petitioners argue that although the Phase I authorizing statute required EPA to regulate all sources associated with “industrial activity,” Congress expressly directed that the Phase II regulatory program be focused on sources that require regulation “to protect water quality.” They assert that because EPA’s rule ignores the variability of water quality impacts nationwide, the Rule is not appropriately targeted on the protection of water quality.

51 Petitioners heavily critique two studies relied on by EPA that dealt specifically with the water quality impacts of small construction sites, noting that one concludes it is impossible to generalize about the impacts of small sites, Lee H. MacDonald, *Technical Justification for Regulating Construction Sites 1–5 Acres in Size*, July 22, 1997, and that the other merely concludes that small sites “can have” significant effects if erosion controls are not implemented, David W. Owens, et al., *Soil Erosion*

from *Small Construction Sites*. Petitioners contend that the latter study was managed with no erosion controls, intentionally producing worst-case sediment runoff and unreasonable estimates of actual sediment yields for small sites nationwide. EPA vigorously defends the studies.

- 52 NRDC adds that notwithstanding the clear interest of the National Association of Home Builders (“NAHB,” one of the Industry Petitioners), NAHB’s multi-year participation in the FACA Phase II Subcommittee Small Construction and No-Exposure Sites Work Group, and NAHB’s own submission of detailed comments on the proposed Rule, NAHB failed to enter into the administrative record any study contradicting the proposition that small construction sites cause water quality problems. NRDC points to the record’s showing that NAHB had itself proposed that regulation of construction sites of two acres or greater was appropriate, and contends that this is thus not a dispute over whether small construction sites should be regulated on a nationwide basis, but instead a technical disagreement over whether EPA should establish a one-acre threshold or a different threshold on a similar small scale.
- 53 Whitney Brown and Deborah Caraco, *Controlling Stormwater Runoff Discharges from Small Construction Sites: A National Review*, Task 5 Final Report submitted by the Center for Watershed Protection to the EPA Office of Wastewater Management, March 1997, IP E.R. 633, 643.
- 54 EPA adds that operators of small sites in areas unlikely to suffer adverse impacts may apply for a permit waiver if little or no rainfall is expected during the period of construction (the “rainfall erosivity waiver”) or if regulation is unnecessary based on a location-specific evaluation of water quality (the “water quality waiver”). 64 Fed. Reg. at 68,776.
- 55 EPA also implies permission to regulate for potential cumulative impacts of small sites from the past directive of this court. When the Phase I industrial discharge regulations were challenged, we found no record data to support that rule’s exemption of construction activities on less than five acres and held that small sites did not categorically qualify for a *de minimis* exemption because “even small construction sites can have a significant impact on local water quality.” *Natural Res. Def. Council*, 966 F.2d at 1306.
- 56 The “substantial evidence” standard requires a showing of such relevant evidence as a reasonable mind might accept as adequate to support a conclusion. *Eldred v. Massanari*, 253 F.3d 1152, 1156 (9th Cir.2001).
- 57 EPA further argues that even if the waiver provision were properly characterized as an evidentiary presumption, it should be sustained because the record demonstrates that the presumed fact of the water quality impact of small sites is more likely true than not.
- 58 EPA notes that the Phase II Rule empowers regional permitting authorities to regulate local sources of these types known to be responsible for harmful water quality impacts via the continuing “residual designation” authority (an aspect of the Rule that Petitioners also challenge).
- 59 TMDLs are pollutant loading limits established by NPDES permitting authorities under the Clean Water Act for waters that do not meet a water quality standard due to the presence of a pollutant. See 33 U.S.C. § 1313(d).
- 60 This section enables a NPDES permitting authority to designate for regulation: “[a] discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.” 33 U.S.C. § 1342(p)(2)(E).
- 61 Notably, Industry Petitioner NAHB itself took the position during Phase II Subcommittee proceedings that the power to designate additional sources survived the promulgation of the Phase II Rule. In a 1996 comment letter to EPA, NAHB asserted its understanding that “[t]he permitting authority still reserves the right to designate additional sources if they are shown to be a contributor of water quality impairment.” NRDC Supplemental Excerpts of Record at 58.
- 62 The full text of § 402(p)(6), which specifically authorizes the Phase II program, reads: “Not later than October 1, 1993, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.” 33 U.S.C. § 1342(p)(6).
- 63 Petitioners further argue that even if EPA could preserve the case-by-case authority conferred in § 402(p)(2)(E), that section confers authority only to regulate “a discharge” determined to threaten water quality, not a category of discharges. However, we agree with respondent-intervenor NRDC’s argument that § 402(p)(2)(E) does not preclude EPA from designating entire categories of sources. Petitioners’ argument follows from its reliance on the fact that § 402(p)(2)(E) refers to “discharge” in the singular rather than the plural to conclude that EPA may only designate sources meeting the § 402(p)(2)(E) description on a case-by-case basis. But all five of the § 402(p)(2)(5) categories refer to “discharge” in the singular, even in reference to discharges clearly intended for categorical regulation, like “a discharge from a municipal separate storm sewer system serving

a population of 250,000 or more.” 33 U.S.C. § 1342(p)(2)(C). The error in petitioners' interpretation is exposed by 1 U.S.C. § 1, which provides that “[i]n determining the meaning of any Act of Congress, unless the context indicates otherwise—words importing the singular include and apply to several persons, parties, or things.”

64 This case was reversed in relevant part by the Supreme Court in *Whitman v. Am. Trucking Ass'ns*, 531 U.S. 457, 476, 121 S.Ct. 903, 149 L.Ed.2d 1 (2001).

65 “[T]oday's proposal would encourage [voluntary] control of stormwater discharges ... unless the discharge (or category of discharges) is individually or locally designated as described in the following section. The necessary data to support designation could be available on a local, regional, or watershed basis and would allow the NPDES permitting authority to designate a category of sources or individual sources on a case-by-case basis. If sufficient nationwide data [becomes] available in the future, EPA could at that time designate additional categories of industrial or commercial sources on a national basis. EPA requests comment on the three-pronged analysis used to assess the need to designate additional industrial or commercial sources and invites suggestions regarding watershed-based designation.” 63 Fed. Reg. at 1588.

66 Our consideration of the issue at all may be gratuitous, since petitioners failed to submit timely comment disputing the adequacy of EPA's consideration of economic impacts on small businesses proposed at 63 Fed. Reg. at 1605–07. *United States v. L.A. Tucker Truck Lines*, 344 U.S. 33, 37, 73 S.Ct. 67, 97 L.Ed. 54 (1952) (“[C]ourts should not topple over administrative decisions unless the administrative body not only has erred but has erred against objection made at the time appropriate under its practice.”).

ATTACHMENT C-5



KeyCite Yellow Flag - Negative Treatment

Disagreement Recognized by [American Farm Bureau Federation v. U.S. E.P.A.](#), 3rd Cir.(Pa.), July 6, 2015

446 F.3d 140

United States Court of Appeals,
District of Columbia Circuit.

FRIENDS OF THE EARTH, INC., Appellant

v.

ENVIRONMENTAL PROTECTION AGENCY, et al., Appellees.

No. 05–5015.

|
Argued March 2, 2006.

|
Decided April 25, 2006.

Synopsis

Background: Environmental group petitioned for review of decision of Environmental Protection Agency (EPA) to approve certain total maximum daily loads (TMDLs) for pollutants discharged into river, alleging that disputed TMDLs, which did not limit daily discharges, violated Clean Water Act (CWA) and implementing regulations. The Court of Appeals, [333 F.3d 184](#), dismissed petitions and transferred case. The United States District Court for the District of Columbia, [346 F.Supp.2d 182](#), granted EPA's motion for summary judgment. Environmental group appealed.

Holdings: The Court of Appeals, [Tatel](#), Circuit Judge, held that:

[1] CWA unambiguously required establishment of daily loads, and therefore EPA could not approve seasonal or annual loads;

[2] EPA could not avoid literal interpretation of statutory term “daily” on grounds of absurdity;

[3] purported tension between Combined Sewer Overflow Control (CSO) Policy and TMDLs did not provide basis for interpreting “daily” to mean timeframe other than daily; and

[4] District of Columbia's recent revisions to water quality standards for river did not render action moot.

Reversed and remanded with instructions.

West Headnotes (12)

- [1] [Administrative Law and Procedure](#) 🔑 [Environment and health](#)
[Environmental Law](#) 🔑 [Water pollution](#)

Inasmuch as Congress charged Environmental Protection Agency (EPA) with implementation of Clean Water Act (CWA), review of EPA's interpretation of phrase “total maximum daily load” under CWA was governed

by *Chevron* standard. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

[3 Cases that cite this headnote](#)

[2] Administrative Law and Procedure  Plain, literal, or clear meaning;ambiguity

When court reviews agency interpretation of statute under *Chevron* standard, if Congress has directly spoken to the precise question at issue, that is the end of the matter.

[2 Cases that cite this headnote](#)

[3] Environmental Law  Daily maximum load and limited segments

Given determination by Environmental Protection Agency (EPA) that all pollutants were suitable for calculation of total maximum daily loads (TMDLs), Clean Water Act (CWA) required District of Columbia to establish TMDL for each pollutant that contributed to river's violation of water quality standards for dissolved oxygen and turbidity. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

[3 Cases that cite this headnote](#)

[4] Environmental Law  Daily maximum load and limited segments

Clean Water Act (CWA) unambiguously required establishment of total maximum daily loads (TMDLs) for waters failing to achieve water quality standards, and therefore Environmental Protection Agency (EPA) could not approve seasonal or annual loads, notwithstanding EPA's contention that some pollutants were poorly suited to daily load regulation; if certain pollutants were unsuitable for daily load limits, EPA could reconsider its earlier regulation providing that all pollutants were suitable for calculation of TMDLs. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

[8 Cases that cite this headnote](#)

[5] Environmental Law  Daily maximum load and limited segments

Environmental Protection Agency (EPA) could not avoid the congressional intent clearly expressed in text of Clean Water Act (CWA) simply by asserting that its preferred approach would be better policy. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., as amended, 33 U.S.C.A. § 1251 et seq.

[2 Cases that cite this headnote](#)

[6] Administrative Law and Procedure  Plain, literal, or clear meaning;ambiguity

Court cannot set aside statute's plain language simply because agency implementing statute thinks it leads to undesirable consequences in some applications.

[1 Cases that cite this headnote](#)

[7] Administrative Law and Procedure  Plain, literal, or clear meaning;ambiguity

To avoid a literal interpretation of statute it is charged with implementing on grounds of absurdity, agency must show either that, as a matter of historical fact, Congress did not mean what it appears to have said, or that, as a matter of logic and statutory structure, it almost surely could not have meant it.

[6 Cases that cite this headnote](#)

[8] Environmental Law  [Daily maximum load and limited segments](#)

Environmental Protection Agency (EPA) could not avoid, on absurdity grounds, literal interpretation of term “daily” as used in provision of Clean Water Act (CWA) requiring establishment of total maximum daily loads (TMDLs) for waters failing to achieve water quality standards, given EPA's concession that establishing daily loads made sense for many pollutants, precluding finding that, as a matter of logic and statutory structure, Congress almost surely could not have meant to require daily loads. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), [33 U.S.C.A. § 1313\(d\)\(1\)\(C\)](#).

[4 Cases that cite this headnote](#)

[9] Environmental Law  [Daily maximum load and limited segments](#)

Purported tension between flexible approach to water quality problems presented by combined stormwater-sewer systems taken by Combined Sewer Overflow Control (CSO) Policy and allegedly rigid mandates imposed by total maximum daily loads (TMDLs) required by Clean Water Act (CWA) for waters not achieving water quality standards did not provide basis for interpreting term “daily,” as used in CWA provision requiring TMDLs, to mean timeframe other than daily; subsequent amendments to CWA requiring permits for discharges from combined systems to conform to CSO Policy did not provide context in which phrase “total maximum daily load” had to be read, and nothing in CSO Policy validated interpreting “daily” to mean something else. Federal Water Pollution Control Act, § 402(q), [33 U.S.C.A. § 1342\(q\)](#); Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), [33 U.S.C.A. § 1313\(d\)\(1\)\(C\)](#).

[Cases that cite this headnote](#)

[10] Statutes  [Post-enactment legislative history](#)

Post-enactment legislative history is inherently entitled to little weight in interpreting statute.

[Cases that cite this headnote](#)

[11] Environmental Law  [Mootness](#)

District of Columbia's recent revisions to water quality standards for river did not render “moot” action in which environmental group challenged approval by Environmental Protection Agency (EPA) of total maximum daily loads (TMDLs) that did not limit daily discharges of pollutants, inasmuch as disputed TMDLs were not repealed or superseded, and EPA regulations required discharge permits to incorporate effluent limitations consistent with assumptions and requirements of any available wasteload allocation for the discharge prepared by state and approved by EPA pursuant to its authority to approve TMDLs. Federal Water Pollution Control Act Amendments of 1972, § 303(d)(1)(C), [33 U.S.C.A. § 1313\(d\)\(1\)\(C\)](#); [D.C. Mun.Reg. tit. 21, § 1104.8](#); [40 C.F.R. § 122.44\(d\)\(1\)\(vii\)\(B\)](#).

[7 Cases that cite this headnote](#)

[12] Administrative Law and Procedure  [Presumptions](#)

Courts assume that agencies follow their own regulations.

[2 Cases that cite this headnote](#)

*142 Appeal from the United States District Court for the District of Columbia (No. 04cv00092).

Attorneys and Law Firms

[Howard I. Fox](#) argued the cause and filed the briefs for appellant.

[John A. Bryson](#), Attorney, U.S. Department of Justice, argued the cause for federal appellees. With him on the brief were Greer S. Goldman, Attorney, and [James H. Curtin](#) and Stefania D. Shamet, Counsels, U.S. Environmental Protection Agency.

David E. Evans argued the cause for appellee District of Columbia Water and Sewer Authority. With him on the brief was [Stewart T. Leeth](#).

[F. Paul Calamita](#), John A. Sheehan, and [Alexandra Dapolito Dunn](#) were on the brief for amici curiae Combined Sewer Overflow Partnership and National Association of Clean Water Act Agencies in support of appellees.

Before: [TATEL](#), [BROWN](#), and [GRIFFITH](#), Circuit Judges.

Opinion

[TATEL](#), Circuit Judge.

**3 This case poses the question whether the word “daily,” as used in the Clean Water Act, is sufficiently pliant to mean a measure of time other than daily. Specifically, the Environmental Protection Agency (EPA) takes the position that Congress, in requiring the establishment of “total maximum daily loads” to cap effluent discharges of “suitable” pollutants into highly polluted waters, left room for EPA to establish seasonal or annual loads for those same pollutants. The district court found EPA's contextual and policy arguments sufficiently persuasive to disregard the plain meaning of “daily,” but we do not. Daily means daily, nothing else. If EPA believes using daily loads for certain types of pollutants has undesirable consequences, then it must either amend its regulation designating all pollutants as “suitable” for daily loads or take its concerns to Congress. We therefore reverse and remand with instructions to vacate the non-daily “daily” loads.

I.

Flowing from Maryland through the northeast and southeast quadrants of Washington, D.C. and a stone's throw away from the site for the Washington Nationals' new stadium, the Anacostia River has “the dubious distinction of being one of the ten most polluted rivers in the country.” *Kingman Park Civic Ass'n v. EPA*, 84 F.Supp.2d 1, 4 (D.D.C.1999). As such, it falls far short of meeting water quality standards set pursuant to the Clean Water Act (CWA) and designed to protect designated recreational uses like fishing and swimming. 33 U.S.C. § 1311(b)(1)(C) (mandating the achievement of water quality standards); 47 D.C.Reg. 284, 284–85 (Jan. 21, 2000) (to be codified at *D.C. Mun. Regs.*, tit. 21, § 1101.1) (establishing water quality standards **4 *143 based on uses including “primary contact recreation” and “consumption of fish & shellfish”).

For bodies of water, like the Anacostia River, that fail to meet applicable water quality standards, the CWA requires states (defined by the Act to include the District of Columbia, 33 U.S.C. § 1362(3)) to establish a “total maximum daily load,” or TMDL,

for those pollutants which the Administrator identifies ... as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.

Id. § 1313(d)(1)(C). In 1978, EPA issued a regulation deeming “[a]ll pollutants ... suitable for the calculation of total maximum daily loads.” [Total Maximum Daily Loads Under Clean Water Act](#), 43 Fed.Reg. 60,662, 60,665 (Dec. 28, 1978) (emphasis added). This regulation remains unchanged today.

Once approved by EPA, TMDLs must be incorporated into permits allocating effluent discharges among all pollution sources, including point sources (like factories) and non-point sources (like storm-water run-off). *See* 33 U.S.C. § 1342(a)(1) (authorizing EPA to issue effluent discharge permits “upon condition that such discharge will meet ... [among other requirements] all applicable requirements under section[] 1311”); *id.* § 1311(b)(1)(C) (mandating the achievement of “any more stringent limitation, including those necessary to meet water quality standards”); *see also* 40 C.F.R. § 122.44(d)(1)(vii)(B) (requiring permitting authority to set effluent limits “consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA”). If pollution loads stay below the applicable TMDLs for a given body of water, then in theory the body of water should achieve its water quality standards.

This case arises from the violation of two of the Anacostia's key water quality standards. First, because the river contains many biochemical pollutants that consume oxygen, its dissolved oxygen level has sunk below the applicable water quality standard, putting the river's aquatic life at risk of suffocation. Second, the river is murkier than the applicable turbidity standard allows, stunting the growth of plants that rely on sunlight and impairing recreational use.

To remedy these violations, EPA approved one TMDL limiting the *annual* discharge of oxygen-depleting pollutants, and a second limiting the *seasonal* discharge of pollutants contributing to turbidity. *See* Letter from Rebecca Hanmer, Dir., Water Prot. Div., EPA, to James R. Collier, Chief, Bureau of Env't. Quality (Dec. 14, 2001) (oxygen-depleting substances); EPA, Total Suspended Solids, Total Maximum Daily Loads for the Anacostia River, D.C. (Mar.2002) (total suspended solids). Neither TMDL limited daily discharges.

Appellant Friends of the Earth (FoE) petitioned this court for review of the TMDL approvals, arguing (among other things) that the CWA requires the establishment of “total maximum *daily* loads,” not seasonal or annual loads. Concluding that we lacked subject matter jurisdiction, we transferred the case to the [U.S. District Court, Friends of the Earth v. EPA](#), 333 F.3d 184 (D.C.Cir.2003), which granted EPA's motion for summary judgment, [Friends of the Earth v. EPA](#), 346 F.Supp.2d 182 (D.D.C.2004). The court held that “the text of the CWA does not **5 *144 reveal a clear congressional intent to require EPA to calculate only daily TMDLs,” *id.* at 189, found EPA's resolution of the resulting ambiguity reasonable, and concluded that the TMDL approvals were neither arbitrary nor capricious. This appeal followed.

II.

[1] [2] Because Congress has charged EPA with the CWA's implementation, we review the agency's interpretation of the phrase “total maximum daily load” under [Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.](#), 467 U.S. 837, 842–43, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). *See* [Natural Res. Def. Council, Inc. v. EPA](#), 859 F.2d 156, 202 (D.C.Cir.1988) (applying *Chevron* to EPA's interpretation of the CWA). Critically, if “Congress has directly spoken to the precise question at issue ..., that is the end of the matter.” [Chevron](#), 467 U.S. at 842–43, 104 S.Ct. 2778. So here.

[3] We begin, as always, with the statute's language. For waters that fail to achieve water quality standards, *see* 33 U.S.C. § 1313(d)(1)(A), the CWA provides that “[e]ach state shall establish ... the total maximum *daily* load, for those pollutants which the Administrator identifies ... as suitable for such calculation,” *id.* § 1313(d)(1)(C) (emphasis added). Because EPA has found “[a]ll pollutants ... suitable for the calculation of total maximum daily loads,” 43 Fed.Reg. at 60,665, it follows that the CWA requires the District of Columbia to establish a “total maximum daily load” for each pollutant that contributes to the Anacostia's violation of the dissolved oxygen and turbidity standards.

[4] Nothing in this language even hints at the possibility that EPA can approve total maximum “seasonal” or “annual” loads. The law says “daily.” We see nothing ambiguous about this command. “Daily” connotes “every day.” *See Webster's Third New International Dictionary* 570 (1993) (defining “daily” to mean “occurring or being made, done, or acted upon every day”). Doctors making daily rounds would be of little use to their patients if they appeared seasonally or annually. And no one thinks of “[g]ive us this day our daily bread” as a prayer for sustenance on a seasonal or annual basis. *Matthew* 6:11 (King James).

When asked at oral argument how Congress could have spoken more clearly, EPA's counsel responded that “one way it could do that ... is to say that the ... total maximum daily load shall be expressed as a quantity per day or average per day or something like that.” Tr. of Oral Arg. at 19. But a load expressed as a quantity per day is no different from a daily load, and we have never held that Congress must repeat itself or use extraneous words before we acknowledge its unambiguous intent. *See New York v. EPA*, 443 F.3d 880, 883 (D.C.Cir.2006) (refusing to require Congress “to use superfluous words”). If Congress wanted seasonal or annual loads, it could easily have authorized them by calling for “total maximum daily, seasonal, or annual loads.” Or by providing for the establishment of “total maximum loads.” Congress could have left a gap for EPA to fill. Instead, Congress specified “total maximum *daily* loads.” We cannot imagine a clearer expression of intent.

EPA urges us to read the phrase in context, emphasizing that TMDLs must “be established at a level necessary to implement the applicable water quality standards.” 33 U.S.C. § 1313(d)(1)(C). According to EPA, “[t]hat Congress took the step of elaborating on what a TMDL should be is a strong indication that it was not using the word ‘daily’ as the exclusive ****6 *145** expression of its intent on the question of how a TMDL should be established.” Fed. Appellees' Br. 26–27. This cannot be right. As written, the statute requires states to establish daily loads that *also* meet applicable water quality standards. The existence of two conditions does not authorize EPA to disregard one of them.

As additional context—albeit context appearing nowhere in the TMDL approvals themselves—EPA tells us that some pollutants are poorly suited to daily load regulation. Discharges of such pollutants, EPA explains, might not immediately affect water quality, but could instead inflict environmental damage over a longer period. For example, oxygen-demanding pollutants could deplete dissolved oxygen quite slowly, perhaps over the course of an entire year. Similarly, turbidity-increasing pollutants could impede plant growth if they block sunlight over the course of a growing season. In EPA's view, bodies of water can therefore sometimes tolerate large one-day discharges of certain pollutants without violating water quality standards or causing undue environmental harm, so long as seasonal or annual discharges remain relatively low. According to EPA, the many ways in which pollutants damage the environment call for a more flexible understanding of “daily.”

[5] Even if we assume the validity of this argument, EPA must address it to Congress, which, by using the word “daily,” settled the question of what period a “total maximum load” should cover. EPA may not “avoid the Congressional intent clearly expressed in the text simply by asserting that its preferred approach would be better policy.” *Engine Mfrs. Ass'n v. EPA*, 88 F.3d 1075, 1089 (D.C.Cir.1996). The agency's claim might have more force if, for some class of pollutants, daily load limits conflicted with the requirement that TMDLs “implement the applicable water quality standards.” 33 U.S.C. § 1313(d)(1)(C). But all water bodies can achieve water quality standards if their TMDLs are set low enough—if all else fails, they can be set to zero—and the two requirements therefore never conflict with each other.

[6] Nor can we set aside a statute's plain language simply because the agency thinks it leads to undesirable consequences in some applications. We made this abundantly clear in *Sierra Club v. EPA*, 294 F.3d 155 (D.C.Cir.2002), where EPA took a strikingly similar position to the one it advances here. There, we considered a challenge to EPA's extension of the District of Columbia's attainment deadline for achieving the Clean Air Act's ozone standards. *Id.* at 158. Justifying the extension, EPA asserted that because the District's ozone pollution came entirely from upwind states, holding the District to a strict statutory deadline would be unnecessarily punitive and run counter to the Act's purposes. *Id.* at 160. “[A]s a matter of logic and statutory structure,” EPA argued, “Congress almost surely could not have meant to require the Agency to treat the Washington Area as one of severe nonattainment merely because its attainment has been temporarily stalled due to transported pollution.” *Id.* at 161 (internal quotation marks and citations omitted).

Roundly rejecting this argument, we explained:

The most reliable guide to congressional intent is the legislation the Congress enacted and, as we have seen, the Act itself reveals no intention to allow for an extension in circumstances like those affecting the Washington Area. Similarly, it is of no moment that the extension may be, as the Agency claims, “a reasonable accommodation of ... the statutory attainment date and interstate transport **7 *146 provisions”; it is not the accommodation the Congress made.

Id. (omission in original). Here, as in *Sierra Club*, EPA advances a reasonable policy justification for deviating from an environmental statute's plain language. Our answer is the same: “[t]he most reliable guide to congressional intent is the legislation the Congress enacted.” *Id.* Just as EPA may not extend a deadline in contravention of a plain congressional mandate, the agency may not fulfill its obligation to establish daily loads by approving non-daily loads, whatever the wisdom of that “accommodation.”

We have even less sympathy for EPA's argument given that the agency's predicament is largely of its own creation. The CWA requires the establishment of TMDLs only for “suitable” pollutants, 33 U.S.C. § 1313(d)(1)(C), and although a 1978 EPA regulation provides that “[a]ll pollutants ... are suitable for the calculation of total maximum daily loads,” 43 Fed.Reg. at 60,665, EPA conceded at oral argument that nothing forecloses the agency from reconsidering that position. Given that EPA's entire justification for establishing non-daily loads is that certain pollutants are unsuitable for daily load limits, we are at a loss as to why it neglected this straightforward regulatory fix in favor of the tortured argument that “daily” means something other than daily. At any rate, EPA can change its regulation; we cannot rewrite the Clean Water Act.

[7] [8] As a fallback, EPA asks us to adopt the reasoning in *Natural Resources Defense Council, Inc. v. Muszynski*, 268 F.3d 91 (2d Cir.2001), in which the Second Circuit held that reading “daily” to mean daily would be “absurd, especially given that for some pollutants, effective regulation may best occur by some other periodic measure than a diurnal one.” *Id.* at 99. In this circuit, however, agencies seeking to demonstrate absurdity have an exceptionally high burden: “for the EPA to avoid a literal interpretation ..., it must show either that, as a matter of historical fact, Congress did not mean what it appears to have said, or that, as a matter of logic and statutory structure, it almost surely could not have meant it.” *Engine Mfrs. Ass'n*, 88 F.3d at 1089. Here, EPA has failed to make such a showing for a simple reason: as counsel conceded at oral argument, establishing daily loads makes perfect sense for many pollutants. Given this concession, we see no way to conclude that “as a matter of logic and statutory structure, [Congress] almost surely could not have meant” to require daily loads.

[9] We next consider the argument raised by intervenor District of Columbia Water and Sewer Authority (WASA), which operates sewers and wastewater treatment facilities in the District. As background, WASA explains that, as in many older municipalities, part of the District has a “combined sewer system” in which stormwater and sewage travel through the same pipes to the same treatment plants. While this system effectively minimizes pollution discharges most of the time, heavy storms cause it to overflow. When that happens, as it does with some regularity in the District, raw sewage spills from the overtaxed sewer system into nearby waters, including the Anacostia River.

Acknowledging that combined sewer systems pose delicate water quality problems, Congress amended the CWA in 2000 to provide that every permit issued “for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy [CSO Policy] signed by the Administrator on April 11, 1994.” Consolidated Appropriations Act, 2001, [Pub.L. No. 106–554](#), app. D § 112(a) (2000), 114 Stat. **8 *147 2763, 2763A–224 (codified at [33 U.S.C. § 1342\(q\)](#)). The CSO Policy, in turn, represents EPA's effort to guide municipalities seeking to minimize effluent discharge from their existing sewage infrastructure. To that end, the CSO Policy requires municipalities with combined sewer systems to develop long-term control plans reflecting hard-nosed assessments of cost-effective ways to regulate overflow discharges. [Combined Sewer Overflow \(CSO\) Control Policy](#), 59 *Fed.Reg.* 18,688, 18,691–94 (Apr. 19, 1994). The CSO Policy explicitly “recognizes the site-specific nature of [combined sewer overflows] and their impacts and provides the necessary flexibility to tailor controls to local situations. Major elements of the Policy ensure that CSO controls are cost effective and meet the objectives and requirements of the CWA.” *Id.* at 18,688.

As WASA sees it, the tension between the CSO Policy's flexible approach and the rigid mandates imposed by daily loads forms part of the context within which we must interpret the word “daily.” Indeed, WASA asserts, insisting on daily loads would require the “complete separation” of the sewer system—that is, the prohibitively expensive construction of independent stormwater and sewage pipes. WASA Br. 22 (emphasis omitted). It is for this reason that WASA, like EPA, urges us to interpret the word “daily” more flexibly than normally permitted in the English language.

[10] WASA's argument suffers from at least three defects. First, we fail to see the relevance of the 106th Congress's opinion about what the 92nd Congress meant by “daily.” While we agree that we must read the phrase “total maximum daily load” in context, *see FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132–33, 120 S.Ct. 1291, 146 L.Ed.2d 121 (2000), the context here is the Clean Water Act Amendments of 1972, Pub.L. No. 92–500, 86 Stat. 816, not amendments enacted almost three decades later. “[P]ost-enactment legislative history,” after all, “is not only oxymoronic but inherently entitled to little weight.” *Cobell v. Norton*, 428 F.3d 1070, 1075 (D.C.Cir.2005); *see also United States v. Price*, 361 U.S. 304, 313, 80 S.Ct. 326, 4 L.Ed.2d 334 (1960) (holding that “the views of a subsequent Congress form a hazardous basis for inferring the intent of an earlier one”). Second, the tension between the CSO Policy's flexibility and the perceived rigidity of daily loads exists only if daily loads must of necessity be set so low that any storm-event discharge would violate them—a premise unsupported anywhere in the record. And third, even if the record did support the premise, nothing in the CSO Policy validates interpreting “daily” to mean something other than daily. Quite to the contrary, the policy expressly states that following it must “ultimately result in compliance with the requirements of the CWA,” 59 *Fed.Reg.* at 18,691, and one of those requirements is establishing daily loads for waters failing to meet water quality standards.

[11] [12] We come next to EPA's last-ditch contention—raised only the day before oral argument—that the District of Columbia's recent revisions to the Anacostia's water quality standards moot this case. *See* 52 D.C.Reg. 9621, 9628–29 (Oct. 28, 2005) (to be codified at [D.C. Mun. Regs., tit. 21, § 1104.8](#)). Both WASA and FoE disagree, as do we. The TMDLs at issue here have never been repealed or superseded, and EPA regulations require discharge permits to incorporate effluent limitations “consistent with the assumptions and requirements of *any available wasteload allocation* for the discharge prepared by the State and approved by EPA” pursuant to its authority to approve TMDLs. [40 C.F.R. § 122.44\(d\)\(1\)\(vii\)\(B\)](#) **9 *148 (emphasis added). Because we assume agencies follow their own regulations, *see Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415, 91 S.Ct. 814, 28 L.Ed.2d 136 (1971) (agencies are “entitled to a presumption of regularity”), the case is hardly moot.

III.

For the foregoing reasons, we remand to the district court with instructions to vacate EPA's approvals. *See* [5 U.S.C. § 706\(2\)](#) (providing that “the reviewing court shall ... hold unlawful and set aside agency action, findings, and conclusions found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law”). In doing so, we

recognize that neither FoE nor EPA wants the Anacostia River to go without dissolved oxygen and turbidity TMDLs. The district court retains some remedial discretion, however, and the parties may move to stay the district court's order on remand to give either the District of Columbia a reasonable opportunity to establish daily load limits or EPA a chance to amend its regulation declaring "all pollutants ... suitable" for daily loads. See *Cement Kiln Recycling Coal v. EPA*, 255 F.3d 855, 872 (D.C.Cir.2001) ("Because this decision leaves EPA without standards regulating [hazardous waste conductor] emissions, EPA ... may file a motion to delay issuance of the mandate to request either that the current standards remain in place or that EPA be allowed reasonable time to develop interim standards."); *Nat'l Treasury Employees Union v. Horner*, 854 F.2d 490, 501 (D.C.Cir.1988) ("Because we are not in the best position to determine the shortest reasonable timetable ..., we remand the case for [the] district court to establish, in consultation with the parties, an expedited schedule for further rulemaking proceedings consistent with this opinion."); Kristina Daugirdas, Note, *Evaluating Remand Without Vacatur*, 80 N.Y.U. L.Rev. 278, 307 & n.141 (2005) (recommending as a remedial option "vacating the agency rules upon remand, but delaying issuance of the mandate for a limited period of time"). The merits of any such motion are of course the district court's to evaluate.

IV.

To sum up, nothing in this record tempts us to substitute EPA's policy preference for the CWA's plain language. While Congress almost assuredly never considered combined sewer systems when enacting the CWA, it spoke unambiguously in requiring daily loads. If adherence to this mandate leads to unintended consequences for water quality or for municipal pocketbooks, interested parties should direct their concerns to EPA or to Congress, either of which can take steps to mitigate any fallout from the CWA's unambiguous directive. We, however, have no such authority.

So ordered.

All Citations

446 F.3d 140, 62 ERC 1161, 371 U.S.App.D.C. 1, 36 Env'tl. L. Rep. 20,077, 53 A.L.R. Fed. 2d 577

ATTACHMENT C-6

725 F.3d 1194
United States Court of Appeals,
Ninth Circuit.

[NATURAL RESOURCES DEFENSE COUNCIL, INC.](#); Santa Monica Baykeeper, Plaintiffs–Appellants,

v.

COUNTY OF LOS ANGELES; Los Angeles County Flood Control District; Michael Antonovich, in his official capacity as Supervisor; Yvonne Burke, in her official capacity as Supervisor; Gloria Molina, in her official capacity as Supervisor; Zev Yaroslavsky, in his official capacity as Supervisor; Dean D. Efstathiou, in his official capacity as Acting Director of [Los Angeles County Department of Public Works](#); Don Knabe, in his official capacity as Supervisor, Defendants–Appellees.

No. 10–56017.

|

Aug. 8, 2013.

Synopsis

Background: Environmental organizations brought action against California municipal entities, alleging that they were discharging urban stormwater runoff into navigable waters in violation of the Clean Water Act (CWA). The United States District Court for the Central District of California, [A. Howard Matz, J.](#), entered a partial final judgment in favor of defendants, and plaintiffs appealed. On denial of rehearing en banc, the Court of Appeals, [673 F.3d 880](#), affirmed in part, reversed in part, and remanded. Certiorari was granted. — U.S. —, [133 S.Ct. 710](#), [184 L.Ed.2d 547](#), reversed and remanded.

[Holding:] On remand, the Court of Appeals, Milan D. Smith, Jr., held that pollution exceedances detected at monitoring stations of County of Los Angeles and Los Angeles County Flood Control District were sufficient to establish County defendants' liability as matter of law for violations of terms of their National Pollutant Discharge Elimination System (NPDES) permit.

Reversed and remanded.

West Headnotes (9)

[1] [Environmental Law](#) 🔑 [Discharge of pollutants](#)

In nearly all cases, a National Pollutant Discharge Elimination System (NPDES) permit is required before anyone may lawfully discharge a pollutant from a point source into the navigable waters of the United States. Clean Water Act, §§ 301(a), 402, [33 U.S.C.A. §§ 1311\(a\), 1342](#).

[9 Cases that cite this headnote](#)

[2] [Environmental Law](#) 🔑 [Reporting, notice, and monitoring requirements](#)

Pollution exceedances detected at monitoring stations of County of Los Angeles and Los Angeles County Flood Control District were sufficient to establish County defendants' liability as matter of law for violations

of terms of their National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to Clean Water Act, since data collected at monitoring stations was intended to determine whether permittees were in compliance with permit, and extrinsic considerations, including Clean Water Act's monitoring requirements, also supported that conclusion; limiting permittee's responsibility to "discharge[s] for which it is the operator" applied to appropriate remedy for permit violations, not to liability for those violations. Clean Water Act, § 402(a)(2), (k), 33 U.S.C.A. § 1342(a)(2), (k); 40 C.F.R. §§ 122.26(d)(2)(i)(F), 122.41(a), 122.44(i)(1); Restatement (Second) of Contracts § 203(a).

[9 Cases that cite this headnote](#)

[3] **Federal Courts** 🔑 [Mandate](#)

No opinion of the circuit becomes final until the mandate issues. [F.R.A.P.Rule 41\(c\)](#), 28 U.S.C.A.

[3 Cases that cite this headnote](#)

[4] **Federal Courts** 🔑 [Law of the case in general](#)

Federal Courts 🔑 [Mandate](#)

Earlier judgment by Court of Appeal was not final, and it could not be considered the law of the case, since mandate in case had not issued.

[3 Cases that cite this headnote](#)

[5] **Environmental Law** 🔑 [Violations and liability in general](#)

A permittee violates the CWA when it discharges pollutants in excess of the levels specified in the permit, or where the permittee otherwise violates the permit's terms. Clean Water Act, § 402(k), 33 U.S.C.A. § 1342(k); 40 C.F.R. § 122.41(a).

[10 Cases that cite this headnote](#)

[6] **Environmental Law** 🔑 [Discharge of pollutants](#)

If the language of a National Pollutant Discharge Elimination System (NPDES) permit, considered in light of the structure of the permit as a whole, is plain and capable of legal construction, the language alone must determine the permit's meaning; however, if the permit's language is ambiguous, a court may turn to extrinsic evidence to interpret its terms. Clean Water Act, § 402(k), 33 U.S.C.A. § 1342(k); 40 C.F.R. § 122.41(a).

[13 Cases that cite this headnote](#)

[7] **Environmental Law** 🔑 [Discharge of pollutants](#)

A court must give effect to every word or term in a National Pollutant Discharge Elimination System (NPDES) permit and reject none as meaningless or surplusage; therefore, a court must interpret the permit in a manner that gives full meaning and effect to all of the permit's provisions and avoid a construction of the permit that focuses only on a few isolated provisions. Clean Water Act, § 402(k), 33 U.S.C.A. § 1342(k); 40 C.F.R. § 122.41(a); Restatement (Second) of Contracts § 203(a).

[5 Cases that cite this headnote](#)

[8] **Environmental Law** 🔑 [Discharge of pollutants](#)

One of a court's obligations in interpreting an National Pollutant Discharge Elimination System (NPDES) permit is to determine the intent of the permitting authority; thus, a court gives significant weight to any extrinsic evidence that evinces the permitting authority's interpretation of the relevant permit. Clean Water Act, § 402(a)(2), (k), 33 U.S.C.A. § 1342(a)(2), (k); 40 C.F.R. §§ 122.26(d)(2)(i)(F), 122.41(a), 122.44(i)(1).

[5 Cases that cite this headnote](#)

[9] Environmental Law 🔑 Discharge of pollutants

A court does not defer to the interpretation of CWA National Pollutant Discharge Elimination System (NPDES) permit by a regional board. Clean Water Act, § 402, 33 U.S.C.A. § 1342.

[11 Cases that cite this headnote](#)

Attorneys and Law Firms

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On Remand from the United States Supreme Court. D.C. No. 2:08–cv–01467–AHM–PLA.

Before: [HARRY PREGERSON](#) and [MILAN D. SMITH, JR.](#), Circuit Judges, and [H. RUSSEL HOLLAND](#), Senior District Judge.*

OPINION

[M. SMITH](#), Circuit Judge:

Plaintiffs–Appellants Natural Resources Defense Council and Santa Monica Baykeeper (collectively, the Plaintiffs) filed suit against the County of Los Angeles and the Los Angeles County Flood Control District (collectively, the County Defendants) alleging that the County Defendants are discharging polluted stormwater in violation of the terms of their National Pollutant Discharge Elimination System (NPDES) permit, issued pursuant to the Federal Water Pollution Control Act (the Clean Water Act, Act, or CWA), 86 Stat. 816, codified as amended at 33 U.S.C. §§ 1251, *et seq.* The district court granted the County Defendants' motion for summary judgment, reasoning that Plaintiffs failed to prove that any *individual* defendant had discharged pollutants in violation of the Clean Water Act, where Plaintiffs' only evidence of violations was monitoring data taken downstream of the County Defendants' (and others') discharge points, as opposed to data sampled at the relevant discharge points themselves. On appeal, we affirmed the district court's judgment in part and reversed in part. *Natural Res. Def. Council, Inc. v. Cnty. of L.A.*, 673 F.3d 880 (9th Cir.2011). On January 8, 2013, the Supreme Court reversed our judgment and remanded this case to us for further proceedings. *L.A. Cnty. Flood Control Dist. v. Natural Res. Def. Council, Inc.*, — U.S. —, 133 S.Ct. 710, 184 L.Ed.2d 547 (2013). On February 19, 2013, we ordered the parties to file supplemental briefs addressing the implications of the Supreme Court's ruling. Having considered the Supreme Court's ruling, the responses of the parties in their supplemental briefs, and other matters noted ***1197** herein, we now conclude that the pollution exceedances detected at the County Defendants' monitoring stations are sufficient to establish the County Defendants' liability for NPDES permit violations as a matter of law. Accordingly, we once again reverse the district court's grant of summary judgment in favor of the County

Defendants, and remand to the district court for a determination of the appropriate remedy for the County Defendants' violations.

FACTUAL BACKGROUND

I. Stormwater Runoff in Los Angeles County

Stormwater runoff is surface water generated by precipitation events, such as rainstorms, which flows over streets, parking lots, commercial sites, and other developed parcels of land. When stormwater courses over urban environs, it frequently becomes polluted with contaminants, such as “suspended metals, sediments, algae-promoting nutrients (nitrogen and phosphorus), floatable trash, used motor oil, raw sewage, [and] pesticides[.]”¹ *Envtl. Def. Ctr., Inc. v. EPA*, 344 F.3d 832, 840 (9th Cir.2003). This polluted stormwater often makes its way into storm drains and sewers, which “generally channel collected runoff into federally protected water bodies,” *id.*, such as rivers and oceans. Consequently, stormwater runoff has been recognized as “one of the most significant sources of water pollution in the nation, at times comparable to, if not greater than, contamination from industrial and sewage sources.” *Id.* (citation omitted).

Los Angeles County (the County) is home to more than 10 million people and covers a sprawling amalgam of populous incorporated cities and significant swaths of unincorporated land. The Los Angeles County Flood Control District (the District) is a public entity governed by the Los Angeles County Board of Supervisors and the Los Angeles County Department of Public Works. The District comprises 84 cities and some unincorporated areas of the County. The County and the District are separate legal entities.

Each city in the District operates a municipal separate storm sewer system (ms4)² that is composed of gutters, catch basins, storm drains, and pipes that collect and convey stormwater. The County also operates its own ms4 that primarily collects and conveys stormwater runoff in the unincorporated areas of the County. Each of these ms4s connects to the District's substantially larger ms4, an extensive flood-control and storm-sewer infrastructure *1198 consisting of approximately 500 miles of open channels and 2,800 miles of storm drains. Because a comprehensive map of the County Defendants' storm sewer system does not exist, no one knows the exact size of the LA MS4³ or the locations of all of its storm drain connections and outfalls.⁴ But while the number and location of storm drains and outfalls are too numerous to catalog, it is undisputed that the LA MS4 collects and channels stormwater runoff from across the County. It is similarly undisputed that untreated stormwater is discharged from LA MS4 outfalls into various watercourses, including the Los Angeles and San Gabriel Rivers.⁵ These rivers, in turn, drain into several coastal waters, including, among others, the Santa Monica Bay and the Pacific Ocean.

II. The County Defendants' NPDES Permit

[1] Section 301(a) of the CWA prohibits the “discharge of any pollutant” from any “point source” into “navigable waters” unless the discharge complies with certain other sections of the CWA.⁶ See 33 U.S.C. § 1311(a). One of those sections is section 402, which provides for the issuance of NPDES permits. 33 U.S.C. § 1342. In nearly all cases, an NPDES permit is required before anyone may lawfully discharge a pollutant from a point source into the navigable waters of the United States. See *Arkansas v. Oklahoma*, 503 U.S. 91, 101–02, 112 S.Ct. 1046, 117 L.Ed.2d 239 (1992); *Environmental Law Handbook* 323 (Thomas F.P. Sullivan ed., 21st ed.2011).

Congress has empowered the EPA Administrator to delegate NPDES permitting authority to state agencies. 33 U.S.C. § 1342(b). Pursuant to this authority, the EPA has authorized the State of California to develop water quality standards and issue NPDES permits. Pursuant to the Porter–Cologne Water Quality Control Act, California state law designates the State Water Resources Control Board and *1199 nine regional boards as the principal state agencies charged with enforcing federal and state water pollution laws and issuing NPDES permits. See *Cal. Water Code* §§ 13000 *et seq.* The

entity responsible for issuing permits in the Los Angeles area is the California State Water Resources Control Board for the Los Angeles Region (the Regional Board).

On June 18, 1990, the Regional Board first issued an NPDES permit (the Permit) regulating stormwater discharges by the County, the District, and the 84 incorporated municipalities in the District (collectively, the Permittees). The Permit has subsequently been renewed or amended several times, and the version of the Permit at issue in this litigation came into force on December 13, 2001.⁷ The Permit covers all relevant discharges that occur “within the boundaries of the Permittee municipalities ... over which [the municipalities have] regulatory jurisdiction as well as unincorporated areas in Los Angeles County within the jurisdiction of the Regional Board.”

The Permit runs to 99 pages and contains a myriad of rules, regulations, and conditions regarding the Permittees' operation of the LA MS4. However, only two sets of the Permit's provisions are particularly relevant to this appeal; those contained in Part 2, titled “Receiving Water Limitations,” and those contained in the section titled “Monitoring and Reporting Program.”

Part 2 places limits on the type and amount of pollutants the Permittees may lawfully discharge from the LA MS4. Specifically, Part 2 prohibits “discharges from the [LA] MS4 that cause or contribute to the violation of the Water Quality Standards or water quality objectives.”⁸ The Permit defines “Water Quality Standards and Water Quality Objectives” as “water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federal approved surface water quality plans.”⁹ Succinctly put, the Permit incorporates the pollution standards promulgated in other agency documents such as the Basin Plan, and prohibits stormwater discharges that “cause or contribute to the violation” of those incorporated standards. The Permit further provides that the Permittees “shall comply” with the LA MS4 discharge prohibitions outlined in Part 2 “through timely implementation of control measures and other actions to reduce pollutants in the [LA MS4] discharges....”

The Monitoring and Reporting Program complements Part 2. Under that program, the Permittees are required to monitor the impacts of their LA MS4 discharges on water quality and to publish the results of all pollution monitoring at least annually. The primary objectives of the monitoring program include “assessing compliance” with the Permit, “measuring and improving the effectiveness” of the Los Angeles Countywide Stormwater Quality Management Program (SQMP),¹⁰ and assessing “the environmental impact of urban runoff on the receiving waters in the County.”

One of the principal ways the Permittees are required to monitor their LA MS4 discharges is through mass-emissions monitoring. Mass-emissions monitoring measures all constituents present in water, and the readings give a cumulative picture of the pollutant load in a waterbody. The Permit requires the District, as Principal Permittee, to conduct mass-emissions monitoring at seven enumerated monitoring stations located throughout the County. The District is also responsible for analyzing the resulting data and submitting a comprehensive report of its findings.¹¹ According to the Permit, the purpose of mass-emissions monitoring is to: (1) estimate the mass emissions from the LA MS4; (2) assess trends in the mass emissions over time; and (3) determine if the LA MS4 is contributing to exceedances of Water Quality Standards by comparing the monitoring results to the applicable pollution standards promulgated in the Basin Plan and similar documents.

The Permittees sited a mass-emissions monitoring station in both the Los Angeles and San Gabriel Rivers (collectively, the Monitoring Stations). The Los Angeles River monitoring station is located in a channelized portion of the Los Angeles River that runs through the City of Long Beach.¹² The San Gabriel River monitoring station is located in a channelized portion of the San Gabriel River that runs through the City of Pico Rivera. The Monitoring Stations are located downstream of numerous LA MS4 outfalls controlled by the County Defendants and various other non-party Permittees.

Between 2002 and 2008, when this case was filed, the District published annual monitoring reports that contain the data that the District collected at the Monitoring Stations. According to those reports, the Monitoring Stations identified 140 separate exceedances of the Permit's water quality standards, including excessive levels of aluminum, copper, cyanide, zinc, and fecal coliform bacteria in both the Los Angeles and San Gabriel Rivers. The County Defendants do not dispute the accuracy of the monitoring data.

PROCEDURAL BACKGROUND

Using the monitoring data self-reported by the District, Plaintiffs cataloged the *1201 water quality exceedances measured in various receiving waters in the County. Beginning on May 31, 2007, Plaintiffs sent a series of notice letters to the County Defendants informing them that Plaintiffs believed that they were violating the terms of the Permit.¹³ Specifically, Plaintiffs contended that the water quality exceedances documented in the District's monitoring reports demonstrated liability under the CWA. Dissatisfied with the County Defendants' response to these letters, Plaintiffs brought this citizen-enforcement action on March 3, 2008. After the district court dismissed certain elements of the Plaintiffs' initial complaint because notice of the Permit violations was defective, Plaintiffs sent the County Defendants an adequate notice letter on July 3, 2008.

Plaintiffs filed their First Amended Complaint on September 18, 2008. In the complaint, Plaintiffs asserted six causes of action under the CWA. Four of the Plaintiffs' claims, which the district court designated the "Watershed Claims," were initially before us on appeal. The first three Watershed Claims allege that, beginning in 2002 or 2003, the County Defendants caused or contributed to exceedances of water quality standards in the Santa Clara River (Claim 1), the Los Angeles River (Claim 2), and the San Gabriel River (Claim 3), in violation of 33 U.S.C. §§ 1311(a), 1342(p). The fourth Watershed Claim alleges that, beginning in 2002, County Defendants caused or contributed to exceedances of the water quality standards and violated the total maximum daily load limits in Malibu Creek. All of the Watershed Claims rest on the same premise: (1) the Permit incorporates water-quality limits for each receiving water body; (2) mass-emissions monitoring stations have recorded pollutant loads in the receiving water bodies that exceed those permitted under the relevant standards; (3) an exceedance constitutes non-compliance with the Permit and, thereby, the Clean Water Act; and (4) County Defendants, as holders of the Permit and joint operators of the LA MS4, are liable for these exceedances under the Act.

Early in the litigation, the district court bifurcated liability and remedy, and all proceedings related to remedy were stayed until liability was determined. On March 2, 2010, the district court denied all parties' cross-motions for summary judgment with regard to liability. *NRDC v. Cnty. of L.A.*, No. CV 08-1467-AHM, 2010 WL 761287 (C.D.Cal. Mar. 2, 2010), amended on other grounds, 2011 WL 666875 (C.D.Cal. Jan. 27, 2011). Although the district court accepted Plaintiffs' arguments that the Permit "clearly prohibits 'discharges from the [LA] MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives,'" 2010 WL 761287, at *6, and that mass-monitoring stations "are the proper monitoring locations to determine if the [LA] MS4 is contributing to exceedances" of the Water Quality Standards or water quality objectives, *id.*, the district court held that Plaintiffs were improperly attempting to use the District's self-reported monitoring data to establish liability without presenting evidence that any individual defendant was discharging pollutants that "cause[d] or contribute[d] to the violation" of the water quality standards. *Id.* The district court observed that although "the District is responsible for the pollutants in the [LA] MS4" at the time they pass the Monitoring Stations, "that does not necessarily determine the question of whether the water passing by these points is a *1202 'discharge' within the meaning of the Permit and the Clean Water Act." *Id.* at *7. Unable to determine whether any of the County Defendants' upstream LA MS4 outflows were contributing polluted stormwater to navigable waters, the district court stated that "Plaintiffs would need to present some evidence (monitoring data or an admission) that some amount of a standards-exceeding pollutant is being discharged through at least one District outlet." *Id.* at *8.

Following supplemental briefing, the district court again determined that “Plaintiffs failed to present evidence that the standards-exceeding pollutants passed through the Defendants’ [LA] MS4 *outflows* at or near the time the exceedances were observed. Nor did Plaintiffs provide any evidence that the mass emissions stations themselves are located at or near a Defendant’s outflow.” The district court thus entered summary judgment for the County Defendants on the Watershed Claims.

On June 9, 2010, the district court entered a partial final judgment on the Watershed Claims under [Fed.R.Civ.P. 54\(b\)](#). The court reasoned that an interlocutory appeal was appropriate because the Watershed Claims are “factually and legally severable” from the Plaintiffs’ other claims and “[t]he parties and the Court would benefit from appellate resolution of the central legal question underlying the watershed claims: what level of proof is necessary to establish defendants’ liability.” The Plaintiffs timely appealed.

On appeal, the Plaintiffs pressed the same legal argument they advanced in the district court: that the data published in the County Defendants’ annual monitoring reports—data which shows undisputed pollution exceedances at the mass-emissions monitoring stations—conclusively establishes the County Defendants’ liability for Permit violations as a matter of law. Like the district court, we rejected this contention and held that the Plaintiffs must submit at least some additional proof of the County Defendants’ *individual* contributions to the measured Permit violations. *See Natural Res. Def. Council*, 673 F.3d at 898 (noting that “the Clean Water Act does not prohibit ‘undisputed’ exceedances; it prohibits ‘discharges’ that are *not* in compliance with the Act.... While it may be undisputed that exceedances have been detected, responsibility for those exceedances requires proof that some entity discharged a pollutant.”).

Nonetheless, we held the District liable for CWA violations in the Los Angeles and San Gabriel Rivers because we concluded that the mass-emissions monitoring stations for each river are “located in a section of the [LA] MS4 owned and operated by the District” and that “when pollutants were detected, they had not yet exited the point source into navigable waters.” *Id.* at 899. We further clarified that “[t]he [relevant] discharge from a point source occurred when the still-polluted stormwater flowed out of the concrete channels where the Monitoring Stations are located, through an outfall, and into the navigable waterways. We agree with Plaintiffs that the precise location of each outfall is ultimately irrelevant because there is no dispute that [the LA] MS4 eventually adds stormwater to the Los Angeles and San Gabriel Rivers downstream from the Monitoring Stations.” *Id.* at 900.

On October 11, 2011, the District filed a petition for writ of certiorari, 2011 WL 4874090, which was granted in part on June 25, 2012. *L.A. Cnty. Flood Control Dist. v. Natural Res. Def. Council, Inc.*, — U.S. —, 133 S.Ct. 23, 183 L.Ed.2d 673 (2012). The Supreme Court granted review in order to answer a single question: “Under the CWA, does a discharge of pollutants occur when polluted water *1203 flows from one portion of a river that is navigable water of the United States, through a concrete channel or other engineered improvement in the river, and then into a lower portion of the same river?” *L.A. Cnty. Flood Control Dist.*, 133 S.Ct. at 712–13 (internal quotation marks omitted). The Court answered in the negative, and re-affirmed its holding in *S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95, 124 S.Ct. 1537, 158 L.Ed.2d 264 (2004), that “pumping polluted water from one part of a water body into another part of the same body is not a discharge of pollutants under the CWA.” *L.A. Cnty. Flood Control Dist.*, 133 S.Ct. at 711. The Court did not address any other basis for the District’s potential liability for Permit violations and instead reversed our prior judgment and remanded this case to us for additional proceedings. *Id.* at 713–14.

JURISDICTION AND STANDARD OF REVIEW

We have jurisdiction under 28 U.S.C. § 1291. We review the district court’s grant of summary judgment de novo. *Assoc. to Protect Hammersley, Eld, & Totten Inlets v. Taylor Res., Inc.*, 299 F.3d 1007, 1009 (9th Cir.2002).

DISCUSSION

I.

[2] Plaintiffs return from the Supreme Court with the same argument they have consistently advanced throughout this litigation—that the County Defendants' monitoring data establishes their liability for Permit violations as a matter of law. We previously rejected this argument, *see Natural Res. Def. Council*, 673 F.3d at 898, and the Supreme Court explicitly declined to address it.¹⁴

On remand, the County Defendants argue that we may not reconsider our earlier decision because it has become “final,” and because “reconsideration of Appellants' monitoring argument would fly in the face of the finality given to decisions of this Court after denial of rehearing or expiration of the time in which to seek such further review.” Alternatively, the County Defendants argue that our earlier disposition should be left undisturbed because it has become the law of the case. The County Defendants are mistaken on both counts.

[3] [4] “No opinion of this circuit becomes final until the mandate issues[.]” *Carver v. Lehman*, 558 F.3d 869, 878 (9th Cir.2009); *see also Fed R.App. P. 41(c)*, 1998 Adv. Comm. Note (“A court of appeals' judgment or order is not final until issuance of the mandate[.]”). Thus, we have explained that a “court of appeals may modify or revoke its judgment at any time prior to issuance of the mandate, sua sponte or by motion of the parties.” *United States v. Fournai*, 910 F.2d 617, 620 (9th Cir.1990). The mandate in this case has not issued. Consequently, our earlier judgment is not final. *Carver*, 558 F.3d at 878. Nor can it be considered the law of the case. *See id.* at 878 n. 16 (“[U]ntil the mandate issues, an opinion is not fixed as settled Ninth Circuit law, and reliance on the opinion is a gamble.” (citation omitted)); *see also *1204 Key Enters. of Del., Inc. v. Venice Hosp.*, 9 F.3d 893, 898 (11th Cir.1993) (“[B]ecause the panel's mandate had not issued, the panel's decision was never the ‘law of the case.’”). Put simply, we are free to reconsider the merits of Plaintiffs' argument, and we now do so.

II.

[5] Where a permittee discharges pollutants in compliance with the terms of its NPDES permit, the permit acts to “shield” the permittee from liability under the CWA. 33 U.S.C. § 1342(k). The permit shield is a major benefit to a permittee because it protects the permittee from any obligation to meet more stringent limitations promulgated by the EPA unless and until the permit expires. *See Piney Run Pres. Ass'n v. Cnty. Comm'rs of Carroll Cnty.*, 268 F.3d 255, 266–69 (4th Cir.2001); *see also The Clean Water Act Handbook* 67 (Mark A. Ryan ed., 3rd ed.2011). Of course, with every benefit comes a cost: a permittee violates the CWA when it discharges pollutants in excess of the levels specified in the permit, or where the permittee otherwise violates the permit's terms. *See Russian River Watershed Prot. Comm. v. City of Santa Rosa*, 142 F.3d 1136, 1138 (9th Cir.1998); *see also 40 C.F.R. § 122.41(a)* (“Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for [an] enforcement action”); *Nw. Envtl. Advocates v. City of Portland*, 56 F.3d 979, 986 (9th Cir.1995) (noting that “[t]he plain language of [the CWA citizen suit provision] authorizes citizens to enforce all permit conditions”); *Environmental Law Handbook* 327 (“The primary purpose of NPDES permits is to establish enforceable effluent limitations.”).

Plaintiffs allege that the County Defendants are violating the terms of the Permit by discharging pollutants into the Los Angeles and San Gabriel Rivers in excess of the permitted levels. County Defendants do not dispute that they are discharging pollutants from the LA MS4 into these rivers. Nor can the County Defendants dispute that their own monitoring reports demonstrate that pollution levels recorded at the Monitoring Stations are in excess of those allowed under the Permit. Rather, the County Defendants focus on their perception of the evidentiary burden Plaintiffs must

satisfy in order to hold any individual defendant liable for these pollution exceedances. Plaintiffs contend that they may rely exclusively on the District's monitoring reports to establish liability. County Defendants, however, argue that they cannot be held liable for Permit violations based solely on the data published in the District's monitoring reports because: (1) the mass-emissions monitoring required under the Permit was “neither designed nor intended” to measure the compliance of any Permittee; and (2) the monitoring data cannot parse out precisely *whose* discharge(s) contributed to any given exceedance because the Monitoring Stations sample pollution levels downstream from a legion of discharge points (e.g., LA MS4 outfalls) controlled by various Permittees and other non-party entities, as opposed to at the discharge points themselves.

[6] To resolve the parties' contentions, we must interpret the language of the Permit. Although the NPDES permitting scheme can be complex, a court's task in interpreting and enforcing an NPDES permit is not—NPDES permits are treated like any other contract. See *Nw. Env'tl. Advocates*, 56 F.3d at 982 (“We review the district court's interpretation of the 1984 permit as we would the interpretation of a contract or other legal document.”).¹⁵ If the language of the permit, considered in light of the structure of the permit as a whole, “is plain and capable of legal construction, the language alone must determine the permit's meaning.” *Piney Run Pres. Ass'n*, 268 F.3d at 270 (citation omitted). If, however, the permit's language is ambiguous, we may turn to extrinsic evidence to interpret its terms. *Id.* Our sole task at this point of the case is to determine what Plaintiffs are required to show in order to establish *liability* under the terms of *this particular* NPDES permit.¹⁶

A. The Plain Language of the Permit

“[NPDES permit] terms are to be given their ordinary meaning, and when the terms of a [permit] are clear, the intent of the parties must be ascertained from the [permit] itself.” *Klamath Water Users Protective Ass'n. v. Patterson*, 204 F.3d 1206, 1210 (9th Cir.1999). Plaintiffs argue that the text of the County Defendants' Permit is clear, and provides that the District's mass-emissions monitoring data will be used to assess the County Defendants' compliance with the Permit, and particularly Part 2, which prohibits “discharges from the [LA] MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives.” The County Defendants dispute this notion, and first claim that the District's mass-emissions monitoring is intended to serve only a hortatory purpose. As County Defendants state, “the mass emission monitoring program ... neither measures nor was designed to measure any individual permittee's compliance with the Permit.” This argument is clearly belied by the text of the Permit and is rejected.

The Permit establishes a “Monitoring and Reporting Program” with the stated objectives of *both* characterizing stormwater discharges *and* assessing compliance with water-quality standards. The Permit language could not be more explicit in this regard, stating that “[a]ssessing compliance with this [Permit]” is one of the “primary objectives of the Monitoring Program.” “The fact that the parties dispute a [permit's] meaning does not establish that the [permit] is ambiguous; it is only ambiguous if reasonable people could find its terms susceptible to more than one interpretation.” *Klamath Water Users Protective Ass'n*, 204 F.3d at 1210. No reasonable person could find even the slightest ambiguity in the phrase “[t]he primary objectives of the Monitoring Program include, but are not limited to: Assessing compliance with this [Permit].” Consequently, we decline to embrace the County Defendants' initial argument that “the mass-emission monitoring stations, as a matter of fact, do not assess the compliance of any permittee with the Permit....”

County Defendants' alternative argument, while more facially appealing, fares no better. Specifically, the County Defendants point to certain Permit language they claim shows that the Regional Board did not intend for the mass-emissions monitoring data to be used to establish liability for Permit violations. For instance, *1206 the County Defendants note that the Permit provides that “[e]ach permittee is responsible only for a discharge for which it is the operator.” County Defendants also cite language in Part 2 that reads: “Discharges from the [LA] MS4 of storm water, or non-storm water, *for which a Permittee is responsible* for [sic], shall not cause or contribute to a condition of nuisance.” The County Defendants read this language as precluding a finding of liability against them—or any other Permittee

—without independent monitoring data establishing that discharges from a particular entity's ms4 outfalls exceeded standards.

[7] “[A] court must give effect to every word or term” in an NPDES permit “and reject none as meaningless or surplusage....” *In re Crystal Props., Ltd., L.P.*, 268 F.3d 743, 748 (9th Cir.2001) (quotations omitted); *see also* Restatement (Second) of Contracts § 203(a) (1981) (“[A]n interpretation which gives a reasonable, lawful, and effective meaning to all the terms is preferred to an interpretation which leaves a part unreasonable, unlawful, or of no effect.”). “Therefore, we must interpret the [Permit] in a manner that gives full meaning and effect to all of the [Permit's] provisions and avoid a construction of the [Permit] that focuses only on” a few isolated provisions. *In re Crystal Props.*, 268 F.3d at 748.

The County Defendants' interpretation of the Permit ultimately must be rejected because it would create an unreasonable result. Reading the clause that “[e]ach permittee is responsible only for a discharge for which it is the operator” to preclude use of the mass-emission monitoring data to “assess [] compliance with this [Permit]” would render the monitoring provisions of the Permit largely meaningless. Under the County Defendants' reading of the Permit, individual Permittees could discharge an unlimited amount of pollutants from the LA MS4 but never be held liable for those discharges based on the results of the mass-emissions monitoring, even though that monitoring is explicitly intended to assess whether Permittees are in compliance with Part 2's discharge limitations. We are unwilling to accept such a strained interpretation. *See Mastrobuono v. Shearson Lehman Hutton, Inc.*, 514 U.S. 52, 63, 115 S.Ct. 1212, 131 L.Ed.2d 76 (1995) (holding that courts should be guided by the “cardinal principle of contract construction: that a document should be read to give effect to all of its provisions and to render them consistent with each other”). A better reading of the Permit's putatively conflicting provisions, therefore, is the one proposed by Plaintiffs. Limiting a Permittee's responsibility to “discharge[s] for which it is the operator” applies to the appropriate *remedy* for Permit violations, not to *liability* for those violations. Indeed, Plaintiffs' reading is consistent with the remedial scheme of the Permit itself. If the LA MS4 is found to be contributing to water quality violations, each Permittee must take appropriate remedial measures with respect to its *own* discharges.¹⁷ Thus, a finding of *liability* against the County Defendants would not, as defendants argue, hold any County Defendant responsible for discharges for which they are not “the operator.”

In sum, and contrary to the County Defendants' contentions, the language of the Permit is clear—the data collected at the Monitoring Stations is intended to determine whether the Permittees are in compliance with the Permit. If the District's *1207 monitoring data shows that the level of pollutants in federally protected water bodies exceeds those allowed under the Permit, then, as a matter of permit construction, the monitoring data conclusively demonstrate that the County Defendants are not “in compliance” with the Permit conditions. Thus, the County Defendants are liable for Permit violations.

B. Extrinsic Considerations

Although we believe the plain language of the Permit clearly contemplates that the County Defendants' monitoring data will be used to assess Permit compliance (*i.e.*, establish liability for CWA violations), we note that numerous extrinsic considerations also undercut the County Defendants' position.

First and foremost, the Clean Water Act *requires* every NPDES permittee to monitor its discharges into the navigable waters of the United States in a manner sufficient to determine whether it is in compliance with the relevant NPDES permit. 33 U.S.C. § 1342(a)(2); 40 C.F.R. § 122.44(i)(1) (“[E]ach NPDES permit shall include conditions meeting the following ... monitoring requirements ... to assure compliance with permit limitations.”). That is, an NPDES permit is unlawful if a permittee is not required to effectively monitor its permit compliance. *See* 40 C.F.R. § 122.26(d)(2)(i) (F) (“Permit applications for discharges from large and medium municipal storm sewers ... shall include ... monitoring procedures necessary to determine compliance and noncompliance with permit conditions....”). As previously noted, the County Defendants contend that the mass-emissions monitoring program “neither measures nor was designed to

measure any individual permittee's compliance with the Permit.” But if the County Defendants are correct, the Permit would be unlawful under the CWA. We must interpret the provisions of the Permit like any other contract and reject an interpretation that would render the Permit unenforceable. *See Walsh v. Schlecht*, 429 U.S. 401, 408, 97 S.Ct. 679, 50 L.Ed.2d 641 (1977) (noting that “contracts should not be interpreted to render them illegal and unenforceable where the wording lends itself to a logically acceptable construction that renders them legal and enforceable”); *see also Nw. Env'tl. Advocates*, 56 F.3d at 984; Restatement (Second) of Contracts § 203.

[8] Second, the County Defendants' position has been explicitly rejected by the Regional Board, the entity that issued the Permit. This is important because one of our obligations in interpreting an NPDES permit is “to determine the intent of the permitting authority....” *Piney Run Pres. Ass'n*, 268 F.3d at 270. Thus, we give significant weight to any extrinsic evidence that evinces the permitting authority's interpretation of the relevant permit. *See Nw. Env'tl. Advocates*, 56 F.3d at 985 (relying on “significant evidence from [the state permitting agency], the permit author,” to determine the proper scope of an NPDES permit).

Here, the record contains an amicus brief filed by the Regional Board in a lawsuit nearly identical to this one.¹⁸ In that suit, these same Plaintiffs sued the City of Malibu, one of the County Defendants' co-permittees, for violating the NPDES Permit at issue in this case. In its brief, the Regional Board stated its position that:

The Permit recognizes that the inter-connected nature of the system means that it may be difficult to determine exactly where [pollutants] originated *1208 within the [LA] MS4. This does not mean, however, that the Permit assumes only one permittee may be responsible. Instead, it recognizes that in such an integrated storm sewer system, one or more Permittees may have caused or contributed to violations.... Having constructed a joint sewer system that, by design, co-mingles the [Permittees'] discharges, they cannot avoid enforcement because one cannot determine the original source of pollutants in the waste stream.

[9] The Regional Board also noted that “the monitoring program that the permittees requested (and were granted) does not readily generate the permittee-by-permittee outfall data that the [County Defendants] would require as a precondition to enforcement.” As a result, the Regional Board disagreed with any construction of the Permit that would require individualized proof of a Permittees' discharges in order to establish liability. Simply put, the Regional Board indicated that it “does not agree” that the “burden [of proving Permit violations] rests upon the enforcing entity.” Although we do not defer to the Regional Board's interpretation of the Permit, *see Orthopaedic Hosp. v. Belshe*, 103 F.3d 1491, 1495 (9th Cir.1997), its rejection of the County Defendants' position is clearly instructive.

Finally, the County Defendants' arguments run counter to the purposes of the CWA, and ignore the inherent complexity of ensuring an ms4's compliance with an NPDES permit that covers thousands of different point sources and outfalls. As we have previously recognized, “[t]he NPDES program fundamentally relies on self-monitoring.” *Sierra Club v. Union Oil Co. of Cal.*, 813 F.2d 1480, 1491 (9th Cir.1987), *vacated and remanded on other grounds*, 485 U.S. 931, 108 S.Ct. 1102, 99 L.Ed.2d 264 (1988), *and reinstated and amended by* 853 F.2d 667 (9th Cir.1988). Congress' purpose in adopting this self-monitoring mechanism was to promote straightforward enforcement of the Act. *See id.* at 1492 (noting that Congress wished to “avoid the necessity of lengthy fact finding, investigations, and negotiations at the time of enforcement. Enforcement of violations of requirements under this Act should be based on relatively narrow fact situations requiring a minimum of discretionary decision making or delay”) (quoting S.Rep. No. 92–414, 92nd Cong., 1st Sess. 64, *reprinted in* 1972 U.S.Code Cong. & Ad. News 3668, 3730).¹⁹ Or, as one treatise writer has described enforcement of the Act:

The CWA is viewed by many as the easiest of the federal environmental statutes to enforce. This is because persons regulated under the act normally must report their own compliance and noncompliance to the regulating agency. For example, holders of NPDES permits must file periodic discharge monitoring reports (or DMRs), which must contain the results of all monitoring of discharges, and must indicate where those discharges exceed permit limitations.... Thus,

enforcement actions may be brought based on little, if anything, more than the DMRs and other reports submitted by the permittee itself.

Environmental Law Handbook at 357–58.

Admittedly, regulating pollution from ms4s is substantially more complicated than regulating pollution from a few defined point sources. Like the LA MS4 at issue here, municipal separate storm sewer systems often cover many square miles and comprise numerous, geographically *1209 scattered, and sometimes uncharted sources of pollution, including streets, catch basins, gutters, man-made channels, and storm drains. Faced with the difficult task of regulating millions of storm-sewer point sources, Congress amended the CWA in 1987 to grant the EPA the express authority to create a separate permitting program for ms4s. 33 U.S.C. § 1342(p)(2), (3). In enacting these amendments, Congress recognized that for large urban areas like Los Angeles, ms4 permitting cannot be accomplished on a source-by-source basis. The amendments therefore give the EPA, or a state like California to which the EPA has delegated permitting authority, broad discretion to issue permits “on a system-wide or jurisdiction-wide basis,” 40 C.F.R. § 122.26(a)(1)(v), rather than requiring cities and counties to obtain separate permits for millions of individual stormwater discharge points. This increased flexibility is crucial in easing the burden of issuing stormwater permits for both permitting authorities and permittees.²⁰

But while otherwise more flexible than the traditional NPDES permitting system, nothing in the ms4 permitting scheme relieves permittees of the obligation to monitor their compliance with their NPDES permit in some fashion. See 33 U.S.C. § 1342(a)(2) (“The Administrator shall prescribe conditions for [NPDES] permits to assure compliance with the requirements of [the permit], including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.”); 40 C.F.R. § 122.44(i)(1) (establishing that every permit “shall include” monitoring “[t]o assure compliance with the permit limitations”). Rather, EPA regulations make clear that while ms4 NPDES permits need not require monitoring of each stormwater source at the precise point of discharge, they may instead establish a monitoring scheme “sufficient to yield data which are *representative of the monitored activity*....” 40 C.F.R. § 122.48(b) (emphasis added). In fact, EPA regulations require permittees, like the County Defendants here, to propose a “monitoring program for *representative data collection* for the term of the permit that describes the location of outfalls or field screening points to be sampled (*or the location of instream stations*)” and explain “why the [chosen] location is *representative*....” 40 C.F.R. § 122.26(d)(2)(iii)(D) (emphases added). Here, the County Defendants did just that. County Defendants themselves chose the locations of the Monitoring Stations, locations that are downstream from a significant number of their outfalls.²¹ And, as required by law, the County Defendants chose locations that they certified were necessarily “representative” of the monitored activity (*i.e.*, the Permittees' discharges of stormwater runoff into the navigable waters of the United States).²² Now, however, County Defendants claim *1210 that their compliance with the Permit cannot be measured using the results of the representative monitoring they themselves agreed to, that the Regional Board approved, and that the Permit itself contemplates is to be used to assess compliance with its terms. We take this opportunity to reevaluate and reject County Defendants' arguments.

CONCLUSION

Because the results of County Defendants' pollution monitoring conclusively demonstrate that pollution levels in the Los Angeles and San Gabriel Rivers are in excess of those allowed under the Permit, the County Defendants are *liable* for Permit violations as a matter of law. This case is remanded to the district court for further proceedings consistent with this opinion, including a determination of the appropriate *remedy* for the County Defendants' violations.

REVERSED and REMANDED.

*1211 APPENDICES

Appendix A

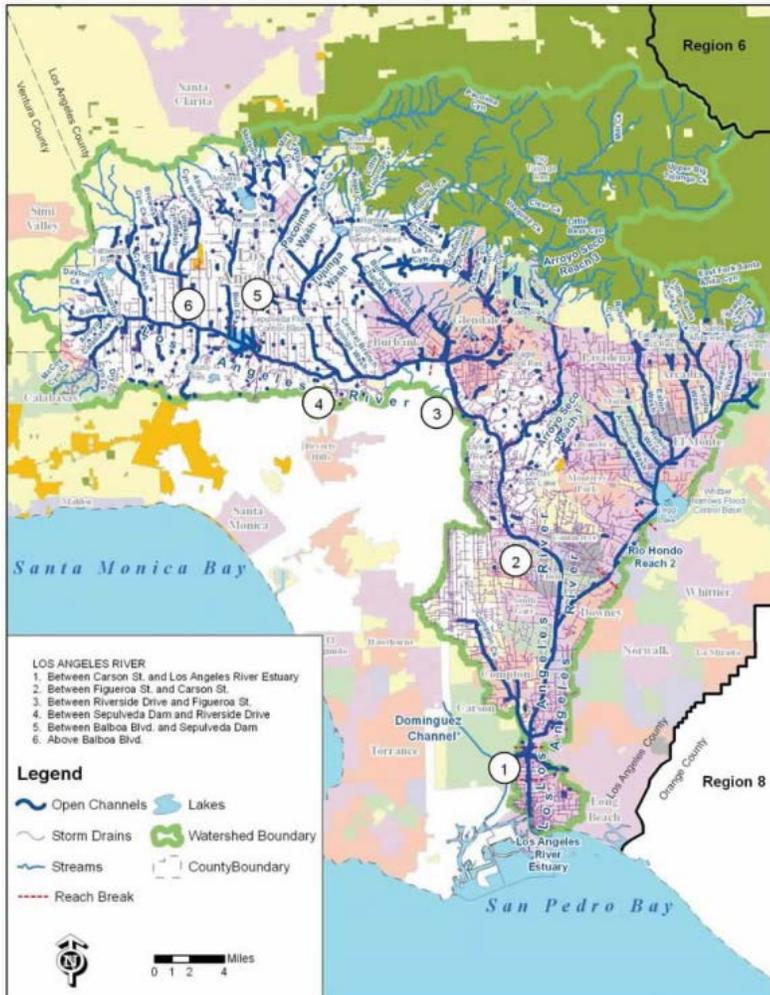


Figure C-4: Los Angeles River Watershed Management Area Flow Schematic.

Appendix B

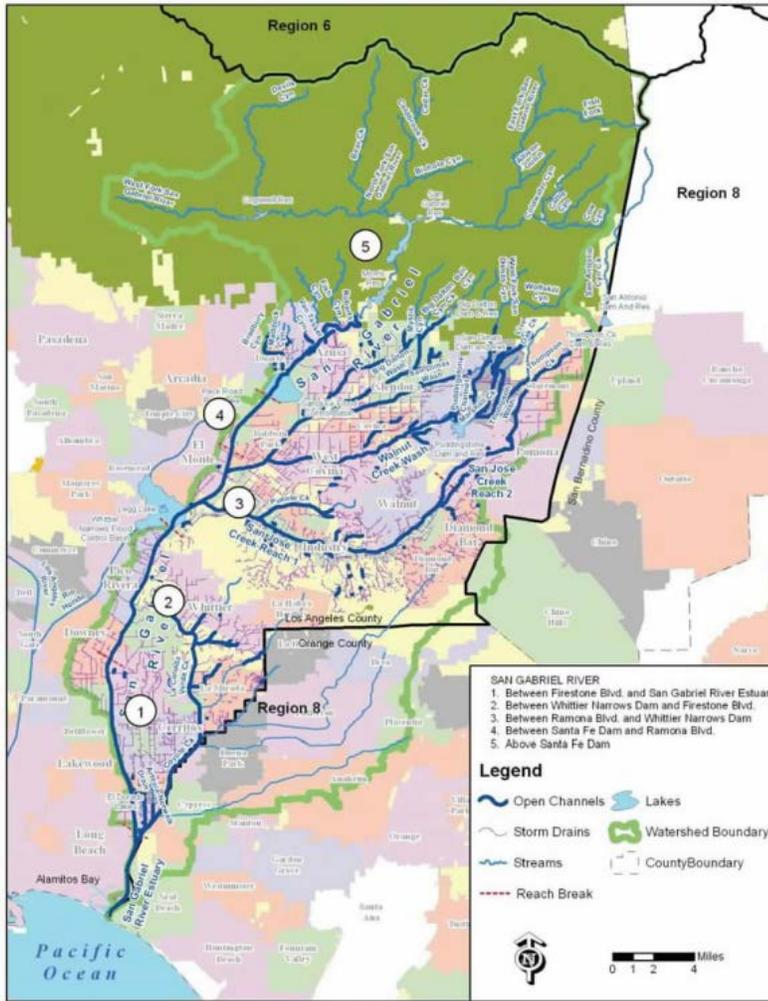


Figure C-5: San Gabriel River Watershed Management Area Flow Schematic.

All Citations

725 F.3d 1194, 13 Cal. Daily Op. Serv. 8623, 2013 Daily Journal D.A.R. 10,619

Footnotes

- * The Honorable [H. Russel Holland](#), Senior District Judge for the U.S. District Court for the District of Alaska, sitting by designation.
- 1 Whereas natural, vegetated soil can absorb rainwater and capture pollutants, paved surfaces and developed land can do neither. Paved facilities with particularly high volumes of motor vehicle traffic—such as parking lots, retail gasoline outlets, and fast food restaurants—are typically responsible for producing higher concentrations of pollutants in storm water runoff.
- 2 Federal Regulations define an ms4 as:
 - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
 - (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body ... having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity ...;
 - (ii) Designed or used for collecting or conveying storm water;
 - (iii) Which is not a combined sewer; and
 - (iv) Which is not part of a Publicly Owned Treatment Works....

40 C.F.R. § 122.26(b)(8). Unlike a sanitary sewer system, which transports municipal sewage for treatment at a wastewater facility, or a combined sewer system, which transports sewage and stormwater for treatment, an ms4 conveys only untreated stormwater. See 40 C.F.R. § 122.26(a)(7), (b)(8).

- 3 Throughout this Opinion, reference is made to both “ms4” and the “LA MS4.” The former is a generic reference to an individual municipal separate storm sewer system without regard to its particular location, while the latter specifically refers to the entire flood control and stormsewer infrastructure described *supra* that exists in Los Angeles County, and which is made up of the various interconnected ms4s that are controlled by the County, the District, and the incorporated cities within the District.
- 4 An “outfall” is defined as a “point source ... at the point where a municipal separate storm sewer discharges to waters of the United States....” 40 C.F.R. § 122.26(b)(9). It is estimated that the LA MS4 contains tens of thousands of outfalls where stormwater runoff is discharged into federally protected water bodies.
- 5 Plaintiffs originally complained about the County Defendants' discharges into four water bodies: the Los Angeles River, the San Gabriel River, the Santa Clara River, and Malibu Creek. See *Natural Res. Def. Council*, 673 F.3d at 883. On remand to this court, however, Plaintiffs only seek review of the district court's summary judgment ruling regarding the County Defendants' discharges into the Los Angeles and San Gabriel Rivers.
- 6 A point source is defined as “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” 33 U.S.C. § 1362(14). Throughout this litigation, there has been confusion regarding whether the LA MS4 is a “point source” under the CWA. See *Natural Res. Def. Council*, 673 F.3d at 898 (accepting Plaintiffs' argument that “[u]nder the Clean Water Act, the [LA] MS4 is a ‘Point Source.’ ”). The LA MS4 is *not* a single point source. Rather, the LA MS4 is a collection of point sources, including outfalls, that discharge into the navigable waters of the United States.
- 7 On November 8, 2012, the Regional Board issued a new NPDES permit to the County Defendants and various other permittees.
- 8 Part 2 also mandates that “[d]ischarges from the [LA] MS4 of storm water, or non-storm water, for which a Permittee is responsible for [sic], shall not cause or contribute to a condition of nuisance.”
- 9 Under California law, regional boards are required to formulate water quality plans, called “basin plans,” which designate the beneficial uses of protected water bodies within the boards' jurisdiction, establish water quality objectives for those water bodies, and establish a program for implementing the basin plan. See *City of Burbank v. State Water Res. Control Bd.*, 35 Cal.4th 613, 26 Cal.Rptr.3d 304, 108 P.3d 862, 865 (2005) (citing Cal. Water Code § 13050(j)).
- 10 The Permit defines the SQMP as “the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with the provisions of the NPDES permit, to comply with applicable federal and state law....”
- 11 The District publishes these “Stormwater Monitoring Reports” on the internet at: http://ladpw.org/wmd/NPDES/report_directory.cfm. (last accessed August 1, 2013).
- 12 In a declaration submitted to the district court, the County Defendants described both Monitoring Stations as being located “in a portion of the District's flood control channel.” See also “Section Two: Site Descriptions,” Los Angeles Cnty. Dept. of Pub. Works, available at http://dpw.lacounty.gov/wmd/npdes/9899_report/SiteDesc.pdf (last accessed August 1, 2013). Thus, it appears that the pertinent river segments are part of *both* the LA MS4 itself *and* “the waters of the United States” that the CWA protects. But regardless of whether the mass-emissions monitoring stations are *also* part of the LA MS4, there is no dispute that the mass-emissions monitoring stations are located *within* the Los Angeles and San Gabriel Rivers, downstream of a significant number of the County Defendants' LA MS4 outfalls. We misconstrued some of the data before us when we previously held otherwise. See *Natural Res. Def. Council*, 673 F.3d at 899 (“As a matter of law and fact, the [LA] MS4 is distinct from the two navigable rivers; the [LA] MS4 is an intra-state man-made construction—not a naturally occurring Watershed River”); see also 53 Fed.Reg. 49,416, 49,453 (Dec. 7, 1988) (EPA observes that “[i]n many situations, waters of the United States that receive discharges from municipal storm sewers can be mistakenly considered to be part of the storm sewer system.”).
- 13 The CWA requires plaintiffs to provide 60 days notice to an alleged violator, the State in which the violation is alleged to be occurring, and the EPA, before filing suit. 33 U.S.C. § 1365(b)(1)(A).
- 14 See *L.A. Cnty. Flood Control Dist.*, 133 S.Ct. at 713–14 (“Under the permit's terms, the NRDC and Baykeeper maintain, the exceedances detected at instream monitoring stations are by themselves sufficient to establish the District's liability under the CWA for its upstream discharges. This argument failed below. It is not embraced within, or even touched by, the narrow

question on which we granted certiorari. We therefore do not address, and indicate no opinion on, the issue NRDC and Baykeeper seek to substitute for the question we took up for review.”).

15 See also *Piney Run Pres. Ass'n.*, 268 F.3d at 269–70; *Am. Canoe Ass'n., Inc. v. D.C. Water & Sewer Auth.*, 306 F.Supp.2d 30, 42 (D.D.C.2004).

16 The question before us is not whether the Clean Water Act mandates any particular result. An NPDES permitting authority has wide discretion concerning the terms of a permit. It could, for example, lawfully write an ms4 permit that provides that all permittees will share liability in some ratio for any measured exceedance of applicable pollutant limits. Or, as a further example, a permitting authority could lawfully write a permit providing that only the co-permittee(s) whose specific discharges are connected to a particular pollutant exceedance may be held liable for the permit violation. See 33 U.S.C. § 1342(a)(2) (“The Administrator shall prescribe conditions for [NPDES] permits to assure compliance with the requirements of [33 U.S.C. § 1342(a)(1)], including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.”).

17 The relevant Permit provision states: “Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries ... and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees.”

18 *Santa Monica Baykeeper, et al. v. City of Malibu*, No. CV–08–01465 (AHM) (C.D.Cal. Mar. 3, 2008).

19 See also 44 Fed.Reg. 32,854, 32,863 (June 7, 1979) (“Congress intended that prosecution for permit violations be swift and simple.”).

20 See 55 Fed.Reg. 47,990, 48,046 (Nov. 16, 1990) (noting that issuing individual permits to cover all ms4 discharges to the waters of the United States is “unmanageable”); *id.* at 48,049–48,050 (“Given the complex, variable nature of storm water discharges from municipal systems, EPA favors a permit scheme where the ... [p]ermit writers have the necessary flexibility to develop monitoring requirements that more accurately reflect the true nature of highly variable and complex discharges.”).

21 “Q: Does the County's ms4 outlet to any tributaries of the Los Angeles River? A: Yes. Q: Does it outlet to tributaries of the Los Angeles River upstream of the mass emissions station? A: Yes.... Q: Does [the County's ms4] outlet to the San Gabriel River upstream of the mass emissions station? A: Yes.” Pestrella Dep. 697:7–698:6, June 2, 2009.

22 “Q: Who selected the location of those stations, do you know? A: The County selected those locations for a particular purpose. And the purpose was [to be] far enough away from tidal influence so that you would be characterizing the stormwater runoff as opposed to ocean waters. Q: And the locations were then approved by Regional Board staff; is that correct? A: Correct.” Wamikannu Dep. 130:13–130:19, July 1, 2009 (emphasis added).

ATTACHMENT D-1



KeyCite Yellow Flag - Negative Treatment

Superseded by Statute as Stated in [City of San Buenaventura v. United Water Conservation District](#), Cal.App. 2 Dist., March 17, 2015

15 Cal.4th 866, 937 P.2d 1350, 64
Cal.Rptr.2d 447, 97 Cal. Daily Op. Serv.
5059, 97 Daily Journal D.A.R. 8242

SINCLAIR PAINT COMPANY,
Plaintiff and Respondent,

v.

STATE BOARD OF EQUALIZATION, Defendant
and Appellant; DEPARTMENT OF HEALTH
SERVICES et al., Interveners and Appellants.

No. S054115.
Supreme Court of California
June 26, 1997.

SUMMARY

The trial court granted a paint company summary judgment in the company's action against the Board of Equalization for a refund of fees paid pursuant to an assessment under the Childhood Lead Poisoning Prevention Act of 1991 ([Health & Saf. Code, § 105275](#) et seq.). The trial court found that the fees were taxes, and thus they were invalid since the Legislature passed the act by a simple majority, rather than by the two-thirds majority required by [Cal. Const., art. XIII A, § 3](#) (Prop. 13). (Superior Court of Sacramento County, No. CV541310, Joe S. Gray, Judge.) The Court of Appeal, Third Dist., No. C021559, affirmed.

The Supreme Court reversed the judgment of the Court of Appeal. The court held that the Court of Appeal erred in ruling that “fees” assessed on manufacturers or other persons contributing to environmental lead contamination, pursuant to the Childhood Lead Poisoning Prevention Act of 1991, were in legal effect “taxes” required to be enacted by a two-thirds vote of the Legislature under Prop. 13. Rather, the fees imposed were bona fide regulatory fees. The act requires manufacturers and other persons whose products have exposed children to lead contamination to bear a fair share of the cost of mitigating the adverse health effects their products created in the community. The shifting of costs of providing evaluation, screening, and medically necessary follow-up services for potential child victims of lead poisoning

from the public to those persons deemed responsible for that poisoning is a reasonable police power decision. The fact that the fees were charged after, rather than before, the product's adverse effects were realized was immaterial to the question whether the measure imposed valid regulatory fees rather than taxes. Also, if regulation is the primary purpose of a fee, the mere fact that revenue is also obtained does not make the imposition a tax. (Opinion by Chin, J., with George, C. J., Mosk, Kennard, Baxter, Werdegar, JJ., and Armstrong, J., * concurring.)

HEADNOTES

Classified to California Digest of Official Reports

(1)
Property Taxes § 7.2--Constitutional Provisions--
Proposition 13.
The purpose of Prop. 13 was to assure effective real property tax relief by means of an interlocking package consisting of a real property tax rate limitation ([Cal. Const., art. XIII A, § 1](#)), a real property assessment limitation ([Cal. Const., art. XIII A, § 2](#)), a restriction on state taxes ([Cal. Const., art. XIII A, § 3](#)), and a restriction on local taxes ([Cal. Const., art. XIII A, § 4](#)). Since any tax savings resulting from the operation of [Cal. Const., art. XIII A, §§ 1 and 2](#), could be withdrawn or depleted by additional or increased state or local levies of other than property taxes, [Cal. Const., art. XIII A, §§ 3 and 4](#), combine to place restrictions upon the imposition of such taxes.

(2a, 2b, 2c)
Taxation § 2--Validity of Taxation Legislation--
Proposition 13--Fees Assessed Under Childhood
Lead Poisoning Prevention Act-- Applicability of
Supermajority Requirement:Property Taxes § 7.8--
Proposition 13.
The Court of Appeal erred in ruling that “fees” assessed on manufacturers or other persons contributing to environmental lead contamination, pursuant to the Childhood Lead Poisoning Prevention Act of 1991 ([Health & Saf. Code, § 105275](#) et seq.), which the Legislature had enacted by a simple majority, were in legal effect “taxes” required to be enacted by a two-thirds vote of the Legislature under Prop. 13 ([Cal. Const., art. XIII A, § 3](#)). Rather, the fees imposed were bona fide regulatory fees. The act requires manufacturers and

other persons whose products have exposed children to lead contamination to bear a fair share of the cost of mitigating the adverse health effects their products created in the community. The shifting of costs of providing evaluation, screening, and medically necessary follow-up services for potential child victims of lead poisoning from the public to those persons deemed responsible for that poisoning is a reasonable police power decision. The fact that the fees were charged after, rather than before, the product's adverse effects were realized was immaterial to the question whether the measure imposed valid regulatory fees rather than taxes. Also, if regulation is the primary purpose of a fee, the mere fact that revenue is also obtained does not make the imposition a tax.

[See 8 Witkin, Summary of Cal. Law (9th ed. 1988) Constitutional Law, § 784.]

(3)

Property Taxes § 7.6--Constitutional Provisions-- Proposition 13-- Assessments as Fees or Taxes:Taxation § 3--Construction.

In determining under Prop. 13 ([Cal. Const., art. XIII A, § 3](#)), whether impositions are “taxes” or “fees” is a question of law for the appellate courts to decide on independent review of the facts. The term “tax” has no fixed meaning, and the distinction between taxes and fees is frequently blurred, taking on different meanings in different contexts. In general, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted. Most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges. But compulsory fees may be deemed legitimate fees rather than taxes.

(4a, 4b)

Property Taxes § 7.8--Constitutional Provisions-- Proposition 13--Special Taxes:Taxation § 3--Construction.

There are three general categories of fees or assessments involved in disputes concerning whether they are in legal effect “special taxes” required to be enacted by a two-thirds vote of the Legislature under Prop. 13 ([Cal. Const., art. XIII A, §§ 3 and 4](#)). They are (1) special assessments, based on the value of benefits conferred on property, (2) development fees, exacted in return for permits or other government privileges, and (3) regulatory fees, imposed under the police power. Special assessments

on property or similar business charges, in amounts reasonably reflecting the value of the benefits conferred by improvements, are not “special taxes.” Similarly, development fees exacted in return for building permits or other governmental privileges are not special taxes if the amount of the fees bears a reasonable relation to the development's probable costs to the community and benefits to the developer. Also, fees charged in connection with regulatory activities which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes, are not special taxes.

(5)

Property Taxes § 7.8--Constitutional Provisions-- Proposition 13-- Assessments as Regulatory Fee:Taxation § 3--Construction.

In order to show that an imposition is a regulatory fee and not a special tax under Prop. 13 ([Cal. Const., art. XIII A, § 3](#)), the government should prove (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity.

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CHIN, J.

In 1991, by simple majority vote, the Legislature enacted the Childhood Lead Poisoning Prevention Act of 1991 (the Act) (Stats. 1991, ch. 799, § 3, amended Stats. 1995, ch. 415, § 5; see ***870 Health & Saf. Code, § 105275** et seq.).¹ The Act provided evaluation, screening, and medically necessary follow-up services for children who were deemed potential victims of lead poisoning. The Act's program was entirely supported by "fees" assessed on manufacturers or other persons contributing to environmental lead contamination. (See §§ 105305, 105310.) The question arises whether these fees were in legal effect "taxes" required to be enacted by a two-thirds vote of the Legislature. (See **Cal. Const., art. XIII A, § 3.**)

Contrary to the trial court and Court of Appeal, we conclude that the Act imposed bona fide regulatory fees, not taxes, because the Legislature imposed the fees to mitigate the actual or anticipated adverse effects of the fee payers' operations, and under the Act the amount of the fees must bear a reasonable relationship to those adverse effects. Accordingly, the trial court erred in granting summary judgment to award plaintiff Sinclair Paint Company (Sinclair) a refund of the fees it paid under the Act.

We take the following statement of uncontradicted facts largely from the Court of Appeal opinion in this case. Sinclair paid \$97,825.26 in fees for 1991. After the Board of Equalization (the Board) denied Sinclair's administrative claim for refund, Sinclair filed a complaint for refund, alleging the fees assessed under section 105310 were "actually taxes imposed by the California [L]egislature in violation of Proposition 13, **Article XIII A, Section 3 of the California Constitution.**" The court granted the request of the Department of Health Services (the Department) for leave to intervene. It also granted a similar request to intervene by Ray

Cochenour and Cardaryl Commodore, representatives of a class of children suffering from lead poisoning, and People United for a Better Oakland, an unincorporated association whose members include the Act's intended beneficiaries (collectively Cochenour).

Sinclair moved for summary judgment, claiming the Act was invalid on its face because it was not passed by the requisite two-thirds majority vote of the Legislature. The court agreed the Act imposed an unconstitutional tax and granted Sinclair's motion.

The Board, the Department, and Cochenour appealed, contending the Act involves a regulatory fee, not a tax. Appellants also argued the court erred in granting Sinclair summary judgment without compelling it to produce discovery and improperly relied on legislative history in determining the Act's constitutionality. The Court of Appeal affirmed the judgment, concluding that the Act was unconstitutional on its face and rejecting appellants' other claims. We reverse the Court of Appeal's judgment. ***871**

Discussion

I. The Childhood Lead Poisoning Prevention Act of 1991

When the Legislature enacted the Act in 1991, it explained the Act's background and purpose in findings that described the numerous health hazards children face when exposed to lead toxicity and declared four state "goals," namely, (1) evaluating, screening, and providing case management for children at risk of lead poisoning, (2) identifying sources of lead contamination responsible for this poisoning, (3) identifying and utilizing programs providing adequate case management for children found to have lead poisoning, and (4) providing education on lead-poisoning detection and case management to state health care providers. (Stats. 1991, ch. 799, § 1.)

The Act directs the Department to adopt regulations establishing a standard of care for evaluation, screening (i.e., measuring lead concentration in blood), and medically necessary follow-up services for children determined to be at risk of lead poisoning. (§ 105285; see § 105280, subd. (e).) If a child is identified as being at risk of lead poisoning, the Department must ensure "appropriate case management," i.e., "health care referrals, environmental assessments, and educational activities" needed to reduce the child's exposure to lead

and its consequences. (§§ 105280, subd. (a), 105290.) Additionally, the Act requires the Department to collect data and report on the effectiveness of case management efforts. (§ 105295.)

The Department has “broad regulatory authority to fully implement and effectuate the purposes” of the Act. (§ 105300.) This authority “include[s], but is not limited to,” the development of protocols for screening and for appropriate case management; the designation of laboratories qualified to analyze blood specimens for lead concentrations, and the monitoring of those laboratories for accuracy; the development of reporting procedures by laboratories; reimbursement for state-sponsored services related to screening and case management; establishment of lower lead concentrations in whole blood than those specified by the United States Centers for Disease Control for lead poisoning; notification to parents or guardians of the results of blood-lead testing and environmental assessment; and establishment of a periodicity schedule for evaluating childhood lead poisoning. (§ 105300.)

The Act states that its program of evaluation, screening, and follow-up is supported *entirely* by fees collected under the Act: “Notwithstanding the scope of activity mandated by this chapter, in no event shall this chapter be interpreted to require services necessitating expenditures in any fiscal year in excess of the fees, and earnings therefrom, collected pursuant to Section *872 105310. This chapter shall be implemented only to the extent fee revenues pursuant to Section 105310 are available for expenditure for purposes of this chapter.” (§ 105305.)

Section 105310 imposes the fees at issue here. In pertinent part, that section imposes fees on manufacturers and other persons formerly and/or presently engaged in the stream of commerce of lead or products containing lead, or who are otherwise responsible for identifiable sources of lead, which have significantly contributed and/or currently contribute to environmental lead contamination. (§ 105310, subd. (a).) The Department must determine fees based on the manufacturer's or other person's past and present responsibility for environmental lead contamination, or its “market share” responsibility for this contamination. (§ 105310, subd. (b).)

Those persons able to show that their industry did not contribute to environmental lead contamination, or that their lead-containing product does not and did

not “result in quantifiably persistent environmental lead contamination,” are exempt from paying the fees. (§ 105310, subd. (d).)

The Legislature has authorized the Department to adopt regulations establishing the specific fees to be assessed the parties identified in section 105310, subdivision (a). (§ 105310, subd. (b).) The formula for calculating fees attributable to leaded architectural coatings, including ordinary house paint, is set forth in [California Code of Regulations, title 17, section 33020](#).

II. Proposition 13

(1) In June 1978, California voters added [article XIII A](#), commonly known as the Jarvis-Gann Property Tax Initiative or Proposition 13 (article XIII A), to the state Constitution. The initiative's purpose was to assure effective real property tax relief by means of an “interlocking 'package' ” consisting of a real property tax rate limitation ([art. XIII A, § 1](#)), a real property assessment limitation ([art. XIII A, § 2](#)), a restriction on state taxes ([art. XIII A, § 3](#)), and a restriction on local taxes ([art. XIII A, § 4](#)). (*Amador Valley Joint Union High Sch. Dist. v. State Bd. of Equalization* (1978) 22 Cal.3d 208, 231 [149 Cal.Rptr. 239, 583 P.2d 1281] (*Amador Valley*); see also *County of Los Angeles v. Sasaki* (1994) 23 Cal.App.4th 1442, 1451 [29 Cal.Rptr.2d 103].)

[Section 3 of article XIII A](#) restricts the enactment of changes in state taxes, as follows: “From and after the effective date of this article, any changes in State taxes enacted for the purpose of increasing revenues collected pursuant thereto whether by increased rates or changes in methods *873 of computation must be imposed by an Act passed by not less than two-thirds of all members ... of the Legislature, except that no new ad valorem taxes on real property, or sales or transaction taxes on the sales of real property may be imposed.”

[Section 4 of article XIII A](#) imposes similar restrictions on local entities: “Cities, Counties and special districts, by a two-thirds vote of the qualified electors of such district, may impose *special taxes* on such district, except ad valorem taxes on real property or a transaction tax or sales tax on the sale of real property within such City, County or special district.” (Italics added.)

As we explained in *Amador Valley*, “... since any tax savings resulting from the operation of [sections 1](#) and

2 [of article XIII A] could be withdrawn or depleted by additional or increased state or local levies of other than property taxes, sections 3 and 4 combine to place restrictions upon the imposition of such taxes.” (*Amador Valley*, *supra*, 22 Cal.3d at p. 231.)

III. Taxes or Fees?

([2a]) Are the “fees” section 105310 imposes in legal effect “taxes enacted for the purpose of increasing revenues” under article XIII A, section 3, and therefore subject to a two-thirds majority vote? Although we have found no cases that interpret the language of section 3, several California appellate decisions have considered whether various fees are really “special taxes” under article XIII A, section 4. (See also *City and County of San Francisco v. Farrell* (1982) 32 Cal.3d 47, 57 [184 Cal.Rptr. 713, 648 P.2d 935] [“special taxes” are taxes levied for a specific purpose rather than for general governmental purposes]; *Gov. Code*, § 50076 [excluding from the term “special tax” in article XIII A, section 4, “any fee which does not exceed the reasonable cost of providing the service or regulatory activity for which the fee is charged and which is not levied for general revenue purposes”].) Because of the close, “interlocking” relationship between the various sections of article XIII A (see *Amador Valley*, *supra*, 22 Cal.3d at p. 231), we believe these “special tax” cases may be helpful, though not conclusive, in deciding the case before us. The reasons why particular fees are, or are not, “special taxes” under article XIII A, section 4, may apply equally to section 3 cases.²

We first consider certain general guidelines used in determining whether “taxes” are involved in particular situations. ([3]) The cases agree that *874 whether impositions are “taxes” or “fees” is a question of law for the appellate courts to decide on independent review of the facts. (*Bixel Associates v. City of Los Angeles* (1989) 216 Cal.App.3d 1208, 1216 [265 Cal.Rptr. 347]; *California Bldg. Industry Assn. v. Governing Bd.* (1988) 206 Cal.App.3d 212, 234 [253 Cal.Rptr. 497]; *Russ Bldg. Partnership v. City and County of San Francisco* (1987) 199 Cal.App.3d 1496, 1504 [246 Cal.Rptr. 21].)

The cases recognize that “tax” has no fixed meaning, and that the distinction between taxes and fees is frequently “blurred,” taking on different meanings in different contexts. (*Russ Bldg. Partnership v. City and County of San Francisco*, *supra*, 199 Cal.App.3d at p. 1504;

Terminal Plaza Corp. v. City and County of San Francisco (1986) 177 Cal.App.3d 892, 905 [223 Cal.Rptr. 379]; *Mills v. County of Trinity* (1980) 108 Cal.App.3d 656, 660 [166 Cal.Rptr. 674]; *County of Fresno v. Malmstrom* (1979) 94 Cal.App.3d 974, 983-984 [156 Cal.Rptr. 777].) In general, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted. (*Shapell Industries, Inc. v. Governing Board* (1991) 1 Cal.App.4th 218, 240 [1 Cal.Rptr.2d 818]; *County of Fresno v. Malmstrom*, *supra*, 94 Cal.App.3d at p. 983 [“Taxes are raised for the general revenue of the governmental entity to pay for a variety of public services.”].) Most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges. (*Shapell Industries, Inc. v. Governing Board*, *supra*, 1 Cal.App.4th at p. 240; *Russ Bldg. Partnership v. City and County of San Francisco*, *supra*, 199 Cal.App.3d at pp. 1505-1506; see *Terminal Plaza Corp. v. City and County of San Francisco*, *supra*, 177 Cal.App.3d at p. 907.) But compulsory fees may be deemed legitimate fees rather than taxes. (See *Kern County Farm Bureau v. County of Kern* (1993) 19 Cal.App.4th 1416, 1424 [23 Cal.Rptr.2d 910].)

([4a]) The “special tax” cases have involved three general categories of fees or assessments: (1) special assessments, based on the value of benefits conferred on property; (2) development fees, exacted in return for permits or other government privileges; and (3) regulatory fees, imposed under the police power. Although these three categories may overlap in a particular case, we consider them separately.

The cases uniformly hold that *special assessments* on property or similar business charges, in amounts reasonably reflecting the value of the benefits conferred by improvements, are not “special taxes” under article XIII A, section 4. (*Evans v. City of San Jose* (1992) 3 Cal.App.4th 728, 735-739 [4 Cal.Rptr.2d 601] [assessments on businesses for downtown promotion]; *875 *J. W. Jones Companies v. City of San Diego* (1984) 157 Cal.App.3d 745, 750-758 [203 Cal.Rptr. 580] [facilities benefit assessments]; *City Council v. South* (1983) 146 Cal.App.3d 320, 332 [194 Cal.Rptr. 110] [special assessments on real property]; *County of Fresno v. Malmstrom*, *supra*, 94 Cal.App.3d at pp. 984-985 [special assessments for construction of streets].)

Similarly, *development fees* exacted in return for building permits or other governmental privileges are not special taxes if the amount of the fees bears a reasonable relation to the development's probable costs to the community and benefits to the developer. (*Shapell Industries, Inc. v. Governing Board, supra*, 1 Cal.App.4th at p. 240 [school facilities fees]; *Bixel Associates v. City of Los Angeles, supra*, 216 Cal.App.3d at pp. 1211, 1218-1219 [fire hydrant fees]; *California Bldg. Industry Assn. v. Governing Bd., supra*, 206 Cal.App.3d at pp. 235-237 [school facilities development fees]; *Russ Bldg. Partnership v. City and County of San Francisco, supra*, 199 Cal.App.3d at pp. 1504-1506 [transit impact fees]; *Beaumont Investors v. Beaumont-Cherry Valley Water Dist.* (1985) 165 Cal.App.3d 227, 235-238 [211 Cal.Rptr. 567] [new facilities water hookup fees]; *Trent Meredith, Inc. v. City of Oxnard* (1981) 114 Cal.App.3d 317, 325-328 [170 Cal.Rptr. 685] [fees as precondition for building permits]; *Mills v. County of Trinity, supra*, 108 Cal.App.3d at pp. 661-663 [fees for processing subdivision, zoning, and land use applications]; see *Ehrlich v. City of Culver City* (1996) 12 Cal.4th 854, 898 [50 Cal.Rptr.2d 242, 911 P.2d 429] (conc. opn. of Mosk, J.).)

According to Sinclair, because the present fees have been imposed solely to defray the cost of the state's program of evaluation, screening, and follow-up services for children determined to be at risk for lead poisoning, they are not analogous to either special assessments or development fees, for they neither reimburse the state for special benefits conferred on manufacturers of lead-based products nor compensate the state for governmental privileges granted to those manufacturers. As the Court of Appeal observed, the fees challenged here “do not constitute payment for a government benefit or service. The program described in the Act bears no resemblance to regulatory schemes involving special assessments, developer fees, or efforts to recoup the cost of processing land use applications where the benefit analysis is typically applied. [Citations.] The face of the Act makes clear the funds collected pursuant to section 105310 are used to benefit children exposed to lead, not Sinclair or other manufacturers in the stream of commerce for products containing lead.”

([2b]) Appellants argue, however, that the challenged fees fall squarely within a third recognized category not dependent on government-conferred benefits or privileges, namely, *regulatory fees* imposed under the

police power, rather than the taxing power. We agree. *876

([4b]) We have acknowledged that the term “special taxes” in article XIII A, section 4, “ ‘does not embrace fees charged in connection with regulatory activities which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes.’ [Citations.]” (*Pennell v. City of San Jose* (1986) 42 Cal.3d 365, 375 [228 Cal.Rptr. 726, 721 P.2d 1111] (*Pennell*), *affd.* on other grounds *sub nom. Pennell v. San Jose* (1988) 485 U.S. 1 [108 S.Ct. 849, 99 L.Ed.2d 1], quoting from *Mills v. County of Trinity, supra*, 108 Cal.App.3d at pp. 659-660; see *City of Oakland v. Superior Court* (1996) 45 Cal.App.4th 740, 760-762 [53 Cal.Rptr.2d 120] [upholding regulatory fees charged to alcoholic beverage sale licensees to support pilot project to address public nuisances associated with those sales]; *Kern County Farm Bureau v. County of Kern, supra*, 19 Cal.App.4th at pp. 1422-1425 [upholding landfill assessment based on land use to reduce illegal waste disposal]; *City of Dublin v. County of Alameda* (1993) 14 Cal.App.4th 264, 280-285 [17 Cal.Rptr.2d 845] [upholding waste disposal surcharge imposed on waste haulers]; *Evans v. City of San Jose, supra*, 3 Cal.App.4th at p. 737; *San Diego Gas & Electric Co. v. San Diego County Air Pollution Control Dist.* (1988) 203 Cal.App.3d 1132, 1145-1149 [250 Cal.Rptr. 420] (*SDG&E*) [upholding emissions-based formula for recovering direct and indirect costs of pollution emission permit programs]; *United Business Com. v. City of San Diego* (1979) 91 Cal.App.3d 156, 166-168 [154 Cal.Rptr. 263] (*United Business*) [upholding fees for inspecting and inventorying on-premises advertising signs].)

Pennell upheld rental unit fees that a city imposed under its rent control ordinance to assure it recovered the actual costs of providing and administering a rental dispute hearing process. (*Pennell, supra*, 42 Cal.3d at p. 375.) We explained in *Pennell* that regulatory fees in amounts necessary to carry out the regulation's purpose are valid despite the absence of any perceived “benefit” accruing to the fee payers. (*Id.* at p. 375, fn. 11; see also *SDG&E, supra*, 203 Cal.App.3d at p. 1146, fn. 18; *Mills v. County of Trinity, supra*, 108 Cal.App.3d at p. 661.)

We observe that Sinclair, in moving for summary judgment, did not contend that the fees exceed in amount the reasonable cost of providing the protective services for

which the fees are charged, or that the fees were levied for any *unrelated* revenue purposes. (See *Pennell, supra*, 42 Cal.3d at p. 375.) Moreover, Sinclair has not yet sought to establish that the amount of the fees bears no reasonable relationship to the social or economic “burdens” that Sinclair's operations generated. (See *SDG&E, supra*, 203 Cal.App.3d at p. 1146; see also § 105310, subds. (b), (d); *Sea & Sage Audubon Society, Inc. v. Planning Com.* (1983) 34 Cal.3d 412, 421 [*877 194 Cal.Rptr. 357, 668 P.2d 664] [persons challenging fees have burden of establishing invalidity].) Sinclair does contend, however, that the Act is not *regulatory* in nature, being primarily aimed at producing revenue.

According to Sinclair, the challenged fees were in effect “taxes” because the compulsory revenue measure that imposed them was not part of a *regulatory* effort. The Court of Appeal agreed, relying on prior cases indicating that where payments are exacted solely for *revenue* purposes and give the right to carry on the business with no further conditions, they are taxes. (E.g., *United Business, supra*, 91 Cal.App.3d at p. 165.) The Court of Appeal held that “Placing the factors distinguishing taxes and fees along a continuum, we conclude the monies paid by Sinclair pursuant to the Act are more like taxes than fees. [¶] *There is nothing on the face of the Act to show the fees collected are used to regulate Sinclair.* Apart from mere calculation of the payment, the Department's regulatory authority involves implementation of the program to evaluate, screen, and provide followup services to children at risk for lead poisoning. The Act does not require Sinclair to comply with any other conditions; it merely requires Sinclair to pay what the Department determines to be its share of the program cost.”

Contrary to the Court of Appeal, we believe that section 105310 imposes bona fide regulatory fees. It requires manufacturers and other persons whose products have exposed children to lead contamination to bear a fair share of the cost of mitigating the adverse health effects their products created in the community. Viewed as a “mitigating effects” measure, it is comparable in character to similar police power measures imposing fees to defray the actual or anticipated adverse effects of various business operations.

From the viewpoint of general police power authority, we see no reason why statutes or ordinances calling on polluters or producers of contaminating products

to help in mitigation or cleanup efforts should be deemed less “regulatory” in nature than the initial permit or licensing programs that allowed them to operate. Moreover, imposition of “mitigating effects” fees in a substantial amount (Sinclair allegedly paid \$97,825.26 in 1991) also “regulates” future conduct by deterring further manufacture, distribution, or sale of dangerous products, and by stimulating research and development efforts to produce safer or alternative products. (Cf. *SDG&E, supra*, 203 Cal.App.3d at p. 1147, fn. 20 [emissions-based fees provide incentive to use nonpollutant fuels].)

Sinclair disputes the state's authority to impose industry-wide “remediation fees” to compensate for the adverse societal effects generated by an industry's products. To the contrary, the case law previously cited or discussed clearly indicates that the police power is broad enough to include *878 mandatory remedial measures to mitigate the *past, present, or future* adverse impact of the fee payer's operations, at least where, as here, the measure requires a causal connection or nexus between the product and its adverse effects. (See *City of Oakland v. Superior Court, supra*, 45 Cal.App.4th at pp. 760-762; *Kern County Farm Bureau v. County of Kern, supra*, 19 Cal.App.4th at pp. 1422-1425; *City of Dublin v. County of Alameda, supra*, 14 Cal.App.4th at pp. 284-285; *SDG&E, supra*, 203 Cal.App.3d at pp. 1146-1149; *United Business, supra*, 91 Cal.App.3d at p. 168; *Russ Bldg. Partnership v. City and County of San Francisco, supra*, 199 Cal.App.3d at pp. 1504-1506 [fees to pay for increased transit costs]; *J. W. Jones Companies v. City of San Diego, supra*, 157 Cal.App.3d at pp. 755, 758 [fees to defray costs of additional public facilities]; *Trent Meredith, Inc. v. City of Oxnard, supra*, 114 Cal.App.3d at p. 325 [fees to reduce growth impact of new subdivision]; see also *Western Indemnity Co. v. Pillsbury* (1915) 170 Cal. 686, 694 [151 P. 398] [police power authorizes legislation necessary or proper for protection of legitimate public interest]; *County of Plumas v. Wheeler* (1906) 149 Cal. 758, 761-764 [87 P. 909] [broad legislative discretion to regulate business, including license fees or charges]; 8 Witkin, Summary of Cal. Law (9th ed. 1988) Constitutional Law, § 784, p. 311 [“police power is simply the power of sovereignty or power to govern—the inherent reserved power of the state to subject individual rights to reasonable regulation for the general welfare”]; see generally, 6A McQuillan, The Law of Municipal Corporations (3d rev. ed. 1997) Municipal Police Power and Ordinances, § 24.01 et seq., p. 7 et seq.)

SDG&E involved regulatory fees comparable in some respects to the fees challenged here. (*SDG&E*, *supra*, 203 Cal.App.3d 1132.) There, 1982 legislation (see § 42311) empowered local air pollution control districts to apportion the costs of their permit programs among all monitored polluters according to a formula based on the amount of emissions they discharged. (See *SDG&E*, *supra*, 203 Cal.App.3d at p. 1135.) ([5]) The *SDG&E* court observed that “to show a fee is a regulatory fee and not a special tax, the government should prove (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor’s burdens on or benefits from the regulatory activity.” (*Id.* at p. 1146, fn. omitted; see *Beaumont Investors v. Beaumont-Cherry Valley Water Dist.*, *supra*, 165 Cal.App.3d at pp. 234-235.)

In *SDG&E*, the amount of the regulatory fees was limited to the reasonable costs of each district’s program, and the allocation of costs based on emissions “fairly relates to the permit holder’s burden on the district’s programs.” (*SDG&E*, *supra*, 203 Cal.App.3d at p. 1146.) Accordingly, the *879 court concluded that the fees were not “special taxes” under article XIII A, section 4. (*SDG&E*, *supra*, 203 Cal.App.3d at p. 1148.)

As the court observed in *SDG&E*, “Proposition 13’s goal of providing effective property tax relief is not subverted by the increase in fees or the emissions-based apportionment formula. A reasonable way to achieve Proposition 13’s goal of tax relief is to shift the costs of controlling stationary sources of pollution from the tax-paying public to the pollution-causing industries themselves” (*SDG&E*, *supra*, 203 Cal.App.3d at p. 1148.) ([2c]) In our view, the shifting of costs of providing evaluation, screening, and medically necessary follow-up services for potential child victims of lead poisoning from the public to those persons deemed responsible for that poisoning is likewise a reasonable police power decision. (See also *Mills v. County of Trinity*, *supra*, 108 Cal.App.3d at p. 663; *County of Fresno v. Malmstrom*, *supra*, 94 Cal.App.3d at p. 985 [special assessments have no impact on government spending].)

The fact that the challenged fees were charged after, rather than before, the product’s adverse effects were realized is immaterial to the question whether the measure

imposes valid regulatory fees rather than taxes. *City of Oakland v. Superior Court* seems close on point. There, the court upheld city fees imposed on retailers of alcoholic beverages to defray the cost of providing and administering hearings into nuisance problems associated with the prior sale of those beverages. The court first observed that “If a business imposes an unusual burden on city services, a municipality may properly impose fees pursuant to its police powers” to assure that the persons responsible “pay their fair share of the cost of government.” (*City of Oakland v. Superior Court*, *supra*, 45 Cal.App.4th at p. 761.) The court concluded that “The ordinance’s primary purpose is regulatory—to create an environment in which nuisance and criminal activities associated with alcoholic beverage retail establishments may be reduced or eliminated. Thus, the fee imposed ... is not a tax imposed to pay general revenue to the local governmental entity, but is a regulatory fee intended to defray the cost of providing and administering the hearing process set out in the ordinance. [Citation.]” (*Id.* at p. 762.)

The court in *United Business* applied the “regulation/revenue” distinction to conclude that sign inventory fees adopted to recover the city’s cost of inventorying signs and bringing them into conformance with law were regulatory fees, not revenue-raising taxes. The court observed that, under the police power, municipalities may impose fees for the purpose of legitimate regulation, and not mere revenue-raising, if the fees do not exceed the reasonably necessary expense of the regulatory effort. (*880 *United Business*, *supra*, 91 Cal.App.3d at p. 165, and authorities cited.) Quoting with approval from an earlier decision, the court noted that, if revenue is the primary purpose, and regulation is merely incidental, the imposition is a tax, but if regulation is the primary purpose, the mere fact that revenue is also obtained does not make the imposition a tax. (*Ibid.*) Moreover, according to *United Business*, if a fee is exacted for revenue purposes, and its payment gives the right to carry on business without any further conditions, it is a tax. (*Ibid.*; see also *City of Oakland v. Superior Court*, *supra*, 45 Cal.App.4th at p. 761; *County of Plumas v. Wheeler*, *supra*, 149 Cal. at p. 763 [fee in amount greater than reasonably needed to regulate business “cannot stand as an exercise of the police power”]; *Mills v. County of Trinity*, *supra*, 108 Cal.App.3d at pp. 659-660; *City & County of San Francisco v. Boss* (1948) 83 Cal.App.2d 445, 450-451 [189 P.2d 32].)

The Court of Appeal, citing *United Business*, stressed that the challenged fees were exacted solely for revenue purposes, and their payment gave Sinclair and others the right to carry on the business without any further conditions. We see two flaws in that analysis. First, *all* regulatory fees are necessarily aimed at raising “revenue” to defray the cost of the regulatory program in question, but that fact does not automatically render those fees “taxes.” As stated in *United Business*, if regulation is the primary purpose of the fee measure, the mere fact that the measure also generates revenue does not make the imposition a tax. (*United Business, supra*, 91 Cal.App.3d at p. 165; see also *Mills v. County of Trinity, supra*, 108 Cal.App.3d at p. 660 [rejecting broad definition of “tax” as including all fees and charges that exact money for public purposes].)

Second, we find inconclusive the fact that the Act permits Sinclair and other producers to carry on their operations without any further conditions *specified in the Act itself*. As we have indicated, fees can “regulate” business entities without directly licensing them by mitigating their operations' adverse effects. Moreover, as appellants observe, the Act is part of a broader regulatory scheme by which, under various state and federal statutes, the state regulates Sinclair and other manufacturers in the stream of commerce for products containing lead. That being so, Sinclair's payment of the challenged fees did not confer the right to carry on business without any further conditions or regulation.

The Court of Appeal rejected appellants' argument invoking other state and federal regulations: “First, there is nothing on the face of the Act or the accompanying statement of legislative purpose which links the Act's programs for children at risk for lead poisoning with the cited state or federal statutes regulating lead. Second, none

of the fees collected pursuant to *881 section 105310 are used to fund those regulatory efforts.” However, it is undisputed that Sinclair and other manufacturers of lead-based products remain subject to government regulation, that payment of the challenged fees therefore does not entitle those manufacturers to operate free of regulation, and that the state must use the funds it collects under section 105310 *exclusively* for mitigating the adverse effects of lead poisoning of children, and not for general revenue purposes. (§ 105310, subd. (f).)

Under existing case law, we can reasonably characterize the challenged fees as *regulatory fees* rather than as taxes. Accordingly, we conclude the trial court erred in granting Sinclair summary judgment on the constitutional issues. Of course, Sinclair should be permitted to attempt to prove at trial that the amount of fees assessed and paid exceeded the reasonable cost of providing the protective services for which the fees were charged, or that the fees were levied for unrelated revenue purposes. (See *Pennell, supra*, 42 Cal.3d at p. 375.) Additionally, Sinclair will have the opportunity to try to show that no clear nexus exists between its products and childhood lead poisoning, or that the amount of the fees bore no reasonable relationship to the social or economic “burdens” its operations generated. (*SDG&E, supra*, 203 Cal.App.3d at p. 1146; see also § 105310, subsd. (b), (d).)

Disposition

The judgment of the Court of Appeal, affirming the trial court's grant of summary judgment in Sinclair's favor, is reversed.

George, C. J., Mosk, J., Kennard, J., Baxter, J., Werdegar, J., and Armstrong, J., * concurred.

Footnotes

* Associate Justice of the Court of Appeal, Second District, Division Five, assigned by the Chief Justice pursuant to [article VI, section 6 of the California Constitution](#).

1 All further statutory references are to the Health and Safety Code unless otherwise noted.

2 We are not here concerned with issues arising under constitutional amendments effected by a recent initiative measure (Proposition 218) adopted at the November 5, 1996, General Election. That measure contains new restrictions on local agencies' power to impose fees and assessments.

* Associate Justice of the Court of Appeal, Second District, Division Five, assigned by the Chief Justice pursuant to [article VI, section 6 of the California Constitution](#).

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ATTACHMENT D-2

 KeyCite Yellow Flag - Negative Treatment
 Declined to Extend by [California Public Records Research, Inc. v. County of Yolo](#), Cal.App. 3 Dist., October 14, 2016
 79 Cal.App.4th 935, 94 Cal.Rptr.2d 535, 00 Cal. Daily
 Op. Serv. 2760, 2000 Daily Journal D.A.R. 3719

CALIFORNIA ASSOCIATION OF PROFESSIONAL
 SCIENTISTS et al., Plaintiffs and Respondents,

v.

DEPARTMENT OF FISH AND GAME et al.,
 Defendants and Respondents; ALBERT W.
 MILLS et al., Intervenors and Appellants.
 ALBERT W. MILLS, Plaintiff and Appellant,

v.

DEPARTMENT OF FISH AND GAME
 et al., Defendants and Appellants.

No. Co23075., No. Co23184.
 Court of Appeal, Third District, California.
 Apr. 10, 2000.

[Opinion certified for partial publication. *]

SUMMARY

An individual filed a declaratory relief action challenging the constitutionality of a flat fee imposed by the Legislature pursuant to [Fish & G. Code, § 711.4](#), on those submitting project proposals to the Department of Fish and Game for environmental review. Plaintiff alleged the fee constituted a tax that was not passed by a two-thirds majority as required under Cal. Const., art. XIII A (Prop. 13). The trial court found that although the statute was not unconstitutional on its face, it was unconstitutional as applied to plaintiff. Before entry of judgment, however, the parties settled the matter, with the department agreeing to refund plaintiff's fees and to stop collecting the fees statewide. Employees of the department then filed a petition for a writ of mandate to compel the department to resume collection of the fees and to pursue retroactive collection. The writ proceeding and the declaratory relief action were consolidated. The trial court again ruled that the statute was unconstitutional as applied, but that, in the absence of an appellate finding that the statute was unconstitutional, the ruling could only be applied to the individual plaintiff. The trial court ordered the department to reinstate enforcement and to

retroactively collect the fees, and the settlement order in the declaratory relief action was modified to conform to the judgment in the writ proceedings. (Superior Court of Sacramento County, Nos. 95CS02523 and CV529928, Jeffrey L. Gunther, Judge.)

The Court of Appeal affirmed in part and reversed in part the judgment entered in the declaratory relief action, and, since the court concluded that the statute was a valid regulatory fee, and was therefore constitutionally enacted, plaintiff's appeal from the judgment entered in the writ proceedings was dismissed as moot. The court held that the Legislature did not violate the supermajority requirement of Cal. Const., art. XIII A, by imposing the flat fee pursuant to [Fish & G. Code, § 711.4](#), with less than a two-thirds vote, since the exaction was a regulatory fee rather than a tax. The department met its burden of showing that the amount of fees generated by [Fish & G. Code, § 711.4](#), was far less than the cost of the environmental reviews provided. Thus, the fees were not revenue raising. Although a flat fee will seldom represent the exact cost of providing a service, the evidence was sufficient to sustain the legislative determination that a flat fee system was a reasonable means to allocate the costs of environmental review. It was reasonable to assess a flat fee and thereby reduce the cost and administrative difficulty of accounting for the services provided for each individual project. Moreover, collection of a flat fee at a uniform time eased the administrative burden of collection and provided certainty to those submitting project proposals. The court further held that there was sufficient evidence to show that there was a reasonable basis for the legislative decision to charge more for the review of a negative declaration than for the review of an environmental impact report. (Opinion by Raye, J., with Sims, Acting P. J., and Nicholson, J., concurring.)

HEADNOTES

Classified to California Digest of Official Reports

(1a, 1b, 1c)

Property Taxes § 7.6--Constitutional Provisions--
 Proposition 13--Assessments as Fees or Taxes--Flat Fee
 for Environmental Review by Department of Fish and
 Game:Taxation § 3--Construction of Legislation.

The Legislature did not violate the super-majority
 requirement of Cal. Const., art. XIII A (Prop. 13) by
 imposing a flat fee pursuant to [Fish & G. Code, § 711.4](#),

with less than a two-thirds vote, on those who submit project proposals to the Department of Fish and Game for the environmental review necessary to protect fish and wildlife, since the exaction was a regulatory fee rather than a tax. The department met its burden of showing that the amount of fees generated by [Fish & G. Code, § 711.4](#), was far less than the cost of the environmental reviews provided. Thus, the fees were not revenue raising. Although a flat fee will seldom represent the exact cost of providing a service, the evidence was sufficient to sustain the legislative determination that a flat fee system was a reasonable means to allocate the costs of environmental review. It was reasonable to assess a flat fee and thereby reduce the cost and administrative difficulty of accounting for the services provided for each individual project. Moreover, collection of a flat fee at a uniform time eased the administrative burden of collection and provided certainty to those submitting project proposals.

[See 9 Witkin, Summary of Cal. Law (9th ed. 1989) Taxation, § 107 et seq.]

(2)

Property Taxes § 7.6--Constitutional Provisions-- Proposition 13-- Assessments as Fees or Taxes:Taxation § 3--Construction of Legislation.

The determination under Prop. 13 ([Cal. Const., art. XIII A, §§ 3, 4](#)) whether impositions are taxes or fees is a question of law for the appellate courts to decide on independent review of the facts. Ordinarily, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted, and most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges.

(3a, 3b)

Property Taxes § 7.8--Constitutional Provisions-- Proposition 13--Regulatory Fees--Special Taxes.

Fees charged for the costs of regulatory activities are not special taxes under a [Cal. Const., art. XIII A, § 4](#) (Prop. 13) analysis if the fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and they are not levied for unrelated revenue purposes. A regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of the regulation. The regulatory fee, to survive as a fee, does not require a precise cost-fee ratio. Legislators need only apply

sound judgment and consider probabilities according to the best honest viewpoint of informed officials in determining the amount of the fee. The government bears the burden of proof. It must establish (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity. The record need only demonstrate a reasonable relationship between the fees to be charged and the estimated cost of the service or program to be provided; that requirement may be satisfied by evidence showing only that the fees will generate substantially less than the anticipated costs.

(4)

Fish and Game § 3--Regulation--Fee for Environmental Review with Department of Fish and Game--Validity of Higher Fee for Review of Negative Declaration.

In proceedings to challenge the validity of a flat fee ([Fish & G. Code, § 711.4](#)) on those submitting project proposals to the Department of Fish and Game for environmental review, there was sufficient evidence to show that there was a reasonable basis for the legislative decision to charge more for the review of a negative declaration than for the review of an environmental impact report. A senior environmental specialist supervisor for the department testified at trial that the standard for a negative declaration is that a project must have no adverse impact on the environment. Thus, the department must ensure that the disclosure of the possible impacts is complete and to assure any mitigation measures are adequate. Often, the proposed mitigation measures are inadequate, and the department staff must work with the lead agency and with the project proponent to develop an acceptable negative declaration document. The supervisor testified that his staff probably spent more time on the review of a negative declaration than the review of an equivalent size project with environmental impact report documentation. Hence, due to project information collection costs and the time spent negotiating mitigation measures, the department's costs were generally higher for negative declarations.

COUNSEL

McNeill & Belton and Walter P. O'Neill for Plaintiff and Appellant and for Interveners and Appellants.

Robin L. Rivett, Sharon L. Browne and Anne M. Hawkins for Pacific Legal Foundation as Amicus Curiae on behalf of Plaintiff and Appellant.

Daniel E. Lungren and Bill Lockyer, Attorneys General, Roderick E. Walston, Chief Assistant Attorney General, Charles W. Getz IV and Marian E. Moe, Deputy Attorneys General, for Defendants and Appellants and for Defendants and Respondents.

Dennis F. Moss for Plaintiffs and Respondents.

RAYE, J.

In this appeal we consider whether the Legislature ran afoul of the supermajority requirement of article XIII A of the California Constitution when it imposed a flat fee per environmental review by the Department *939 of Fish and Game (Fish and Game). More precisely, we must determine whether the exactions imposed by [section 711.4 of the Fish and Game Code](#)¹ constitute a regulatory fee or a tax.

Determining whether an exaction is a fee or a tax has been a recurring chore since 1978 when the voters in California enacted comprehensive and constitutional tax reform. (Cal. Const., art. XIII A (the Jarvis-Gann Property Tax Initiative or Proposition 13).) An act to increase state taxes must be passed by two-thirds of the members of the Legislature and an increase in local taxes must be passed by a two-thirds vote of the qualified electors. (Cal. Const., art. XIII A, §§ 3 & 4.) Fees, by contrast, are not subject to the supermajority limitation of [article XIII A](#). Albert Mills, an appellant in both cases, insists the environmental review fees charged by Fish and Game pursuant to [section 711.4](#) constitute a tax and, therefore, are unconstitutional because the statute was passed by slightly less than a two-thirds majority.

It is well established that the amount of fees collected must not surpass the cost of the regulatory services or programs they are designed to support. We must decide whether there must be a direct correlation between the amount of a fee imposed on a specific payor and the benefits received or burdens imposed by the payor's activity. More to the point, is a flat regulatory fee in legal effect a tax subject to the supermajority requirement of California Constitution, article XIII A?

We conclude that as long as the cumulative amount of the fees does not surpass the cost of the regulatory program or service and the record discloses a reasonable basis to

justify distributing the cost among payors, a fee does not become a tax simply because each payor is required to pay a predetermined fixed amount. Flat fees are not in legal effect taxes. Based on the evidentiary record before us, we find that the Legislature did not violate California Constitution, article XIII A by imposing a flat regulatory fee on those who submit project proposals to Fish and Game for the environmental review necessary to protect fish and wildlife. The consequences of our ruling to the multiple parties in these consolidated cases are explained below.

Procedural Background

[Section 711.4](#), enacted by the Legislature in 1990, set a fee schedule to defray a portion of the costs incurred by Fish and Game in meeting its environmental review obligations under the California Environmental Quality Act and the Z'Berg-Nejedly Forest Practice Act of 1973. (§ 711.4, *940 subds. (a), (b), (c) & (d); [Pub. Resources Code](#), §§ 4511, 21000 et seq.) [Section 711.4](#) states in relevant part: “(a) The department shall impose and collect a filing fee in the amount prescribed in subdivision (d) to defray the costs of managing and protecting fish and wildlife trust resources, including, but not limited to, consulting with other public agencies, reviewing environmental documents, recommending mitigation measures, developing monitoring requirements for purposes of the California Environmental Quality Act ..., consulting pursuant to [Section 21104.2 of the Public Resources Code](#), and other activities protecting those trust resources identified in the review pursuant to the California Environmental Quality Act. [] (b) The filing fees shall be proportional to the cost incurred by the department and shall be annually reviewed and adjustments recommended to the Legislature in an amount necessary to pay the full costs of department programs as specified.” For projects for which a negative declaration has been prepared, the filing fee set by the Legislature is \$1,250 and for projects for which an environmental impact report has been prepared, the filing fee is \$850. (§ 711.4, subd. (d)(3) & (4).) “The county clerk may charge a documentary handling fee of twenty-five dollars (\$25) per filing in addition to the filing fee specified in subdivision (d).” (§ 711.4, subd. (e).)

Albert W. Mills challenged the constitutionality of [section 711.4](#) in a declaratory relief action he filed in July 1991. He sought declaratory and injunctive relief in a first cause of action and a refund of his fees in a second cause of

action. A demurrer was sustained without leave to amend to the second cause of action. Fish and Game sought a writ of mandate to compel the trial court to dismiss the entire complaint because Mills had not filed a claim for a tax refund. We summarily denied the petition for the writ. The trial court denied a subsequent motion for judgment on the pleadings on the same ground asserted in the writ petition.

In 1992 the Legislature amended the statute to expand the exemptions for projects for which no fees were required. The amendment passed by a two-thirds majority vote.

The case was tried in the summer of 1994 and the following spring the trial court issued a statement of decision. The court found that although the statute was not unconstitutional on its face, on the evidence received by the court, it was unconstitutionally applied. Before the statement of decision was filed and a judgment was entered, the parties settled the lawsuit. Fish and Game agreed to refund Mills's fees, to pay his attorney fees, and to cease collection of the fees statewide.

Employees of Fish and Game, however, filed a petition for a writ of mandate to compel Fish and Game to resume collection of the fees and to *941 pursue retroactive collection. Mills intervened in the writ proceedings, which were then consolidated with the declaratory relief action.

The trial court again ruled that [section 711.4](#) was unconstitutional as applied but that, in the absence of an appellate finding that the statute was unconstitutional, the ruling could only be applied to Mills. ([Cal. Const., art. III, § 3.5.](#)) The court ordered Fish and Game to reinstate enforcement and to retroactively collect the fees. The settlement order in the declaratory relief action was modified to conform to the judgment in the writ proceedings. The settlement order provides in pertinent part that [section 711.4](#) is not unconstitutional on its face but is unconstitutional as applied to Mills; Fish and Game is enjoined from collecting fees from Mills but is not otherwise prohibited from collecting fees.

Mills appeals both judgments. On appeal from the judgment in the declaratory relief action, he maintains [section 711.4](#) is unconstitutional on its face and, consequently, Fish and Game must be enjoined from collecting all fees. Fish and Game urges us to dismiss the appeal on multiple grounds: Mills lacks standing because,

under the terms of the settlement, he is not aggrieved; the constitutionality of [section 711.4](#) is moot because it was amended by a two-thirds majority; and the trial court lacked jurisdiction because Mills failed to exhaust his administrative remedies by filing a claim for a tax refund. Fish and Game also appeals. We granted the Pacific Legal Foundation's request to file an amicus curiae brief echoing Mills's constitutional attack on the statute.

For the reasons discussed herein, we affirm in part and reverse in part the judgment entered in the declaratory relief action. Because we have concluded that [section 711.4](#) is a valid regulatory fee, and was therefore constitutionally enacted, Mills's appeal from the judgment entered in the writ proceedings is moot. That appeal is dismissed.

Discussion

I *

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II

Before we apply the ever-growing body of case law involving post-Proposition 13 fees and taxes, it is essential to understand the statutory world *942 in which Fish and Game lives and [section 711.4](#) was born. The language of these statutes resolves some of the issues raised by Mills and provides the necessary background to analyze others.

([1a]) Mills argues that Fish and Game does not operate a regulatory program and, therefore, the fee is not regulatory in nature. We disagree. Fish and Game is only one small part of a huge regulatory system in place in this state to protect and sustain the environment, but it plays a vital regulatory role under the California Environmental Quality Act (CEQA). ([Pub. Resources Code, § 21000](#) et seq.) CEQA guidelines specifically list Fish and Game as a trustee agency, a status which imposes certain obligations. Fish and Game must be consulted before a determination is made as to whether a negative declaration or an environmental impact report is required for a particular project. ([Pub. Resources Code, § 21080.3](#), subd. (a).) If an environmental impact report is required, Fish and Game must comment as to the scope and contents of this document. ([Pub. Resources Code, § 21080.4](#), subd. (a).) Later in the process, Fish and Game may be required to submit a proposed program to monitor the mitigation measures. ([Pub. Resources Code, §](#)

21081.6.) The same obligations are imposed by documents which function as environmental assessment documents such as timber harvest plans. (*Environmental Protection Information Center, Inc. v. Johnson* (1985) 170 Cal.App.3d 604, 626 [216 Cal.Rptr. 5022].) *Fish and Game Code section 1802 also requires Fish and Game to consult with lead and responsible agencies.*

Fish and Game also has comparable obligations under the Forest Practice Act. (Pub. Resources Code, § 4511 et seq.) Like the responsibility conferred on it under CEQA, Fish and Game must review the impact of a timber harvest plan on fish and wildlife. The Department of Forestry and Fire Protection cannot approve a timber harvest plan until it has consulted with Fish and Game. (Pub. Resources Code, § 4582.6.)

Under both CEQA and the Forest Practice Act, Fish and Game is an essential link in a comprehensive attempt to safeguard the environment. The fact that Fish and Game does not operate an independent regulatory program with a correlative accounting system does not detract from its regulatory role. The law is not so narrowly drawn. In a similar vein, the court in *Sinclair Paint Co. v. State Bd. of Equalization* (1997) 15 Cal.4th 866 [64 Cal.Rptr.2d 447, 937 P.2d 1350] observed: "From the viewpoint of general police power authority, we see no reason why statutes or ordinances calling on polluters or producers of contaminating products to help in mitigation or cleanup efforts should be deemed less 'regulatory' in nature than the initial *943 permit or licensing programs that allowed them to operate. Moreover, imposition of 'mitigating effects' fees in a substantial amount ... also 'regulates' future conduct by deterring further manufacture, distribution, or sale of dangerous products, and by stimulating research and development efforts to produce safer or alternative products." (*Id.* at p. 877.)

Having charged Fish and Game with the responsibility to manage and protect fish and wildlife through the environmental review process, the Legislature enacted a fee statute to fund Fish and Game's review functions. There are two parts of section 711.4 which are germane to the constitutional question before us.

The Legislature expressly addressed proportionality. Section 711.4, subdivision (b) states: "The filing fees shall be proportional to the cost incurred by the department

and shall be annually reviewed and adjustments recommended to the Legislature in an amount necessary to pay the full costs of department programs as specified."

Although the Legislature mandated a flat fee financing mechanism, it also provided an exemption for those projects with a de minimis impact on fish and wildlife. Section 711.4, subdivision (d)(1) provides: "For a project which is found by the lead or certified regulatory agency to be de minimis in its effect on fish and wildlife, no filing fee shall be paid, whether or not a negative declaration or an environmental impact report is prepared pursuant to the California Environmental Quality Act." In fact, 68 percent of the projects are found to be de minimis and a fee is not required.

In sum, the Legislature has given Fish and Game a critical regulatory role in the complex regulatory structure created to safeguard precious environmental resources. At the same time, the Legislature created a flat fee system to finance Fish and Game's environmental review. That system, by statute, must be proportional to the overall cost of environmental review, but only those who propose development projects which have more than a de minimis impact upon fish and wildlife are required to bear the cost of review. We must determine whether the Legislature violated the Constitution by establishing such a fee system with less than a two-thirds vote.

III

In 1991 the Legislature enacted the Childhood Lead Poisoning Prevention Act to provide evaluation, screening, and follow-up services for children who were at risk of suffering lead poisoning. The program of screening and treatment under the act was to be paid entirely by fees paid by those who *944 contributed to lead contamination. In *Sinclair Paint Co. v. State Bd. of Equalization*, *supra*, 15 Cal.4th 866, the Supreme Court concluded the act imposed bona fide regulatory fees, not taxes.

Sinclair is the first published case in the post-Proposition 13 era to consider whether a state, rather than a local, fee is in legal effect a tax. "Section 3 of article XIII A restricts the enactment of changes in state taxes, as follows: 'From and after the effective date of this article, any changes in State taxes enacted for the purpose of increasing revenues collected pursuant thereto whether by increased rates or changes in methods of computation must be imposed by

an Act passed by not less than two-thirds of all members ... of the Legislature, except that no new ad valorem taxes on real property, or sales or transaction taxes on the sales of real property may be imposed.' ” (*Sinclair Paint Co. v. State Bd. of Equalization*, *supra*, 15 Cal.4th at pp. 872-873.) By contrast, there have been an abundance of cases in which courts have struggled to characterize a local exaction as a fee or a “special tax” under [California Constitution, article XIII A, section 4](#). In *Sinclair*, the Supreme Court announced that “[b]ecause of the close, 'interlocking' relationship between the various sections of [article XIII A](#)” the [section 4](#) cases “may be helpful, though not conclusive” in deciding cases under [section 3](#). (15 Cal.4th at p. 873.)

(2) The court also reiterated the fundamental principle that “whether impositions are 'taxes' or 'fees' is a question of law for the appellate courts to decide on independent review of the facts.” (*Sinclair Paint Co. v. State Bd. of Equalization*, *supra*, 15 Cal.4th at p. 874.) Ordinarily, “taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted” and “[m]ost taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges.” (*Id.* at pp. 873-874.)

Sinclair was particularly helpful in identifying three very different kinds of fees or assessments, viz. special assessments, development fees and regulatory fees. (See also *Isaac v. City of Los Angeles* (1998) 66 Cal.App.4th 586, 596 [77 Cal.Rptr.2d 752].) As the court pointed out, special assessments are based on the value of benefits conferred on property, and development fees are exacted in return for permits or other government privileges. Regulatory fees, enacted under the police power, are an entirely different animal. The parties have failed to distinguish between these types of fees and, consequently, have extracted general principles from cases involving one type of fee and applied them to cases involving a completely different type of fee. We have focused our research on those cases, like *Sinclair*, involving regulatory fees. *945

(3a) General principles have emerged. Fees charged for the associated costs of regulatory activities are not special taxes under an [article XIII A, section 4](#) analysis if the “ ‘ ”fees do not exceed the reasonable cost of providing services necessary to the activity for which the

fee is charged and [they] are not levied for unrelated revenue purposes.“ ‘ ” (*Sinclair Paint Co. v. State Bd. of Equalization*, *supra*, 15 Cal.4th at p. 876; *Townzen v. County of El Dorado* (1998) 64 Cal.App.4th 1350, 1359 [76 Cal.Rptr.2d 281].) “A regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of the regulation.” (*San Diego Gas & Electric Co. v. San Diego County Air Pollution Control Dist.* (1988) 203 Cal.App.3d 1132, 1146, fn. 18 [250 Cal.Rptr. 420].) “Such costs ... include all those incident to the issuance of the license or permit, investigation, inspection, administration, maintenance of a system of supervision and enforcement.” (*United Business Com. v. City of San Diego* (1979) 91 Cal.App.3d 156, 165 [154 Cal.Rptr. 263].) Regulatory fees are valid despite the absence of any perceived “benefit” accruing to the fee payers. (*Pennell v. City of San Jose* (1986) 42 Cal.3d 365, 375 [228 Cal.Rptr. 726, 721 P.2d 1111], *affd.* on other grounds *sub nom. Pennell v. City of San Jose* (1988) 485 U.S. 1 [108 S.Ct. 849, 99 L.Ed.2d 1].) Legislators “need only apply sound judgment and consider 'probabilities according to the best honest viewpoint of informed officials' in determining the amount of the regulatory fee.” (*United Business Com. v. City of San Diego*, *supra*, 91 Cal.App.3d at p. 166.)

The government bears the burden of proof. (*Beaumont Investors v. Beaumont-Cherry Valley Water Dist.* (1985) 165 Cal.App.3d 227, 235 [211 Cal.Rptr. 567].) It must establish (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity. (*Id.* at pp. 234-235.) “Courts [look] to a variety of evidence in determining whether the agency has satisfied that burden, not all of it prepared before the adoption of the ordinance.” (*City of Dublin v. County of Alameda* (1993) 14 Cal.App.4th 264, 282 [17 Cal.Rptr.2d 845].)

City of Dublin v. County of Alameda, *supra*, 14 Cal.App.4th 264, provides guidance on the quantum of proof necessary to establish the requisite fee-cost ratio. By initiative, the voters in Alameda County enacted a comprehensive recycling plan. Under the law, the plan was to be funded from a recycling fund created by a \$6 per ton surcharge on materials dumped in the county landfills. The issue presented was whether the evidence before the trial court established that the surcharge would

not exceed the reasonably *946 necessary costs of the programs it would fund. The Court of Appeal considered both the estimated costs of the programs and the basis for determining the apportionment of those costs.

The court wrote: “The trial court concluded that the requisite fee-cost relationship was not established because Measure D's programs are not yet developed and their costs cannot presently be calculated with certainty, but such specificity is not required. Instead, the record need only demonstrate a reasonable relationship between the fees to be charged and the *estimated* cost of the service or program to be provided; that requirement may be satisfied by evidence showing only that the fees will generate substantially less than the anticipated costs.” (*City of Dublin v. County of Alameda, supra*, 14 Cal.App.4th at p. 283, original italics.)

In a similar case, the Court of Appeal addressed the quantum of proof and proportionality. “Plaintiffs fault the report for failing to include 'site-specific' data showing a 'close connection' between new development and the fees to be imposed. However, their citation to 'taking' cases shows that they are blurring legal principles. [Citation.] The fee at issue here is a general one applied to all new residential development and valid if supported by a reasonable relationship between the amount of the fee and estimated cost of services. Site-specific review is neither available nor needed.” (*Garrick Development Co. v. Hayward Unified School Dist.* (1992) 3 Cal.App.4th 320, 333-334 [4 Cal.Rptr.2d 897].)

([1b]) Fish and Game met its burden of showing that the amount of fees generated by section 711.4 was far less than the cost of the environmental reviews provided. There was evidence that \$11 million had been collected in fees, but the cost of the reviews was in excess of \$20 million. Thus, the fees were not revenue raising in that they did not generate income which surpassed the cost of the services provided.

The more difficult issue is determining what latitude the Legislature has in establishing the amount of a fee imposed on an individual payor. Fish and Game argues the fees have no indicia of a tax. Since there is sufficient evidence to demonstrate that collectively the amount of the fees do not exceed the cost of the regulatory program they are collected to support, they urge us to uphold the constitutionality of section 711.4. Mills, on the other hand, insists Fish and Game failed to prove the more

specific requirement that the fees are proportionate to the service provided or the burden imposed. He insists the flat fee is a tax because there is no individual correlation between the amount of the fee and the cost of the benefit or burden. Whether the Legislature retains the flexibility to mandate a flat fee by a simple majority vote is the crux of this case. *947

Sinclair is noteworthy for its expansive legitimation of regulatory fees. Under the formula approved by the Supreme Court, paint manufacturers are assessed fees based on their market share or their past and present responsibility for environmental lead contamination. (*Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal.4th at p. 872.) Market share is a novel methodology for assessing fees. Nevertheless, the court permitted present fees to be determined on the basis of past conduct when not only were fees nonexistent, but the dangers of lead-based paint were unknown.

As broad as the implications of *Sinclair* are, the Supreme Court did not have to reach the troublesome issue of proportionality, because paint manufacturers were assessed fees in proportion to their share of the market. Moreover, *Sinclair*, in moving for summary judgment, did not seek to establish that the amount of the fees bore no reasonable relationship to the social or economic burdens its operations generated. The court noted that *Sinclair* would have the opportunity at trial “to try to show that no clear nexus exists between its products and childhood lead poisoning, or that the amount of the fees bore no reasonable relationship to the social or economic 'burdens' its operations generated.” (*Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal. 4th at p. 881.)

Close to 20 years ago, we articulated the same rule to Mills in his earlier constitutional challenge to fees charged for processing land use applications. In *Mills v. County of Trinity* (1980) 108 Cal.App.3d 656 [166 Cal.Rptr. 674], we stated: “ '[T]he special tax' referred to in section 4 of article XIII A does not embrace fees charged in connection with regulatory activities which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes.” (*Id.* at pp. 659-660.) In *Mills* as in *Sinclair*, however, the case was remanded “for a factual determination of whether the fees in question are reasonably compensatory for the costs occasioned by the regulated activities.” (*Mills*, at p. 660.)

Flat regulatory fees were upheld in *Pennell v. City of San Jose*, *supra*, [42 Cal.3d 365](#). In *Pennell*, a rent control ordinance imposed a flat annual fee on each rental unit. It was “designed to defray the costs of providing and administering the hearing process prescribed in the ordinance, not to pay general revenue to the local government.” (*Id.* at p. 375.) The court concluded: “It is well settled that a municipality under the police power may impose a regulatory fee when, as here, the fee constitutes an amount necessary to carry out the purpose and provisions of the regulation.” (*Id.* at p. 375, fn. 11.)

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The court in *Pennell* appeared satisfied that the cumulative amount of the fee would support the administration and implementation of the hearing process without an examination of the benefits to be derived by individual lessees. Many lessors would never avail themselves of the hearing process at all and yet under the rent control ordinance, they, like the lessees who would petition for hearing, were required to pay the fee. *Pennell* does not require the government to prove proportionality on an individual basis. Under *Pennell*, the significant inquiry is whether the amount of the fees collected under the ordinance exceed the cost of the regulatory program they are collected to support. Proportionality is measured collectively to assure that the fee is indeed regulatory and not revenue raising.

While *Mills* cites many cases for the general proposition that fees must be apportioned according to some formula for ascertaining the benefits received or the burdens imposed by the payor's activity, he fails to cite a single regulatory fee case in which a fee was found to be a tax because the government failed to sustain its burden of proving a reasonable apportionment. On this pivotal point, the cases require close examination for what they require and for what they do not.

Two cases involve regulatory fees, like those before us, enacted to defray the costs of programs to mitigate damage to the environment. In *San Diego Gas & Electric Co. v. San Diego County Air Pollution Control Dist.*, *supra*, [203 Cal.App.3d 1132](#) (*San Diego Gas & Electric Co.*), and *Brydon v. East Bay Mun. Utility Dist.* (1994) [24 Cal.App.4th 178](#) [[29 Cal.Rptr.2d 128](#)], the Courts of Appeal upheld fee structures against challenges

they constituted special taxes. Both cases discuss the apportionment issue at some length.

In *San Diego Gas & Electric Co.*, *supra*, a utility company challenged an air pollution district's method of apportioning the costs of its permit programs by apportioning them among all monitored polluters according to a formula based on the amount of emissions discharged by a stationary pollution source. The emissions-based formula allowed the district to charge additional renewal permit fees based on the average pollution generated by a facility within a specific industry. The court wrote: “SDG&E argues the district has not specifically shown how the amount of emissions generated by a pollution source increase the district's indirect costs There is no reason to require the district to show precisely how more emissions generate more costs to justify the emission-based apportionment formula. The purpose for the district's existence is to achieve and maintain air quality standards (§ 40001), thus from an overall perspective it is reasonable to allocate costs based on a premise that the more emissions generated by a ***949** pollution source, the greater the regulatory job of the district.” ([203 Cal.App.3d at pp. 1147-1148](#), fn. omitted.)

In rejecting *San Diego Gas & Electric Co.*'s argument that the emissions-based formula eroded the intent of the voters in enacting California Constitution, article XIII A, the court explained that “Proposition 13's goal of providing effective property tax relief is not subverted by the increase in fees or the emissions-based apportionment formula. A reasonable way to achieve Proposition 13's goal of tax relief is to shift the costs of controlling stationary sources of pollution from the tax-paying public to the pollution-causing industries themselves, an accomplishment of the 1982 amendments to [[Health and Safety Code](#)] [section 42311](#) and the emissions-based fee schedule.” (*San Diego Gas & Electric Co.*, *supra*, [203 Cal.App.3d at pp. 1148-1149](#).)

In *Brydon*, water customers challenged a new rate structure as a special tax. The inclined rate structure increased price per cubic foot for increased usage. The Court of Appeal found *San Diego Gas & Electric Co.* “a sustainable analogy.” “Just as the regulatory scheme set forth by the [air pollution control district] was designed to achieve a legislatively mandated ecological objective, so is the inclined block rate structure of the District a response to state-mandated water-resource conservation

requirements.” (*Brydon v. East Bay Mun. Utility Dist.*, *supra*, 24 Cal.App.4th at p. 192.) The court emphasized the latitude necessary to set the amount of fees to meet the regulatory objectives. “In pursuing a constitutionally and statutorily mandated conservation program, cost allocations for services provided are to be judged by a standard of reasonableness with some flexibility permitted to account for system-wide complexity. [Citation.] [] ... [] ... In short, California Constitution, article XIII A does not apply to every regulatory fee simply because, as applied to one or another of the payor class, the fee is disproportionate to the service rendered.” (*Id.* at pp. 193-194.)

Hence, both cases narrow the breadth of California Constitution, article XIII A as applied to regulatory fees. Both suggest a flexible assessment of proportionality within a broad range of reasonableness in setting fees. In *San Diego Gas & Electric Co.*, the use of a formula to distribute indirect costs was sustained, while in *Brydon* an inclined block rate schedule allowed the water district to discourage water consumption. Neither relied on the kind of exact apportionment calculation urged by Mills.

Still, *San Diego Gas & Electric Co.* and *Brydon*, unlike *Pennell*, did not involve flat fees. While the formula or rate structure may not have been exact, each bore some relationship to the benefit reaped or the burden *950 imposed by the payor. Put another way, the payors had some control over the amount of the regulatory fee they were compelled to pay by the degree to which their respective activities impacted the environment. The more they polluted the air and consumed the water, the more they paid.

We acknowledge that in this case Mills had no comparable control over the amount of the fees he was charged to review his timber harvest plan. The amount of the fees is expressly set forth in section 711.4. ([3b]) Nevertheless, we hold that a regulatory fee, to survive as a fee, does not require a precise cost-fee ratio. A regulatory fee is enacted for purposes broader than the privilege to use a service or to obtain a permit. Rather, the regulatory program is for the protection of the health and safety of the public. The legislative body charged with enacting laws pursuant to the police power retains the discretion to apportion the costs of regulatory programs in a variety of reasonable financing schemes. An inherent component of reasonableness in this context is flexibility.

We agree with the notion that shifting the costs of environmental protection to those who seek to impact our natural resources does not subvert the objectives embodied in Proposition 13. Hence, a regulatory fee does not violate California Constitution, article XIII A when the fees collected do not surpass the costs of the regulatory programs they support and the cost allocations to individual payors have a reasonable basis in the record.

IV

([1c]) The record before us is a vivid illustration of the need for flexibility in establishing the amount of regulatory fees. Regulatory fees, unlike other types of user fees, often are not easily correlated to a specific, ascertainable cost. This may be due to the complexity of the regulatory scheme and the multifaceted responsibilities of the department or agency charged with implementing or enforcing the applicable regulations; the multifaceted responsibilities of each of the employees who are charged with implementing or enforcing the regulations; the intermingled functions of various departments as well as intermingled funding sources; and expansive accounting systems which are not designed to track specific tasks.

Mills asserts that these problems preclude a finding of a fee. He points out that Fish and Game did not conduct the kind of study now accepted within the expert field of user fee analysis to ascertain with precision the justifiable amount of a proposed fee based on the costs involved in providing the service. He criticizes the change in accounting systems in July 1991 which obfuscates the data necessary to make credible calculations, and he bemoans *951 the incomprehensibility of the new CALSTARS accounting system as it relates to a user fee analysis. He insists that depositing the fees into Fish and Game's preservation fund is tantamount to a tax since the preservation fund operates as a general fund for Fish and Game. And he provides many examples of how disproportionate the fees are as to certain payors. Although most projects only receive a cursory review, there is a substantial variance in the amount of time spent on more in-depth reviews, varying from a few minutes to a few weeks, with the burden falling most heavily on small timberland owners.

This evidence is undisputed. There is no question that a flat fee will seldom represent the exact cost of providing a service. Fish and Game does not pretend such a correlation exists. Since we have determined that state

regulatory fees are different from other user fees, the question presented is whether the evidence in this record is sufficient to sustain the legislative determination that a flat fee system is a reasonable means to allocate the costs of environmental review.³

Mills fails to appreciate the difference between regulatory fees and more typical user fees. At trial, he offered an expert from the new cottage industry of analysts and advisers to local governments on how to legitimize their fees in the litigious climate spawned by Proposition 13. That expert's testimony reflects his misguided assumption that all fees are created equal and that, to survive constitutional attack, they must be supported by exhaustive studies, unassailable time keeping, and a precise cost-fee analysis.

He insisted that a cost analysis study was not only advisable, but necessary. "So that is why I am saying it is possible for Fish and Game to do a kind of cost analysis study. My question then would be, secondly, do they now have that in place? Have they kept track? Have they required their staff to fill in reports? I mean, they might be able to do it starting now. But have they done it? Nothing has been submitted to me showing a tracking process of the steps taken and breaking down the specific tasks and functions.

"I recall this being referenced to the fact the administrative or bookkeeping costs were too high to do that. Frankly, my judgment is that becomes a *952 cop-out. It is not too difficult. You can organize and set up, especially in today's computerized world with P.C.'s on half the staff desks.

"Attorneys have to bill by the minutes. They have to keep track of their time.

"It is perfectly possible to keep track of time. And I think, frankly, my judgment might be that if it is difficult, if your staff are not now doing those things systematically, it needs a whole retraining and regearing."

He opined that absent retraining, regearing, studies, and analysis, a fee could not survive a constitutional challenge. He went on to suggest a rather unique correlation between the time spent and the benefits achieved. Having testified he could not find a direct relationship between payment of a fee and providing any service, he stated: "There is no discussion of what happens as a result of the reviews. You

know, do more spotted owls get saved? More fish saved? Or what. There is no functional relationship." Again he opined that in order to sustain the constitutionality of the fee, Fish and Game must document how a forest was saved or how many spotted owls were saved by the staff.

Fish and Game urges us to dismiss his opinion for several reasons: He had never reviewed the data supporting imposition of a state fee, he did not conduct any study to determine whether the [section 711.4](#) flat fees were reasonable or proportional, and he had no familiarity with CEQA or the regulatory landscape in which Fish and Game must operate, not to mention that his proffered opinion constituted an inadmissible conclusion of law.

We need not address these specific deficiencies because we believe his testimony serves to highlight the fundamental distinction between a user fee and a regulatory fee. His testimony is predicated on many faulty assumptions based on user fees when there is an obvious correlation between cost and benefit. Moreover, in many cases, a statute demands that the amount of a fee be commensurate with the value of a service provided or the cost of a burden imposed. (See, e.g., [Gov. Code, §§ 50076, 66001.](#)) No comparable statutes apply to this state-imposed regulatory fee.

From the vantage point of one who earns a living studying user fees and counseling local governments on how to insulate their fees from constitutional attack, it is not surprising he would overlook the vast discrepancy between a fee imposed or a privilege accorded an individual and a fee that apportions and distributes the collective costs of a regulation. In the latter case, the many factors this expert described as deficiencies become the *953 reasonable justification for imposing a flat fee. That is, the Legislature may have determined that the administrative cost and burden of a statewide fee, including expensive studies and accounting, was too high when a simpler, flat fee could be imposed. Moreover, often, as here, measuring the benefits is amorphous. The Legislature could reasonably eschew a graduated fee structure based on an accounting of owls that were spared and forests that survived. He failed to understand that a legislative body in determining the amount of a regulatory fee is legitimately hampered by the many factors he describes as necessary to support a user fee.

The Legislature determined that the fee must be paid when a notice of determination is entered. Mills argues the timing of the exaction is unfair and unreasonable because many payors pay for reviews they never receive and others receive a bargain price for an extensive and time-consuming study. It is not our role to assess the wisdom of legislation from either a public policy or public relations perspective. We are asked only to determine whether [section 711.4](#) imposes a fee or a tax. The record discloses several reasonable justifications for imposing a flat fee.

Fish and Game offered testimony that the imposition of an hourly fee for any environmental review would discourage early consultation. Often developers contact Fish and Game to discuss potential adverse impacts of a proposed project before any plans are submitted. Fish and Game then has the opportunity to engage in a collaborative process to eliminate or mitigate impacts on fish and wildlife before resources have been committed to a particular development plan.

The record also discloses that the environmental review process for a CEQA project or a timber harvest plan can involve various biologists at the regional level, consultation with biologists at headquarters and review of various data bases. Moreover, the biologists often work on several projects simultaneously and perform work which benefits all the projects. Consequently, the evidence suggests it would be cumbersome and expensive to account for multiple biologists' time, from multiple regions, working multiple projects.

The evidentiary thrust to Fish and Game's argument is that the cost of performing its duties under CEQA and the Forest Practice Act far exceeds the revenue generated under [section 711.4](#). (*City of Dublin v. County of Alameda*, *supra*, 14 Cal.App.4th at p. 282.) Under the accounting system dismantled in 1991, Fish and Game employees recorded their time and charged the time to various codes. Before changing to a new system, the *954 employees' time sheets were surveyed and analyzed. A new coding system was predicated on these surveys and analyses. Mills complains that the new system camouflages and inflates the true costs of environmental review.

The trial court found Fish and Game met its burden of proving the cost of its environmental review programs. The court wrote, "While Plaintiff attacks the

Department's method of converting its costs under its old accounting system to the new accounting program, the authorities do not require absolute precision. Rather, as long as the estimate of costs is a reasonable one, it will be upheld."

We need not perform an appellate audit of Fish and Game's accounting systems. Having reviewed the entire record, we are satisfied there is sufficient evidence to support the trial court's finding that the cost of comprehensive environmental review far surpasses the amount of fees generated under [section 711.4](#). "[W]e would be demanding the impossible by insisting on rigorously supported findings." [Citation.] All that our review requires is that we are able to determine that the [Legislature] acted after finding a reasonable relationship between the fee and the need to which the development contributes." (*Shapell Industries, Inc. v. Governing Board* (1991) 1 Cal.App.4th 218, 247 [1 Cal.Rptr.2d 818].) Mills squabbles about the costs associated with the review of Fish and Game's own projects, the preparation of resource databases, and a few other relatively small items. His argument, like his expert's testimony, proves the point. Complex regulatory programs involve complex accounting methodologies which render a more conventional "user fee" assessment impractical or expensive.

There is also evidence that the administrative costs to implement an extensive and comprehensive time-reporting system would be high. The evidence shows that biologists often simultaneously perform the preliminary work establishing resource data for several projects and consult and research issues relating to many different projects. It is reasonable to assess a flat fee and thereby reduce the cost and administrative difficulty of accounting for the services provided for each individual project. Moreover, collection of a flat fee at a uniform time eases the administrative burden of collection and provides certainty to those who submit project proposals.

Fish and Game provides an apt analogy to demonstrate the reasonableness of flat fees. The Legislature has adopted a flat filing fee for filing an action in superior court whether the matter is a simple case requiring little time and attention or a complex case requiring intensive judicial resources from pretrial motions through a lengthy trial. By statute, statewide judicial fees *955 cannot be increased or decreased by counties to provide any kind

of graduated structure. (*Gov. Code*, § 54985, subd. (c) (1).) The fees imposed by [section 711.4](#) are quite similar. Like a civil action, the environmental review may be time and staff intensive or it may be summarily handled. In neither case does the fee operate as a tax just because a prescribed amount is charged to all who avail themselves of the opportunity to obtain discretionary government services.

(4) Finally, plaintiff also challenges the Legislature's decision to charge a higher fee for the filing of a negative declaration than for other environmental documents. As explained by a Fish and Game senior environmental specialist supervisor at trial, the standard for a negative declaration is that a project have no adverse impact on the environment. Thus, Fish and Game has the responsibility to make sure the disclosure of the possible impacts is complete and to assure any mitigation measures are adequate. Often, the proposed mitigation measures are inadequate, and Fish and Game staff must work with the lead agency and with the project proponent to develop an acceptable negative declaration document. The supervisor testified that his staff probably spends more time on the review of a negative declaration than for the review of an equivalent size project with EIR (environmental impact report) documentation. Hence, because of project information collection cost and the time spent negotiating mitigation measures, Fish and Game's costs are generally higher for negative declarations. There is a sufficient reasonable basis for the legislative decision to charge more for the review of a negative declaration than for the review of an environmental impact report.

V

We need not address the many other issues raised by the parties in these consolidated cases rendered moot by our finding that [section 711.4](#) does constitute a regulatory fee. Moreover, we dismiss Mills's second appeal because it too is rendered moot by our finding. In the underlying case, the California Association of Professional Scientists

sought to enjoin the settlement entered into by Mills and Fish and Game in the original action. The crux of the appeal is whether the trial court properly restricted its constitutional ruling to Mills alone. Since we have upheld the constitutionality of [section 711.4](#), we need not decide whether the trial court erred by invoking [article III, section 3.5 of the California Constitution](#) to limit the scope of its constitutional ruling.

Many of the arguments raised by Mills, and echoed by his expert at trial, are rooted in the perception that a flat fee is unfair. They object vociferously *956 to the disparity between the amount of the fee and the services provided for different projects. This may be so. The scope of our inquiry, however, is not whether the fee is fair but whether the fee is, in legal effect, a tax. This case is not a challenge to the legislative power to enact a fee, nor is it a substantive constitutional challenge to the fee. We were asked to make the legal determination as to whether it is a fee exclusively for the purpose of determining whether it was properly enacted by a majority vote. Constrained by the limited scope of appellate review, we have concluded the Legislature did not violate California Constitution, article XIII A by enacting the [section 711.4](#) fees by a simple majority vote. Any further challenge to the equity of a flat fee structure must be presented to the Legislature for the issue is political, not constitutional.

Disposition

The appeal in case No. C023075 is dismissed. The judgment in case No. C023184 is affirmed in part and reversed in part as explained above. In both cases, Mills shall pay the costs on appeal.

Sims, Acting P. J., and Nicholson, J., concurred.

The petition of appellant Albert W. Mills for review by the Supreme Court was denied July 12, 2000. *957

Footnotes

- * Pursuant to California Rules of [Court](#), [rule 976.1](#), this opinion is certified for publication with the exception of part I.
- 1 Further statutory references to sections of an undesignated code are to this code.
- * See footnote, [ante](#), [page 935](#).
- 3 Evidence of the legislative history of [section 711.4](#) was admitted at trial. Legislative history can be relevant to a determination whether an exaction is a fee or a tax. (*CentexReal Estate Corp. v. City of Vallejo* (1993) 19 Cal.App.4th 1358, 1362 [24 Cal.Rptr.2d 48].) Here, the trial court found the costs of environmental review exceeded the amount of the

fees, but it found imposition of a flat fee arbitrary. Without the benefit of the Supreme Court's holding in *Sinclair* and the broad analysis of regulatory fees, the trial court narrowly construed [section 711.4](#) as a user fee requiring the amount of the fees to reflect the cost of the service provided the payor. Because we have decided that a flat fee may be a reasonable allocation of the costs of a regulatory fee and the trial court found Fish and Game had met its burden of proof on this issue, the legislative history cited by the trial court is unnecessary.

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ATTACHMENT D-3



KeyCite Yellow Flag - Negative Treatment

Distinguished by [Pajaro Valley Water Mgmt. Agency v. Amrhein](#), Cal.App. 6 Dist., May 21, 2007

24 Cal.4th 830, 14 P.3d 930, 102
Cal.Rptr.2d 719, 01 Cal. Daily Op. Serv.
209, 2001 Daily Journal D.A.R. 237

APARTMENT ASSOCIATION OF LOS ANGELES
COUNTY, INC., et al., Plaintiffs and Appellants,

v.

CITY OF LOS ANGELES,
Defendant and Respondent.

No. S082645.
Supreme Court of California
Jan. 8, 2001.

SUMMARY

A city council, seeking to establish and fund a program to remedy substandard housing conditions, adopted an ordinance that required the owners of all residential rental properties subject to inspection under the program to pay a fee. An apartment association and other groups with similar interests brought an action for declaratory and injunctive relief against the city, alleging that the fee ordinance was unconstitutional and therefore void as a charge upon real property under Prop. 218 (Cal. Const., art. XIII D). The trial court sustained the city's demurrer without leave to amend, finding that the fee was not subject to the constitutional requirements, and entered judgment for the city. (Superior Court of Los Angeles County, No. BC195216, Charles W. McCoy, Jr., Judge.) The Court of Appeal, Second Dist., Div. One, No. B130243, reversed.

The Supreme Court reversed the judgment of the Court of Appeal. The court held that this ordinance did not fall within the scope of Cal. Const., art. XIII D, which only restricts fees imposed directly on property owners in their capacity as such. The inspection fee was not imposed on landlords in their capacity as property owners, but rather in their capacity as business owners. This constitutional provision does not refer to fees imposed on an incident of property ownership, but rather to fees imposed on a parcel or a person as an incident of property ownership; this distinction was crucial to this case. According to its plain meaning, Cal. Const., art. XIII D applies only to

exactions levied solely by virtue of property ownership. This inspection fee was imposed because the property was being rented; it ceased along with the business operation, whether or not ownership remained in the same hands. (Opinion by Mosk, J., with George, C. J., Kennard, Werdegar, and Chin, JJ., concurring. Dissenting opinion by Brown, J., with Baxter, J., concurring (see p. 845).)

HEADNOTES

Classified to California Digest of Official Reports

(1)
Appellate Review § 145--Scope of Review--Questions of Law and Fact-- Interpretation of Constitutional Provision.

The interpretation of a constitutional provision, passed by voter initiative, is a question of law for the appellate courts to decide on independent review of the facts.

(2a, 2b, 2c)

Property Taxes § 7.6--Real Property Tax Limitation-- Proposition 218--Construction--In Context of Proposition 13.

Prop. 218, which added Cal. Const., art. XIII C and art. XIII D, can best be understood against its historical background, which began in 1978 with the adoption of Prop. 13, the purpose of which was to cut local property taxes. Prop. 218 buttressed the limitations in Prop. 13 on ad valorem property taxes and special taxes by placing analogous restrictions on assessments, fees, and charges. Prop. 218 must be construed in the context of Prop. 13. Prop. 218 focuses on exactions, whether they be called taxes, fees, or charges, that are directly associated with property ownership.

(3a, 3b, 3c, 3d, 3e)

Property Taxes § 7.6--Real Property Tax Limitation-- Proposition 218:Municipalities § 54--Ordinances--Fee Imposed on Owners of Residential Rental Properties--Validity.

A city ordinance that required payment of a fee by the owners of all residential rental properties subject to inspection under a program designed to remedy substandard housing conditions did not fall within the scope of Prop. 218 (Cal. Const., art. XIII D), which only restricts fees imposed directly on property owners in their capacity as such. The inspection fee was not imposed on

landlords in their capacity as property owners, but rather in their capacity as business owners. This constitutional provision does not refer to fees imposed on an incident of property ownership, but rather to fees imposed on a parcel or a person as an incident of property ownership. That distinction was crucial to this case. According to its plain meaning, Cal. Const., art. XIII D applies only to exactions levied solely by virtue of property ownership. This inspection fee was imposed because the property was being rented; it ceased along with the business operation, whether or not ownership remained in the same hands.

[See 9 Witkin, Summary of Cal. Law (9th ed. 1989) Taxation, §§ 110A, 110B.]

(4)

Real Property § 4--Incidents of Ownership--Right of Alienation.

Ownership of property in fee simple absolute is the greatest possible estate. Among the panoply of lesser estates are such nonfreehold chattels real as leases for a specific term and periodic tenancies-in common parlance, rentals or leases of limited duration. Among the incidents of estates in land are the so-called bundle of rights that flow from such tenure. Among them is the fundamental right to alienate one's property held in fee simple. That incident, or right, has been called inseparable, indispensable, and necessary. The power to alienate property or a property right is not limited to the right to sell or assign it. It means generally the power to transfer or convey it to another. The conveyance need not be of the whole fee. The right of alienation applies when fee holders seek to convey lesser estates. The power or right of alienation incident to the ownership of an estate in fee simple includes the power or right to dispose of property held in fee by lease, mortgage, or other mode of conveyance.

(5)

Taxation § 3--Construction--Distinguished from Regulatory Fees.

Regulatory fees are those charged in connection with regulatory activities, which do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged, and which are not levied for unrelated revenue purposes.

(6)

Statutes § 27--Construction--Liberality:Constitutional Law § 11-- Construction--Liberality.

As a rule, a command that a constitutional provision or a statute be liberally construed does not license either enlargement or restriction of the evident meaning of the provision.

COUNSEL

California Apartment Law Information Foundation, Trevor Grimm and Craig Mordoh for Plaintiffs and Appellants.

Sharon L. Browne and Stephen R. McCutcheon, Jr., for Pacific Legal Foundation as Amicus Curiae on behalf of Plaintiffs and Appellants.

James K. Hahn, City Attorney, Pedro B. Echeverria, Chief Assistant City Attorney, Ronald Tuller, Assistant City Attorney, and Miguel A. Dager, Deputy City Attorney, for Defendant and Respondent.

Hart, King & Coldren, Robert S. Coldren and C. William Dahlin for Western Manufactured Housing Communities Association as Amicus Curiae on behalf of Defendant and Respondent. *833

Gibson, Dunn & Crutcher, James P. Clark, Joel M. Tantaló; Western Center on Law & Poverty, Richard Rothschild; Bet Tzedek Legal Services and Lauren Saunders for the Los Angeles Blue Ribbon Citizens' Committee on Slum Housing, Bet Tzedek Legal Services, the Inner City Law Center, Los Angeles Center for Law and Justice, Legal Aid Foundation of Los Angeles, Legal Services of Northern California, Los Angeles Housing Law Project, Public Counsel, San Fernando Valley Neighborhood Legal Services, Western Center on Law and Poverty, Esperanza Community Housing Corporation, Southern California Association of Non-Profit Housing, Southern California Mutual Housing Association, the Coalition for Economic Survival, Inquilinos Unidos, the St. Francis Center, the Fair Housing Congress of Southern California and SEIU Local 347 as Amici Curiae on behalf of Defendant and Respondent.

Richard Doyle, City Attorney (San Jose), George Rios, Assistant City Attorney, and Robert Fabela, Deputy City Attorney, for the City of San Jose, 89 Additional California Cities, the California State Association of Counties and the California Association of Sanitation Agencies as Amici Curiae on behalf of Defendant and Respondent.

MOSK, J.

We granted review to decide whether a city ordinance imposing an inspection fee on private landlords violates article XIII D of the California Constitution (article XIII D), added by initiative measure, Proposition 218, in 1996. We conclude that it does not.

In July 1998, the City of Los Angeles put into effect the Los Angeles Housing Code. It is codified as article 1 of chapter XVI of the Los Angeles Municipal Code (§ 161.101 et seq.). Later that month, plaintiffs sued the city for declaratory and injunctive relief, alleging that Los Angeles Municipal Code section 161.352, imposing an inspection fee on private landlords, is unenforceable because it was enacted without complying with [section 6 of article XIII D](#). The city demurred. The trial court sustained the demurrer without leave to amend, finding that the fee was not subject to the constitutional requirements. It entered judgment for the city.

In its statement of decision, the trial court recognized that the inspection fee “appears arguably to fall within the wide range of assessments which Proposition 218 was apparently written to encompass.” But it added, “In [Pennell v. City of San Jose](#) (1986) 42 Cal.3d 365, 375 [[*834](#) 228 Cal.Rptr. 726, 721 P.2d 1111], the California Supreme Court held that a fee charged to cover the costs of operating San Jose's rent control ordinances, and not used to raise general revenue, is not subject to Article XIII A of the California Constitution. The City's ordinance here fits squarely within both the reason and rule of *Pennell*. The ordinance levies only property used for residential apartment rentals, and the money is used only to pay for regulat[ing such] rentals to insure, among other things, that they do not degenerate into what is commonly called 'slum conditions.' The assessment is not imposed on all property owners—only a subset of owners who rent apartments.”

The Court of Appeal reversed, holding that the state constitutional provision invalidated the city ordinance. The court wrote: “There is nothing in Proposition 218 that exempts regulatory fees imposed on residential rental properties. It thus adds nothing to say, as does the City, that the fees are not 'imposed upon property owners in general, but only those who voluntarily engage in the business of renting, generate the risks of slum housing, and specially benefit from regular inspections as they contribute to the overall reputability and safety of the housing provided.' Quite plainly, Proposition 218 applies

to any 'fee' or 'charge,' both of which are defined to mean 'any levy other than an ad valorem tax, a special tax, or an assessment, imposed by an agency upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service.' (Art. XIII D, § 2, subd. (e) ...) However well intentioned the City's program to abolish slum housing may be, we find it impossible to say that a fee imposed upon the owners of rental units so the City can locate and eradicate substandard housing is anything other than a user fee or charge for a property-related service.” (Italics and fn. omitted.)

I.

A.

Section 161.102 of the Los Angeles Municipal Code states the reason for enacting the Los Angeles Housing Code: “It is found and declared that there exist in the City of Los Angeles substandard and unsanitary residential buildings and dwelling units the physical conditions and characteristics of which render them unfit or unsafe for human occupancy and habitation, and which conditions and characteristics are such as to be detrimental to or jeopardize the health, safety and welfare of their occupants and of the public.

“It is further found and declared that the existence of such substandard buildings as dwelling units threatens the physical, social and economic stability of sound residential buildings and areas, and of their supporting [*835](#) neighborhood facilities and institutions; necessitates disproportionate expenditures of public funds for remedial action; impairs the efficient and economical exercise of governmental powers and functions; and destroys the amenity of residential areas and neighborhoods and of the community as a whole.”

Los Angeles Municipal Code section 161.301, entitled Scope, declares that the Los Angeles Housing Code applies to “all residential rental properties with two or more dwelling units on the same lot, the land, buildings and structures appurtenant thereto,” but not to owner-occupied units, on-campus dormitory housing, hotels, motels, or certain other types of housing also specifically exempted.

Division 3.5 of the Los Angeles Housing Code (§ 161.351 et seq.) is entitled Housing Inspection Fees. Section

161.351 limits the scope of division 3.5 to “residential rental properties with two or more dwellings subject to the provisions of this Code.” Those properties “will be subject to regular inspection by the General Manager or an authorized representative. Inspections may also be complaint-based.” (*Ibid.*)

Section 161.352 of the Los Angeles Municipal Code, at issue here, sets forth the inspection fee schedule. It provides, in its entirety: “Owners of all buildings subject to inspection shall pay a service fee of \$12.00 per unit per year. The fee will be used to finance the cost of inspection and enforcement by the Housing Department. Should the owner fail to pay the required fee, the City of Los Angeles will recover it, plus accrued interest, utilizing any remedies provided by law including nuisance abatement or municipal tax lien procedures established by ordinance or state law. This fee shall be known as the 'Systematic Code Enforcement Program Fee.'” (*Ibid.*, boldface omitted.)

B.

In November 1996 the voters approved Proposition 218, the Right to Vote on Taxes Act. (Ballot Pamp., Gen. Elec. (Nov. 5, 1996) text of Prop. 218, § 1, p. 108; reprinted as Historical Notes, 2A West's Ann. Cal. Const. (2001 supp.) foll. art. XIII C, § 1, p. 33.) The proposition amended the California Constitution, adding [article XIII D](#). Section 3, subdivision (a)(3) of [article XIII D](#) provides that, with certain exceptions not relevant here, “No tax, assessment, fee, or charge shall be assessed by any agency upon any parcel of property or upon any person as an incident of property ownership except: [¶] ... [¶] ... as provided by this article.” An agency is a local or regional governmental entity. (*Id.*, § 2, subd. (a); [Cal. Const., art. XIII C, § 1](#), subd. (b).) *836

[Section 1 of article XIII D](#) provides that it applies to “all assessments, fees and charges, whether imposed pursuant to state statute or local government charter authority.” Fees and charges are defined in subdivision (e) of section 2 thereof. “'Fee' or 'charge' means any levy other than an ad valorem tax, a special tax, or an assessment, imposed by an agency upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service.” (*Ibid.*)

“Property-related service” is further defined. It “means a public service having a direct relationship to property ownership.” (Art. XIII D, § 2, subd. (h).)

Thus, and in summary, [article XIII D](#) applies, with certain exceptions not relevant here, to “any levy ... upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service.” (Art. XIII D, § 2, subd. (e).) As will appear, the outcome of this case turns on the meaning of this language.

C.

([1]) Before us is “a question of law for the appellate courts to decide on independent review of the facts.” (*Sinclair Paint Co. v. State Bd. of Equalization* (1997) 15 Cal.4th 866, 874 [64 Cal.Rptr.2d 447, 937 P.2d 1350].) Though our reasoning turns on the language of the constitutional stricture, it may be helpful to explain, as did the Court of Appeal in *Howard Jarvis Taxpayers Assn. v. City of Riverside* (1999) 73 Cal.App.4th 679 [86 Cal.Rptr.2d 592] (*Howard Jarvis*), the reasons that led to placing Proposition 218 on the ballot.

([2a]) “Proposition 218 can best be understood against its historical background, which begins in 1978 with the adoption of Proposition 13. The purpose of Proposition 13 was to cut local property taxes. [Citation.] [Citation.] Its principal provisions limited ad valorem property taxes to 1 percent of a property's assessed valuation and limited increases in the assessed valuation to 2 percent per year unless and until the property changed hands. ([Cal. Const., art. XIII A, §§ 1, 2](#).)

“To prevent local governments from subverting its limitations, Proposition 13 also prohibited counties, cities, and special districts from enacting any special tax without a two-thirds vote of the electorate. ([Cal. Const., art. XIII A, § 4](#); *Rider v. County of San Diego* (1991) 1 Cal.4th 1, 6-7 [2 Cal.Rptr.2d 490, 820 P.2d 1000].) It has been held, however, that a special assessment is not a special tax within the meaning of Proposition 13. (*Knox v. City of Orland* (1992) 4 Cal.4th 132, 141 [14 Cal.Rptr.2d 159, 841 P.2d 144], and cases cited.) Accordingly, a special assessment could be imposed without a two-thirds vote.

“In November 1996, in part to change this rule, the electorate adopted Proposition 218, which added [articles XIII C](#) and [XIII D](#) to the California Constitution. Proposition 218 allows only four types of local property taxes: (1) an ad valorem property tax; (2) a special tax; (3) an assessment; and (4) a fee or charge. ([Cal. Const., art.](#)

[XIII D, § 3](#), subd. (a)(1)-(4); see also [*id.*], [§ 2](#), subd. (a.) It buttresses Proposition 13's limitations on ad valorem property taxes and special taxes by placing analogous restrictions on assessments, fees, and charges.” (*Howard Jarvis, supra*, 73 Cal.App.4th 679, 681-682.)

D.

([3a]) The Court of Appeal explained the parties' differing views of the effect of [article XIII D](#) on the city ordinance. “As viewed by [plaintiffs], the fee is imposed 'upon a parcel or upon a person as an incident of property ownership' and is, therefore, subject to the procedural requirements of Proposition 218. As viewed by the City, the fee is imposed upon a business activity (the rental of residential dwellings), separate and apart from property ownership, and purely for regulatory purposes, and it is therefore not subject to Proposition 218.” (Italics omitted.)

Adhering before us to their point of view, plaintiffs contend that “nothing in Proposition 218 ... support[s] the contention that [it] was not meant to affect the ability of local governments to impose and collect business 'regulatory fees.' ” The city also adheres to its position, devoting much of its briefing to an argument that because its inspection fee is a regulatory fee on business operations, it falls outside the purview of [article XIII D](#). Examining the ballot arguments for and against Proposition 218 and the Legislative Analyst's analysis of the measure, the city also contends that [article XIII D](#) was intended only to restrict fees imposed directly on property owners in their capacity as such. A regulatory fee imposed on residential rental businesses, the city argues, necessarily falls outside [article XIII D](#)'s ambit, even if the fee bears some relation to ownership of real property.¹

As will appear, neither party is entirely correct. The relevant language of [article XIII D](#) does not compel a conclusion in plaintiffs' favor; rather, it ***838** compels the opposite. The city also misses the mark when it contends (or at least implies) that a regulatory fee or a levy on the operation of a business necessarily falls outside the scope of [article XIII D](#).

But both parties are partly correct. Plaintiffs accurately state that the constitutional provision does not speak of regulatory fees or levies on business operations. Hence, the mere fact that a levy is regulatory (as this inspection fee clearly is) or touches on business activities (as it clearly

does) is not enough, by itself, to remove it from [article XIII D](#)'s scope. But the city is correct that [article XIII D](#) only restricts fees imposed directly on property owners in their capacity as such. The inspection fee is not imposed solely because a person owns property. Rather, it is imposed because the property is being rented. It ceases along with the business operation, whether or not ownership remains in the same hands. For that reason, the city must prevail.

II.

[Section 2](#) of Proposition 218 stated the measure's purpose. “The people of the State of California hereby find and declare that Proposition 13 was intended to provide effective tax relief and to require voter approval of tax increases. However, local governments have subjected taxpayers to excessive tax, assessment, fee and charge increases that not only frustrate the purposes of voter approval for tax increases, but also threaten the economic security of all Californians and the California economy itself. This measure protects taxpayers by limiting the methods by which local governments exact revenue from taxpayers without their consent.” (Ballot Pamp., Gen. Elec., *supra*, text of Prop. 218, § 2, p. 108; reprinted as Historical Notes, 2A West's Ann. Cal. Const., *supra*, foll. art. XIII C, § 1, p. 33.)

The repeated references to taxes and taxpayers suggest an intent to prohibit unratified exactions imposed on property owners as such, rather than on the business of renting or leasing apartments-i.e., “residential rental properties with two or more dwellings” (L.A. Mun. Code, § 161.351).

([2b]) As explained in *Howard Jarvis, supra*, 73 Cal.App.4th 679, Proposition 218 is Proposition 13's progeny. Accordingly, it must be construed in that context. (***839** *People ex rel. Lungren v. Superior Court* (1996) 14 Cal.4th 294, 301 [58 Cal.Rptr.2d 855, 926 P.2d 1042].) Specifically, because Proposition 218 was designed to close government-devised loopholes in Proposition 13, the intent and purpose of the latter informs our interpretation of the former. Proposition 13 was directed at taxes imposed on property owners, in particular homeowners. The text of Proposition 218, the ballot arguments (both in favor and against), the Legislative Analyst's analysis, and the annotations of the *Howard Jarvis Taxpayers Association*, which drafted Proposition 218, all focus on exactions, whether they are called taxes,

fees, or charges, that are directly associated with property ownership.

([3b]) The Legislative Analyst's analysis, printed in the November 1996 ballot pamphlet, is illustrative. It explained that Proposition 218 “would constrain local governments' ability to impose fees, assessments, and taxes,” meaning “property-related” fees, including fees for water, sewer and refuse collection, but excluding gas and electricity charges (see [Cal. Const., art. XIII D, § 3](#), subd. (b)) and development fees (see *id.*, § 1, subd. (b)). (Ballot Pamp., Gen. Elec., *supra*, Legis. Analyst's analysis, p. 73.) It did not refer to levies linked more indirectly to property ownership.

([2c]) The ballot arguments for Proposition 218 are also illustrative. “Proposition 218 guarantees your right to vote on local tax increases—even when they are called something else, like 'assessments' or 'fees' and imposed on homeowners.” (Ballot Pamp., Gen. Elec., *supra*, argument in favor of Prop. 218, p. 76.) “After voters passed Proposition 13, politicians created a loophole in the law that allows them to raise taxes without voter approval by calling taxes 'assessments' and 'fees.' ” (*Ibid.*) “There are now over 5,000 local districts which can impose fees and assessments without the consent of local voters. Special districts have increased assessments by over 2400% over 15 years. Likewise, cities have increased utility taxes 415% and raised benefit assessments 976%, a ten-fold increase.” (*Ibid.*) “To confirm the impact of fees and assessments on you, look at your property tax bill. You will see a growing list of assessments imposed without voter approval. The list will grow even longer unless Proposition 218 passes.” (*Ibid.*)

([3c]) The ballot arguments identify what was perhaps the drafter's main concern: tax increases disguised via euphemistic relabeling as “fees,” “charges,” or “assessments.” But in fairness to plaintiffs, it cannot be denied that the text of [article XIII D](#) does not limit its scope to taxes and taxpayers. We turn to the definitive language: restrictions on *any* levy imposed “upon a parcel or upon a person as an incident of property ownership.” ([Art. XIII D, § 2](#), subd. (e).)

The foregoing language means that a levy may not be imposed on a property owner as such—i.e., in its capacity as property owner—unless it *840 meets constitutional prerequisites. In this case, however, the fee is imposed on

landlords not in their capacity as landowners, but in their capacity as business owners. The exaction at issue here is more in the nature of a fee for a business license than a charge against property. It is imposed only on those landowners who choose to engage in the residential rental business, and only while they are operating the business.

The contrary reasoning of the Court of Appeal, and of plaintiffs, stems from a reliance on the word “incident,” leaving aside that the constitutional provision does not refer to fees imposed *on* an incident of property ownership, but on a parcel or a person *as* an incident of property ownership. As amicus curiae for the city persuasively argue, the distinction is crucial.

Were the principal words *parcel* and *person* missing, and were *as* replaced with *on*, so that [article XIII D](#) restricted the city's ability to impose fees “on an incident of property ownership,” plaintiffs' argument might have merit. ([4])

For among the incidents² of estates in land are the so-called bundle of rights that flow from such tenure. (31 C.J.S. (1996) Estates § 12, pp. 28-30; *id.*, § 14, pp. 32, 34; *id.*, § 31, p. 58.) Among them is the fundamental right to alienate one's property held in fee simple. (E.g., *id.*, § 12, p. 30; *Holien v. Trydahl* (N.D. 1965) 134 N.W.2d 851, 856; *Davis v. Geyer* (1942) 151 Fla. 362, 369 [9 So.2d 727, 728]; *841 *Hardy v. Galloway* (1892) 111 N.C. 519, 523 [15 S.E. 890]; see also *Yee v. City of Escondido* (1992) 503 U.S. 519, 528 [112 S.Ct. 1522, 1528-1529, 118 L.Ed.2d 153].) That incident, or right, has been called “inseparable” (*Holien, supra*, 134 N.W.2d at p. 856; *Hardy, supra*, 15 S.E. at p. 890), “indispensable” (*Dukes v. Crumpton* (1958) 233 Miss. 611, 620 [103 So.2d 385, 388]), and “necessary” (*Re Collier* (Nfld. 1966) 60 D.L.R.2d 70, 75 [52 M.P.R. 211, 216] (per Puddester, J.)).

The power to alienate property or a property right is not limited to the right to sell or assign it. It means generally the power “to transfer or convey [it] to another.” (Black's Law Dict., *supra*, p. 73, col. 1.) The conveyance need not be the whole fee. The right of alienation applies when fee holders seek to convey lesser estates.³ “[T]he power or right of alienation' ” “ 'incident to the ownership of an estate in fee-simple' ” “ 'include[s] the power or right to dispose of property held in fee ... by lease, mortgage, or other mode of conveyance' ” (*Porter v. Barrett* (1925) 233 Mich. 373, 379-380 [206 N.W. 532, 535], quoting *Manierre v. Welling* (1911) 32 R.I. 104, 140 [78 A. 507, 522], italics added here.)

([3d]) Accordingly, *if* [article XIII D](#) restricted the city's ability to impose a “tax, assessment, fee, or charge on an incident of property ownership” (cf. *id.*, [§§ 2](#), subd. (e), 3), plaintiffs' argument might be persuasive. The business of renting apartments is an incident of owning them, an activity necessarily dependent on that ownership but not vice versa. One can own apartments without renting them, but no one can rent them without owning them. (See fn. 2, *ante*, at p. 840.)⁴

But the language of [article XIII D](#) is materially dissimilar. As stated, [article XIII D](#), [section 3](#) provides that “[n]o tax, assessment, fee, or charge *842 shall be assessed by any agency upon any parcel of property or upon any person as an incident of property ownership except ... [¶] ... [¶] ... as provided by this article.” (See also *id.*, [§ 2](#), subd. (e).) In other words, taxes, assessments, fees, and charges are subject to the constitutional strictures when they burden landowners *as landowners*. The ordinance does not do so: it imposes a fee on its subjects by virtue of their ownership of a business-i.e., because they are landlords.⁵ What plaintiffs ask us to do is to alter the foregoing language-changing “as an incident of property ownership” to “on an incident of property ownership.” But to do so would be to ignore its plain meaning-namely, that it applies only to exactions levied solely by virtue of property ownership. We may not interpret [article XIII D](#) as if it had been rewritten. (Accord, *People ex rel. Lungren v. Superior Court*, *supra*, 14 Cal.4th 294, 301.)

The language of [article XIII D](#), [sections 2](#), subdivision (e), and 3, shows that it applies to levies imposed on a person or on property strictly as an incident of property ownership. Had the law included levies imposed on incidents of the ownership or use of residential real property (as relevant *843 here, the exercise of the right to rent one's property), its text would have said so. But it did not. And although the plain language of the relevant constitutional provisions requires us not to consider extrinsic evidence of the voters' intent, we reiterate, purely as an aside, that neither the ballot arguments nor the Legislative Analyst's analysis suggested that [article XIII D](#) was intended to encompass fees of the type at issue here.

The subordinate clause in [section 2](#), subdivision (e), of [article XIII D](#), as clarified in [section 2](#), subdivision (h), supports our conclusion. It may be recalled that among the fees or charges covered by [article XIII D](#), [section 2](#),

subdivision (e), is “a user fee or charge for a property-related service.” Such a service “means a public service having a direct relationship to property ownership.” (*Id.*, [§ 2](#), subd. (h).) In this case, the relationship between the city's inspection fee and property ownership is indirect-it is overlain by the requirement that the landowner be a landlord.

As stated, the foregoing clause is subordinate. It does not include all possible fees and charges that fall within the ambit of [article XIII D](#). ([5])(See fn. 6.) But it does provide additional evidence of the scope of the constitutional provision.⁶

([3e]) At oral argument, plaintiffs emphasized [article XIII D](#)'s exemptions for existing development fees and all charges to provide gas and electrical *844 service. ([Art. XIII D](#), [§§ 1](#), subd. (b), 3, subd. (b).) They assert that a developer fee is a fee on an incident of property-the right to improve it-and that there would have been no need to exempt such fees if other fees imposed on incidents of property did not fall within [article XIII D](#)'s scope. Similarly, they argue that one can own property without having utility service, and that if [article XIII D](#) applied strictly to levies that are imposed solely on the basis of property ownership, there would have been no need to exempt such utility charges in the constitutional provision.

We note, however, that the provision regarding development fees refers only to those existing at the time of [article XIII D](#)'s enactment. Moreover, it is unclear to us whether a fee to provide gas or electricity service is the same as a fee imposed on the consumption of electricity or gas. In any event, we believe that the aforementioned exemptions may have been included in an abundance of caution in case court interpretations of [article XIII D](#) similar to the Court of Appeal's should prevail. Finally, we do not believe that any incongruity can trump the plain language we have discussed herein. In short, we are unpersuaded.

Similarly unpersuasive is plaintiffs' contention, also emphasized at oral argument, that the city's ability to enforce payment of the inspection fee by imposing a lien on the property shows that the fee is property-related, not business-related. The fact is that the city is simply availing itself of all possible means to collect the fee. Property liens may be precipitated by at least one cause unconnected to land ownership (except ownership of the land on which the

lien is imposed): the cost of removing graffiti. (*Gov. Code, § 38772.*) A lien may be imposed on parents' land to defray the cost of removing graffiti their child has scrawled on that belonging to another. (*Id.*, subd. (b).)

Plaintiffs also advert to section 5 of Proposition 218, which requires that “[t]he provisions of this act shall be liberally construed to effectuate its purposes of limiting local government revenue and enhancing taxpayer consent.” (Ballot Pamp., Gen. Elec., *supra*, text of Prop. 218, § 5, p. 109; reprinted as Historical Notes, 2A West's Ann. Cal. Const., *supra*, foll. art. XIII C, p. 33.) But “[l]iberal construction cannot overcome the plain language of Proposition 218 limiting [its] scope ... to [levies] based on real property.” (*Howard Jarvis Taxpayers Assn. v. City of San Diego* (1999) 72 Cal.App.4th 230, 237-238 [84 Cal.Rptr.2d 804].) ([6]) As a rule, a command that a constitutional provision or a statute be liberally construed “does not license either enlargement or restriction of its evident meaning” (*People v. Cruz* (1974) 12 Cal.3d 562, 566 [116 Cal.Rptr. 242, 526 P.2d 250]). Thus, *845 given that article XIII D's scope is, as we have explained, unambiguously limited to burdens on landowners as such, “ ‘no resort to this command [of liberal construction] is required’ ” (*Howard Jarvis, supra*, 73 Cal.App.4th 679, 687, quoting *Buhlert Trucking v. Workers' Comp. Appeals Bd.* (1988) 199 Cal.App.3d 1530, 1533, fn. 4 [247 Cal.Rptr. 190]) or even permitted.

III.

The Court of Appeal's judgment is reversed.

George, C. J., Kennard, J., Werdegar, J., and Chin, J., concurred.

BROWN, J.

I respectfully dissent.

Under the provisions of Proposition 218, affected property owners must approve the imposition of any new or increased fee, which is “any levy other than an ad valorem tax, a special tax, or an assessment, imposed by an agency upon a parcel or upon a person as an incident of property ownership, including a user fee or charge for a property-related service.” (*Cal. Const., art. XIII D, § 2, subd. (e)* (*article XIII D*)). The dispositive determination in this case is whether a rental inspection

fee is imposed “upon a person as an incident of property ownership.” (*Ibid.*) To find that it is not, the majority concludes the Court of Appeal erroneously substituted “on” for “as.” It is the majority that errs, however, in assuming “incident” denotes “the so-called bundle of rights that flow from [estates in land].” (Maj. opn., *ante*, at p. 840; see maj. opn., *ante*, at pp. 840-841.) In my view, the voters did not intend the courts to look any further than a standard dictionary in applying the terms of *article XIII D*.

“A constitutional amendment should be construed in accordance with the natural and ordinary meaning of its words. [Citation.]” (*Amador Valley Joint Union High Sch. Dist. v. State Bd. of Equalization* (1978) 22 Cal.3d 208, 245 [149 Cal.Rptr. 239, 583 P.2d 1281]; *People ex rel. Lungren v. Superior Court* (1996) 14 Cal.4th 294, 302 [58 Cal.Rptr.2d 855, 926 P.2d 1042].) Nothing in the ballot arguments in favor of or against Proposition 218 or in the Legislative Analyst's analysis implies that a different rule should obtain with respect to “incident,” or that the voters intended it to have other than a plain meaning. The dictionary defines an “incident” as “something incident to something else,” that is, “dependent upon or involved in something else.” (Webster's New World Dict. (3d college ed. 1988) p. 682; see also Black's Law Dict. (4th ed. 1968) p. 904, col. 2 [“Used as a noun, [incident] denotes anything which inseparably belongs to, or is connected with, or inherent in, another thing Also, less strictly, it denotes anything which is usually *846 connected with another, or connected for some purposes, though not inseparably”].) In other words, if the imposition of a fee depends upon one's ownership of property, it comes within the purview of *article XIII D* unless otherwise excepted.

The fee at issue here plainly meets this definition. Pursuant to its police powers, the City of Los Angeles (City) enacted a Housing Code (L.A. Mun. Code, § 161.101 et seq.), which provides that residential rental properties are subject to regular inspection for substandard and unsanitary conditions. Under the Housing Code, funding for these inspections devolves to a particular class of property owners, the landlords of the rental units, who must pay a \$12 fee for every unit owned. (*Id.*, § 161.352.)¹ As the majority acknowledges, “no one can rent [apartments] without owning them.” (Maj. opn., *ante*, at p. 841; see also *Nash v. City of Santa Monica* (1984) 37 Cal.3d 97, 105 [207 Cal.Rptr. 285, 688 P.2d 894].) And no

one is subject to the rental inspection fee without owning them. This exaction is thus imposed “as an incident of property ownership” (art. XIII D, § 2, subd. (e)); that is, it is dependent upon such ownership. (Cf. Off. of Legis. Analyst, Understanding Proposition 218 (Dec. 1996) p. 30 [“Generally, we think these fees would be considered property-related if there were no practical way that the owner could avoid the fee, short of selling the property or fundamentally changing its use”].) Moreover, “[s]hould the owner fail to pay the required fee, the City of Los Angeles will recover it, plus accrued interest, utilizing any remedies provided by law including nuisance abatement or municipal tax lien procedures established by ordinance or state law.” (L.A. Mun. Code, § 161.352.) The use of tax lien procedures is a typical enforcement mechanism for delinquent levies imposed against property.

The majority avoids this result in part by finding the City “imposes a fee on its subjects by virtue of their ownership of a business-i.e., because they are landlords.” (Maj. opn., ante, at p. 842.) The last portion of this statement proves too much: Landlords are property owners. Imposition of the fee is an incident of, i.e., depends upon, that status and thereby runs afoul of article XIII D. As for the first portion of the statement, it ignores or disregards what the majority elsewhere concedes, that the business at issue is inseparable from property ownership. No amount of parsing can change that ineluctable fact. *847

The majority also concludes “neither the ballot arguments nor the Legislative Analyst’s analysis suggested that article XIII D was intended to encompass fees of the type at issue here.” (Maj. opn., ante, at p. 843.) Ultimately, the terms of the measure as enacted control our interpretation (see *Kopp v. Fair Pol. Practices Com.* (1995) 11 Cal.4th 607, 673 [47 Cal.Rptr.2d 108, 905 P.2d 1248] (conc. opn. of Mosk, J.)); and their plain meaning does not support the majority’s reasoning. But the ballot materials also belie the majority’s conclusion. While those materials do not specifically mention rental inspection fees, such an intention is readily discernable from any fair reading. The Legislative Analyst warned generally that “[t]his measure would constrain local governments’ ability to impose fees” and “[r]educe the amount of fees ... businesses pay.” (Ballot Pamp., Gen. Elec. (Nov. 5, 1996), analysis of Prop. 218 by the Legis. Analyst, p. 73 (Ballot Pamphlet).) More particularly, the Legislative Analyst’s list of “most likely fees and assessments affected by these provisions” (*id.* at p. 74) easily encompasses this type of

exaction: “park and recreation programs, fire protection, lighting, ambulance, business improvement programs, library, and water service.” (*Ibid.*) The argument in favor of Proposition 218 reminded the electorate that “[a]fter voters passed Proposition 13, politicians created a loophole in the law that allows them to raise taxes without voter approval by calling taxes ‘assessments’ and ‘fees.’” (Ballot Pamp., *supra*, argument in favor of Prop. 218, p. 76.) “Proposition 218 guarantees your right to vote on local tax increases—even when they are called something else, like ‘assessments’ or ‘fees’” (*Ibid.*) The argument did not limit the type of “fee” that would be subject to a vote under article XIII D but instead promised, “Proposition 218 ... stops politicians’ end-runs around Proposition 13.” (Ballot Pamp., *supra*, rebuttal to argument against Prop. 218, p. 77.) Particularly in light of its timing, the City’s rental inspection fee appears to be just the kind of evasive maneuver at which proponents aimed Proposition 218. (See generally *Huntington Park Redevelopment Agency v. Martin* (1985) 38 Cal.3d 100, 105 [211 Cal.Rptr. 133, 695 P.2d 220] [purpose, in part, of Prop. 13 was “to prevent the government from recouping its losses from decreased property taxes by imposing or increasing other taxes”].)

In this regard, the majority also fails to accord any significance to two important provisions of Proposition 218. In any action challenging imposition of a new or increased fee or charge, the initiative assigns to the agency “the burden ... to demonstrate compliance with this article” (art. XIII D, § 6, subd. (b)(5)), thereby reversing the usual deference accorded governmental action in such matters and making it more difficult to defend its legitimacy. (See Ballot Pamp., *supra*, analysis of Prop. 218 by the Legis. *848 Analyst, p. 74; see also art. XIII D, § 4, subd. (f) [imposing same burden for assessments].) The voters also expressly provided that Proposition 218 “shall be liberally construed to effectuate its purposes of limiting local government revenue and enhancing taxpayer consent.” (Ballot Pamp., *supra*, text of Prop. 218, § 5, p. 109, also reprinted as Historical Notes, 2A West’s Ann. Cal. Const. (2000 supp.) foll. art. XIII C, § 1, p. 25.) The majority’s construction frustrates both these goals.

The City argues that conditioning imposition of its rental inspection fee on compliance with the procedures set forth in article XIII D would allow landlords to defeat regulation of their businesses. This argument misses two critical points: First and generally, since the City has

decided its rental inspections are necessary to eradicate “substandard and unsanitary residential buildings and dwelling units the physical conditions and characteristics of which ... are such as to be detrimental to or jeopardize the health, safety and welfare of their occupants and of the public” (L.A. Mun. Code, § 161.102), it can reasonably expect the public to pay for the program.

Second and specifically, the Los Angeles Municipal Code already provides substantial enforcement authority to prosecute landlords who violate the City's Housing Code. If a property owner fails to correct violations, the City may recover its administrative as well as abatement costs (L.A. Mun. Code, § 161.206.2), may seek criminal penalties including fines and imprisonment (*id.*, § 161.206.3), and may pursue civil remedies as provided in the Health and Safety Code (L.A. Mun. Code, § 161.206.4).

When the voters passed Proposition 13 in 1978, they sought to restrict the ability of government to impose taxes and other charges on property owners without their approval. For almost two decades, however, they witnessed politicians evade this constitutional limitation. The message of Proposition 218 is that they meant what they said. With the majority turning a deaf ear to that message, we may well expect a future effort to “stop[] politicians' end-runs around Proposition 13.” (Ballot Pamp., *supra*, rebuttal to argument against Prop. 218, p. 77.)

Baxter, J., concurred. *849

Footnotes

- 1 We have also received several amicus curiae briefs. Along with one of them is a request to judicially notice three purported local mobilehome park rent control ordinances and two other documents regarding that topic. The request is denied. The five documents have no bearing on the question before us. Amici curiae also include a printed discussion issued by the Legislative Analyst in December 1996 and entitled Understanding Proposition 218. This document contains material relevant to the question at bench, and we grant the request for judicial notice regarding it. (*Evid. Code*, §§ 452, subd. (c), 459, subd. (a).)
- 2 Over time, “incident” has meant many things. As a noun, the meanings include the burden of the risk of a diminution of the value of real property during condemnation proceedings (*Agins v. City of Tiburon* (1980) 447 U.S. 255, 263, fn. 9 [100 S.Ct. 2138, 2143, 65 L.Ed.2d 106]), the “burdens and disabilities” of slavery prohibited by the Thirteenth Amendment to the United States Constitution (*Jones v. Mayer Co.* (1968) 392 U.S. 409, 441 [88 S.Ct. 2186, 2204, 20 L.Ed.2d 1189]), or, in earlier times, the monetary obligations imposed by the king or a mesne lord (McPherson, *Revisiting the Manor of East Greenwich* (1998) 42 *Am. J. Legal Hist.* 35, 39; see also 2 Coke (1641) *Institutes of the Lawes of England* (Butler & Hargrave's Notes ed.) 69a, § 95, fn. 7). And, in a more general sense, the meanings of “incident” include benefits or duties that appertain to some greater right or interest, i.e., the principal. (*Civ. Code*, §§ 662, 1084, 3540; *Owsley v. Hamner* (1951) 36 Cal.2d 710, 716-717 [227 P.2d 263, 24 A.L.R.2d 112]; *Fender v. Waller* (1941) 139 Neb. 612, 616 [298 N.W. 349, 351]; *Harris v. Elliott* (1836) 35 U.S. (10 Pet.) 25, 54 [9 L.Ed. 333].) In its fourth edition (1897), Bouvier's Law Dictionary defined “incident” as a term “used both substantively and adjectively of a thing which, either usually or naturally and inseparably depends upon, appertains to, or follows another that is more worthy. For example, ... the right of alienation is necessarily incident to a fee-simple at common law” (*Id.* at p. 1006, col. 1.) Many cases have followed the Bouvier's Law Dictionary definition, or ones similar to it. (E.g., *Watts v. Copeland* (1933) 170 S.C. 449, 452 [170 S.E. 780]; *Moccasin State Bank v. Waldron* (1928) 81 Mont. 579, 586 [264 P. 940].) “Thus, timber trees are incident to the freehold, and so is a right of way.” (*In re Estate of Bellesheim* (N.Y. Surr. 1888) 1 N.Y.S. 276, 278 [dictum]; accord, *Harris v. Elliott, supra*, 35 U.S. (10 Pet.) at p. 54 [9 L.Ed. at p. 344] [easements]; Black's Law Dict. (7th ed. 1999) p. 765, col. 1 [“the utility easement is incident to the ownership of the tract”].)
- 3 It is, of course, axiomatic in Anglo-American law that ownership of real property in fee simple absolute is the greatest possible estate (1 Coke (1628) *Institutes of the Lawes of England* (Butler & Hargrave's Notes ed.) 18a, § 11), and among the panoply of lesser estates are such nonfreehold chattels real as leases for a specific term and periodic tenancies (*Pacific Southwest Realty Co. v. County of Los Angeles* (1991) 1 Cal.4th 155, 162 [2 Cal.Rptr.2d 536, 820 P.2d 1046])—in common parlance, rentals or leases of limited duration. (1 Tiffany, *The Law of Real Property* (3d ed. 1939) § 76, pp. 112-113; *Wilgus v. Commonwealth* (1873) 72 Ky. (9 Bush.) 556, 557 [1873 WL 6660], citing 2 Blackstone, *Commentaries* 143 [“An estate for years in land is regarded in law as inferior to an estate for life or an inheritance”]; *Brydges v.*

Millionair Club (1942) 15 Wash.2d 714, 719 [132 P.2d 188, 190]; see also *Williams v. R. R.* (1921) 182 N.C. 267, 272 [108 S.E. 915, 918].)

- 4 In *Acme Freight Lines v. City of Vidalia* (1942) 193 Ga. 334 [18 S.E.2d 540] (*Acme Freight*), similar statutory language favored an analogous argument—that a tax on an incident of the trucking business was a tax on a trucking company's ancillary delivery business.

In *Acme Freight*, a trucking company sought an injunction against a city's practice of imposing a business tax on those ancillary operations. The firm relied on this law: " 'No subdivision of this State ... shall levy any excise, license, or occupation tax of any nature on ... any incidents of said motor carrier business, or on a motor common carrier.' " (*Acme Freight, supra*, 193 Ga. 334, 335 [18 S.E.2d 540, 541], italics added.)

The city, Vidalia, acknowledged "its lack of authority to levy any tax against the plaintiff in reference to its transportation of freight as a motor common carrier Justification for the tax is founded upon the fact that, in addition to the operation of trucks for the transportation of freight ..., the plaintiff carries on ... a 'pick-up and delivery service' in and around the city. The trial judge ruled that this 'is not a necessary incident to the operation of a common carrier,' and that as to it 'the plaintiff is not a motor common carrier, but is engaged in a special and distinct business in the City of Vidalia, and is taxable as such.' This formula interpolates before the word 'incidents,' used in the statute, the word 'necessary' so as to require, as a condition of tax immunity, that the operation be a necessary incident of the business of a motor common carrier. This appears to us to be erroneous. [Rather,] ... an incident of the business of a motor common carrier of freight would be something naturally associated as pertinent to such transportation and necessarily dependent upon it, but without which the business of transportation might nevertheless be carried on. In other words, the incidental operation would be necessarily dependent upon the transportation, but the business of transportation would not be necessarily dependent upon the incidental operation.... As we understand the evidence adduced in this case, the plaintiff's operations against which the tax is said to be levied is of the above-described character; and accordingly we conclude that the tax is illegal, and should have been enjoined." (*Acme Freight, supra*, 193 Ga. 334, 335-336 [18 S.E.2d 540, 541].)

- 5 We acknowledge that landlords may rent because they wish to keep the property occupied in their absence, for philanthropic reasons, or to a family member for a nominal charge. Such arrangements are not rare, and may lie within the province of the ordinance, which refers to "residential rental properties." But even nonprofit or charitable purposes are business purposes under broad constructions of the term, and we believe that as long as the property is being rented for consideration, it is being conveyed for a business purpose. (Cf. *Marin Municipal Water Dist. v. Chenu* (1922) 188 Cal. 734, 738 [207 P. 251] [" 'business' " has "a narrower meaning applicable to occupation or employment for livelihood or gain, and to mercantile or commercial enterprises or transactions"].)

- 6 We turn to discuss briefly the authorities on which the city chiefly relies. They consist of two cases: *Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal.4th 866; and *Pennell v. City of San Jose* (1986) 42 Cal.3d 365 [228 Cal.Rptr. 726, 721 P.2d 1111] (affd. *sub nom. Pennell v. San Jose* (1988) 485 U.S. 1 [108 S.Ct. 849, 99 L.Ed.2d 1]). They are inapposite. In *Sinclair* we held that an exaction on sources of lead contamination to remediate the effects of lead poisoning was a fee, not a tax. In *Pennell*, we held that a \$3.75 charge on each residential rental unit, imposed by a rent control ordinance to fund its hearing process, also was a fee, not a tax. In *Sinclair* and *Pennell*, we defined such fees, which are similar to the city's inspection charge, as regulatory in nature. Regulatory fees are those " ' ' " charged in connection with regulatory activities[,] which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes." ' ' " (*Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal.4th 866, 876, quoting *Pennell v. City of San Jose, supra*, 42 Cal.3d 365, 375, in turn quoting *Mills v. County of Trinity* (1980) 108 Cal.App.3d 656, 659-660 [166 Cal.Rptr. 674], bracketed material added here.)

We have stated that the city's inspection fee is a regulatory fee. And we have concluded that it does not fall within article XIII D's ambit. But *Sinclair* and *Pennell* do not concern themselves with the issue we confront here. Indeed, in *Sinclair* we cautioned that "We are not here concerned with issues arising under constitutional amendments effected by a recent initiative measure (Proposition 218) adopted at the November 5, 1996, General Election. That measure contains new restrictions on local agencies' power to impose fees and assessments." (*Sinclair Paint Co. v. State Bd. of Equalization, supra*, 15 Cal.4th 866, 873, fn. 2.) In *Pennell v. City of San Jose, supra*, 42 Cal.3d 365, we could not have written a similar caveat, for article XIII D did not exist at the time. But it applies just as well.

- 1 Los Angeles Municipal Code section 161.352 provides: "Owners of all buildings subject to inspection shall pay a service fee of \$12.00 per unit per year. The fee will be used to finance the cost of inspection and enforcement by the Housing Department. Should the owner fail to pay the required fee, the City of Los Angeles will recover it, plus accrued interest, utilizing any remedies provided by law including nuisance abatement or municipal tax lien procedures established by ordinance or state law. This fee shall be known as the 'Systematic Code Enforcement Program Fee.' " (Italics added.)

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ATTACHMENT D-4

135 Cal.App.4th 1377
Court of Appeal, Fourth District, Division 2, California.

CITY OF RANCHO CUCAMONGA, Plaintiff and Appellant,

v.

REGIONAL WATER QUALITY CONTROL BOARD–SANTA ANA REGION et al., Defendants and Respondents;
County of San Bernardino et al., Real Parties in Interest and Respondents.

No. E037079.

Jan. 26, 2006.

As Modified Feb. 27, 2006.

Synopsis

Background: Cities filed petitions for writs of mandate to challenge the procedure by which municipal storm sewer permit was issued by regional water quality control board, the conditions imposed by permit, and the expense of permit requirements. The Superior Court, San Bernardino County, No. RCV 071613, [Shahla Sabet, J.](#), sustained without leave to amend the demurrer of State Water Resources Control Board to entire action, sustained demurrer as to four causes of action and granted motion to strike of the regional board, and denied petition for writ of mandate. City appealed.

Holdings: The Court of Appeal, [Gaut, J.](#), held that:

- [1] State Water Resources Control Board was not a proper party in lawsuit;
- [2] regional water quality control board could move to strike less than all causes of action;
- [3] substantial evidence supported regional water quality control board's findings in issuing permit; and
- [4] permit requirements were not overly prescriptive.

Affirmed.

West Headnotes (11)

[1] **Environmental Law** 🔑 **Parties**

State Water Resources Control Board (State Board) was not a proper party in lawsuit filed by two cities against State Board and Regional Water Quality Control Board, challenging the procedure by which municipal storm sewer permit was adopted, the conditions imposed by permit, and the expense of permit requirements; permit was issued by regional board rather than state board, allegations failed to articulate any improper State Board conduct, and, challenge was barred by statute of limitations. [West's Ann.Cal.Gov.Code § 11350](#); [West's Ann.Cal.Water Code § 13330](#).

[4 Cases that cite this headnote](#)

[2] Mandamus 🔑 [Presumptions and burden of proof](#)

In exercising its independent judgment in deciding a petition for writ of mandate, a trial court must afford a strong presumption of correctness concerning administrative findings; since the trial court ultimately must exercise its own independent judgment, that court is free to substitute its own findings after first giving due respect to the agency's findings.

[Cases that cite this headnote](#)

[3] Mandamus 🔑 [Scope and extent in general](#)

On appeal from the trial court's decision on a petition for writ of mandate, the reviewing court determines whether substantial evidence supports the trial court's factual determinations.

[5 Cases that cite this headnote](#)

[4] Mandamus 🔑 [Scope and extent in general](#)

On appeal from the trial court's decision on a petition for writ of mandate, the trial court's legal determinations receive a de novo review with consideration being given to the agency's interpretations of its own statutes and regulations.

[4 Cases that cite this headnote](#)

[5] Environmental Law 🔑 [Preservation of error in administrative proceeding](#)

In city's challenge to procedure by which municipal storm sewer permit was adopted, to conditions imposed by permit, and to expense of permit requirements, city waived its objections to the administrative record, and to specific pieces of evidence, by not making such objections before or at the time of the administrative hearing; city was given notice that the hearing on the permit would proceed as an informal administrative adjudication, and it could not claim that it was relieved of the obligation to object to the administrative record at the time of the hearing. [West's Ann.Cal.Gov.Code § 11445.10 et seq.](#)

[1 Cases that cite this headnote](#)

[6] Administrative Law and Procedure 🔑 [Quasi-judicial](#)

The exercise of discretion to grant or deny a license, permit, or other type of application is a quasi-judicial function.

[Cases that cite this headnote](#)

[7] Environmental Law 🔑 [Pleading, petition, or application](#)

Defendant regional water quality control board could move to strike less than all causes of action filed in suit cities to challenge the procedure by which municipal storm sewer permit was adopted, the conditions imposed by permit, and the expense of permit requirements, inasmuch as trial court had authority to strike only part of pleading. [West's Ann.Cal.C.C.P. §§ 431.10, 436.](#)

[1 Cases that cite this headnote](#)

[8] Environmental Law 🔑 [Weight and sufficiency](#)

Substantial evidence supported regional water quality control board's findings in issuing municipal storm sewer permit; board adopted recommendations of its staff, which were based on previous permits and other reports, and which established that board did not simply copy similar permit for other counties.

[2 Cases that cite this headnote](#)

[9] Administrative Law and Procedure 🔑 [Decision](#)

Administrative Law and Procedure 🔑 [Substantial evidence](#)

An agency may rely upon the opinion of its staff in reaching decisions, and the opinion of staff may constitute substantial evidence.

[2 Cases that cite this headnote](#)

[10] Environmental Law 🔑 [Conditions and limitations](#)

Municipal storm sewer permit issued by regional water quality control board did not violate Clean Water Act by failing to include "safe harbor" provisions providing that, if permittee was in full compliance with permit conditions, it could not be found in violation of Clean Water Act; there was no statutory right to a "safe harbor" provision to be included as a term of the permit, and, in any event, such protection was already included in the Act. Clean Water Act, § 402(k), 33 U.S.C.A. § 1342(k).

[2 Cases that cite this headnote](#)

[11] Environmental Law 🔑 [Conditions and limitations](#)

Requirements contained in municipal storm sewer permit issued by regional water quality control board were not overly prescriptive and did not illegally dictate the manner of compliance; the federal Clean Water Act authorized imposition of permit conditions, and the permitting agency had discretion to decide what practices, techniques, methods, and other provisions were appropriate and necessary to control the discharge of pollutants. Clean Water Act, § 402(p)(3)(B)(iii), 33 U.S.C.A. § 1342(p)(3)(B)(iii).

See 12 Witkin, Summary of Cal. Law (10th ed. 2005) Real Property, §§ 892-896; Cal. Jur. 3d, Pollution and Conservation Laws, § 124 et seq.

[5 Cases that cite this headnote](#)

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***1379** OPINION

GAUT, J.

1. *Introduction*

This case involves environmental regulation of municipal storm sewers that carry excess water runoff to the Santa Ana River as it passes through San Bernardino County on its way to the Pacific Ocean. Federal and state laws impose regulatory controls on storm sewer discharges. Municipalities are required to obtain and comply with a federal regulatory permit limiting the quantity and quality of water runoff that can be discharged from these storm sewer systems.

In this instance, the Regional Water Quality Control Board for the Santa Ana Region (the Regional Board) conducted public hearings and then issued a comprehensive 66–page municipal storm sewer permit governing 18 local ***1380** public entities. Two permittees, the City of Rancho Cucamonga and the City of Upland, among others, filed an administrative appeal with the State Water Resources Control Board (the State Board.) The State Board summarily dismissed the appeal. The Cities of Rancho Cucamonga and Upland ¹ then filed a petition for writ of mandate and complaint against the State Board and the Regional Board.

The trial court sustained without leave to amend the demurrer of the State Board to the entire action. It sustained the demurrer as to four causes of action and granted the motion to strike of the Regional Board. After a hearing, the trial court denied the petition for writ of mandate.

Both procedurally and substantively, the City of Rancho Cucamonga challenges the conditions imposed by the NPDES ² Permit and Waste Discharge Requirements (the 2002 permit). It contends the procedure by which the 2002 permit was adopted was not legal, that the 2002 permit's conditions are not appropriate for the area, and that the permit's requirements are too expensive. Because we conclude the permit was properly adopted and its conditions and requirements are appropriate, we reject these contentions.

2. *The National Pollutant Discharge Elimination System*

California cases have repeatedly explained the complicated web of federal and state laws and regulations concerning water pollution, especially storm sewer discharge into the public waterways. (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 619–621, 26 Cal.Rptr.3d 304, 108 P.3d 862 (*Burbank*); *Building Industry Assn. of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 872–875, 22 Cal.Rptr.3d 128 (*Building Industry*); *Communities for a Better Environment v. State Water Resources Control Board* (2003) 109 Cal.App.4th 1089, 1092–1094, 1 Cal.Rptr.3d 76 (*Communities*); ****453** *WaterKeepers Northern California v. State Water Resources Control Board* (2002) 102 Cal.App.4th 1448, 1451–1453, 126 Cal.Rptr.2d 389 (*WaterKeepers*)).

For purposes of this case, the important point is described by the California Supreme Court in *Burbank*: “Part of the federal Clean Water Act [33 U.S.C. § 1251 et seq.] is the National Pollutant Discharge Elimination System (NPDES), ‘[t]he primary means’ for enforcing effluent limitations and standards under the Clean Water Act. ***1381** (*Arkansas v. Oklahoma* [(1992) 503 U.S. 91, 101, 112 S.Ct. 1046, 117 L.Ed.2d 239.]) The NPDES sets out the conditions under which the federal EPA or a state with an approved water quality control program can issue permits for the discharge of pollutants in wastewater. (33 U.S.C. § 1342(a) & (b).) In California, wastewater discharge requirements established by

the regional boards are the equivalent of the NPDES permits required by federal law. (§ 13374.)” (*Burbank, supra*, 35 Cal.4th at p. 621, 26 Cal.Rptr.3d 304, 108 P.3d 862.)

California's Porter–Cologne Act (*Wat.Code*, § 13000 et seq.) establishes a statewide program for water quality control. Nine regional boards, overseen by the State Board, administer the program in their respective regions. (*Wat.Code*, §§ 13140, 13200 et seq., 13240, and 13301.) *Water Code* sections 13374 and 13377 authorize the Regional Board to issue federal NPDES permits for five-year periods. (33 U.S.C. § 1342, subd. (b)(1)(B).)

As discussed more fully in part 6 below, the state-issued NPDES permits are subject to the informal hearing procedures set forth for administrative adjudications. (*Gov.Code*, § 11445.10 et seq.; *Cal.Code Regs.*, tit. 23, § 647 et seq.) The issuance of permits is specifically excluded from the procedures for administrative regulations and rulemaking. (*Gov.Code*, §§ 11340 et seq., 11352.)

3. *Factual and Procedural Background*

The Regional Board issued the first NPDES permit for San Bernardino County in 1990. The principal permittee was the San Bernardino Flood Control District (the District). The 1990 permit required the permittees to develop and implement pollution control measures, using “best management practices” and monitoring programs, to eliminate illegal discharges and connections, and to obtain any necessary legal authority to do so. The management programs could be existing or new.

In 1993, the District developed the NPDES Drain Area Management Program (DAMP).

The second NPDES permit was issued in 1996 and was based on the Report of Waste Discharge (ROWD) prepared by the principal permittee and co-permittees, including Rancho Cucamonga. The 1996 permit proposed extending the existing program, which included inspections of industrial and commercial sources; policies for development and redevelopment; better public education; and implementation of a monitoring program. It offered a commitment to reduce pollutants to the “maximum extent practicable.”

In 2000, the permittees submitted another ROWD to renew their NPDES permit. The 2000 ROWD proposed continuing to implement and develop water quality management and monitoring programs.

***1382** Based on the 2000 ROWD, the Regional Board staff created five successive drafts of the 2002 permit, incorporating written comments by Rancho Cucamonga and others and comments made during two public workshops. Some of the comments addressed the economic considerations of anticipated prohibitive compliance costs.

The notice of the public hearing to consider adoption of the 2002 permit hearing ****454** announced: “relevant Regional Board files are incorporated into the record;” the governing procedures were those for an informal hearing procedure as set forth in “Title 23, California Code of Regulations, Section 647 et seq.,” and “Hearings before the Regional Water Board are not conducted pursuant to *Government Code* section 11500 et seq.,” the alternative formal hearing procedure for administrative adjudication. The notice was mailed to all permittees. The accompanying “fact sheet,” which was publicly circulated, offered further information about the conduct and nature of the hearing and the legal and factual grounds for the Regional Board's recommendation to adopt the 2002 permit.

The informal public hearing was conducted on April 26, 2002. Neither Rancho Cucamonga nor any of the permittees objected to the form or substance of the hearing. Ultimately, after a staff presentation and testimony, including a statement from Rancho Cucamonga's counsel, the Regional Board adopted the 2002 permit. After the State Board dismissed their administrative appeal, Rancho Cucamonga and Upland filed the instant action.

The operative pleading is the second amended petition for writ of mandate and complaint. The petition alleges that the State Board and the Regional Board acted illegally and in excess of their jurisdiction in developing, adopting and implementing the 2002 permit. Based on 26 pages of general allegations, the petition asserts eight causes of action, alleging the State Board and the Regional Board violated [sections 13241, 13263, and 13360 of the Water Code](#) (the Porter–Cologne Act); the California Environmental Quality Act ([Pub. Resources Code, § 21000 et seq.](#)); the California Administrative Procedure Act ([Gov.Code, §§ 11340–11529](#)); the California Constitution; and the Federal Clean Water Act; and seeking declaratory and injunctive relief.

The State Board successfully opposed the action on demurrer. The Regional Board eliminated four causes of action, the fourth, fifth, seventh, and eighth by demurrer and motion to strike. On the remaining four causes of action, the trial court found in favor of the Regional Board.

***1383** 4. *State Board's Demurrer*

[1] Rancho Cucamonga maintains the trial court should not have sustained the demurrer of the State Board without leave to amend because the State Board is the ultimate authority on state-issued NPDES permits, and, therefore, was properly joined as a party: “Because the State Board has for all intents and purposes adopted the rules and policies of general application upon which the Permit is based, it is clearly a proper party to this action.”

The difficulty with Rancho Cucamonga's theory of liability against the State Board is, to quote Gertrude Stein about the City of Oakland, “There is no there there.” (Gertrude Stein, *Everybody's Autobiography*.) In other words, Rancho Cucamonga's allegations against the State Board lack any substance. Instead, Rancho Cucamonga launches an unspecific attack on the State Board without identifying any particular problems. The petition makes the unexceptional allegation that the State Board formulates general water control policy which it implements and enforces through regional boards. It also alleges the State Board has not complied with the Administrative Procedure Act but it does not identify any objectionable policies or how there is no compliance. Instead the petition complains about a State Board letter directing that all NPDES permits follow consistent principles regarding Standard Urban Storm Water Mitigation ****455** Plans. Additionally, the petition maintains the 2002 permit included new reporting requirements and increased costs of compliance.

But the foregoing allegations did not articulate any improper State Board conduct. The 2002 permit, issued by the Regional Board and not by the State Board, is not subject to formal rule-making procedures. ([Gov.Code, § 11352, subd. \(b\).](#)) The State Board's letter, explaining a precedential decision concerning mitigation plans, is not an example of formal rule-making. ([Gov.Code, § 11425.60, subd. \(b\).](#)) By dismissing Rancho Cucamonga's administrative appeal concerning the 2002 permit, the State Board declined to become involved and the Regional Board's decision to issue the permit became final and subject to judicial review. (*People ex rel Cal. Regional Wat. Quality Control Bd. v. Barry* (1987) 194 Cal.App.3d 158, 177, 239 Cal.Rptr. 349.) But the State Board was not made a proper party by reason of its dismissal of the administrative appeal.

Furthermore, even if Rancho Cucamonga had identified any cognizable claim against the State Board, it would have been barred by the 30–day statute of limitations for challenging an improperly adopted State Board regulation or order. ([Wat.Code, § 13330](#); [Gov.Code, § 11350](#).)

***1384** We hold the trial court properly sustained without leave to amend the State Board's demurrer to the second amended petition for writ of mandate and complaint.

5. Standard of Review for Petition for Writ of Mandate

[2] In deciding a petition for writ of mandate, the trial court exercises its independent judgment. (Code Civ. Proc., § 1094.5, subd. (c); Wat.Code, § 13330, subd. (d); *Building Industry, supra*, 124 Cal.App.4th at p. 879, 22 Cal.Rptr.3d 128.) But, “[i]n exercising its independent judgment, a trial court must afford a strong presumption of correctness concerning the administrative findings, ... Because the trial court ultimately must exercise its own independent judgment, that court is free to substitute its own findings after first giving due respect to the agency's findings.” (*Fukuda v. City of Angels* (1999) 20 Cal.4th 805, 817–818, 85 Cal.Rptr.2d 696, 977 P.2d 693 (*Fukuda*).)

[3] [4] On appeal, the reviewing court determines whether substantial evidence supports the trial court's factual determinations. (*Fukuda, supra*, 20 Cal.4th at p. 824, 85 Cal.Rptr.2d 696, 977 P.2d 693; *Building Industry, supra*, 124 Cal.App.4th at p. 879, 22 Cal.Rptr.3d 128.) The trial court's legal determinations receive a de novo review with consideration being given to the agency's interpretations of its own statutes and regulations. (*Building Industry, supra*, at p. 879, 22 Cal.Rptr.3d 128; *Nasha L.L.C. v. City of Los Angeles* (2004) 125 Cal.App.4th 470, 482, 22 Cal.Rptr.3d 772.)

6. Rancho Cucamonga's Objections to the Administrative Record and Lack of Notice

[5] The notice of the administrative hearing for adoption of the 2002 permit included the statement that the Regional Board's files would be incorporated as part of the record. Before trial on the writ petition, Rancho Cucamonga attempted to raise an omnibus objection to the entire administrative record and a specific objection to four documents, three studies about marine pollution and one economic study. The trial court ruled the objections had been waived by not making them before or at the time of the hearing. Applying the presumption of administrative regularity, we affirm the trial court's evidentiary ruling. (*Mason v. Office of Administrative Hearings* (2001) 89 Cal.App.4th 1119, 1131, 108 Cal.Rptr.2d 102.)

The reasons given by Rancho Cucamonga as to why the trial court should have sustained its objections to all or part of the administrative record are that it did not waive its objections to the record because Rancho Cucamonga did not know the hearing was adjudicative; the Regional Board did not provide *1385 notice of an informal hearing (Gov.Code, § 11445.30); and Rancho Cucamonga never had an opportunity to object to the administrative record.

[6] As noted previously, Government Code section 11352, subdivision (b), makes the issuance of an NPDES permit exempt from the rulemaking procedures of the Administrative Procedure Act. Permit issuance is a quasi-judicial, not a quasi-legislative, rule-making proceeding: “The exercise of discretion to grant or deny a license, permit or other type of application is a quasi-judicial function.” (*Sommerfield v. Helmick* (1997) 57 Cal.App.4th 315, 320, 67 Cal.Rptr.2d 51; *City of Santee v. Superior Court* (1991) 228 Cal.App.3d 713, 718, 279 Cal.Rptr. 22.)

Instead, the Regional Board correctly followed the administrative adjudication procedures (Gov.Code, § 11445.10 et seq.) and the companion regulations at California Code of Regulations, Title 23, sections 647–648.8 for informal adjudicative public hearings. These procedures were announced in the notice of hearing which also stated that Government Code section 11500 et seq., governing formal administrative adjudication hearings, would not apply, thus satisfying Government Code section 11445.30 requiring notice of an informal hearing procedure. At the time of the hearing, Rancho Cucamonga did not object to the informal procedure. Rancho Cucamonga's effort to argue that federal notice requirements (40 C.F.R. § 124.8, subd. (b)(6)(ii) (2005)) should also have been followed fails because this involved a state-issued NPDES permit adopted according to California procedures.

Because Rancho Cucamonga was given notice that the hearing on the permit would proceed as an informal administrative adjudication, it cannot successfully argue it was relieved of the obligation to object to the administrative

record at the time of the hearing. An informal administrative adjudication contemplates liberality in the introduction of evidence. (Cal. Code Regs., tit. 23, §§ 648, subd. (d) and 648.5.1.) If Rancho Cucamonga wished to object to the informal hearing procedures, including the liberal introduction of evidence, it should have raised its objections as provided by statute and regulation before or at the time of the hearing (Gov.Code, §§ 11445.30, 11445.40, and 11445.50; Cal. Code Regs., tit. 23, § 648.7), not a year later in the subsequent civil proceeding.

7. Economic Considerations for Issuance of NPDES Permit

Rancho Cucamonga's next assignment of error is that the Regional Board failed to consider the economic impact of the requirements of the 2002 permit by not conducting a cost-benefit analysis. Rancho Cucamonga relies on the California Supreme Court's *Burbank* opinion, in which the court held: "When ... a regional board is considering whether to make the pollutant restrictions in a wastewater discharge permit *more stringent* than federal law *1386 requires, California law allows the board to take into account economic factors, including the wastewater discharger's cost of compliance." (*Burbank, supra*, 35 Cal.4th at p. 618, 26 Cal.Rptr.3d 304, 108 P.3d 862.) Rancho Cucamonga contends that the 2002 permit exceeds federal requirements and that, therefore, this case should be remanded for a consideration of **457 economic factors. (See *ibid.*; Wat.Code, § 13241, subd. (d).)

The two problems with this argument are the trial court found there was no evidence that the 2002 permit exceeded federal requirements and Rancho Cucamonga does not explain now how it does so. There was also evidence that the 2002 permit was based on a fiscal analysis and a cost-benefit analysis. In the absence of the foundational predicate and in view of evidence that cost was considered, Rancho Cucamonga's contention on this point fails.

[7] We also reject Rancho Cucamonga's related procedural argument that the Regional Board's motion to strike was impermissible as piecemeal adjudication. (*Regan Roofing v. Superior Court* (1994) 24 Cal.App.4th 425, 432–436, 29 Cal.Rptr.2d 413, *Lilienthal & Fowler v. Superior Court* (1993) 12 Cal.App.4th 1848, 1851–1855, 16 Cal.Rptr.2d 458.) It is well recognized a court may strike all or part of a pleading as it did in this instance. (Code Civ. Proc., §§ 431.10 and 436; *PH II, Inc. v. Superior Court* (1995) 33 Cal.App.4th 1680, 1682–1683, 40 Cal.Rptr.2d 169.)

8. Substantial Evidence

[8] Rancho Cucamonga also challenges the trial court's independent factual determination that sufficient evidence supports the findings of the Regional Board. Rancho Cucamonga's main contention is that the 2002 permit was not distinctively crafted for San Bernardino County but, instead, copied a similar permit for other counties without identifying any particular water quality impairment in San Bernardino County caused by the permittees. In other words, no evidence in the record supports issuance of the 2002 permit and the trial court did not identify any such evidence in its statement of decision.

One problem with Rancho Cucamonga's foregoing argument is that the Clean Water Act requires an NPDES permit to be issued for *any* storm sewer discharge, whether there is any actual impairment in a particular region. (33 U.S.C. § 1342; *Communities, supra*, 109 Cal.App.4th at pp. 1092–1093, 1 Cal.Rptr.3d 76.) Therefore, Rancho Cucamonga's contention that the permit fails to identify impaired water bodies in the region is beside the point.

In its statement of decision, the trial court discussed the inadequacy of the arguments and evidence cited by Rancho Cucamonga and concluded: "The San Bernardino Permit is based in part on the Basin Plan for this region. It is *1387 also based on the permittees' own reports and monitoring within this region.... It incorporates the permittees' management program, which is unique to these cities and county." The trial court included a citation to the 1993

DAMP report's "Geographic Description of the Drainage Area," which discusses the specific conditions present in San Bernardino County.

On appeal, Rancho Cucamonga faults the trial court for not presenting a more detailed description of the evidence supporting the issuance of the permit. We do not think the trial court, or this court, must bear that burden.

[9] First, "[a]n agency may ... rely upon the opinion of its staff in reaching decisions, and the opinion of staff has been recognized as constituting substantial evidence. (*Coastal Southwest Dev. Corp. v. California Coastal Zone Conservation Com.* (1976) 55 Cal.App.3d 525, 535–536, 127 Cal.Rptr. 775.)" (*Browning–Ferris Industries v. City Council* (1986) 181 Cal.App.3d 852, 866, 226 Cal.Rptr. 575.) Here the Regional Board adopted the recommendation of its staff in issuing the permit. And, as the record shows, the staff's recommendation was based on the previous 1990 and 1996 permits, the 1993 DAMP **458 report and the 2000 ROWD, the permittees' application for renewal of the 1996 permit, as well as more general water quality factors. The evidence contradicts Rancho Cucamonga's assertion, that "the Regional Board simply copied verbatim the NPDES Permit for North Orange County, a coastal region with markedly different water quality conditions and problems."

As part of the trial court's consideration of the petition for writ of mandate, Rancho Cucamonga and the Regional Board directed the court to review specific items of evidence contained in the administrative record. In its opposing brief, the Regional Board offered a detailed account of the evidence supporting the issuance of the permit. The trial court indicated it had reviewed the parties' submissions before ruling. It discussed the evidence at the hearing on the petition and referred to it in its statement of decision. (*Lala v. Maiorana* (1959) 166 Cal.App.2d 724, 731, 333 P.2d 862.) Rancho Cucamonga had the burden of showing the Board abused its discretion or its findings were not supported by the facts. (*Building Industry, supra*, 124 Cal.App.4th at pp. 887–888, 22 Cal.Rptr.3d 128.) To the extent it attempted to do so at the trial court level, it was not successful.

This court has independently reviewed the record with particular attention to the evidence as emphasized by the parties. We do not, however, find it incumbent upon us or the trial court to review the many thousands of pages submitted on appeal and identify the particular evidence that constitutes substantial evidence. Instead, we deem the trial court's findings sufficient and not affording any grounds for reversal. (*Building Industry, supra*, 124 Cal.App.4th at p. 888, 22 Cal.Rptr.3d 128; see *Weisz Trucking Co., Inc. v. Emil R. Wohl *1388 Construction* (1970) 13 Cal.App.3d 256, 264, 91 Cal.Rptr. 489, citing *Perry v. Jacobsen* (1960) 184 Cal.App.2d 43, 50, 7 Cal.Rptr. 177.)

9. Safe Harbor Provision

[10] As it did repeatedly below, Rancho Cucamonga maintains the 2002 permit violates section 402(k) of the Clean Water Act (33 U.S.C. § 1342, subd. (k)), because the permit does not include "safe harbor" language, providing that, if a permittee is in full compliance with the terms and conditions of its permit, it cannot be found in violation of the Clean Water Act. (*United States Public Interest Research Group v. Atlantic Salmon of Maine, LLC* (1st Cir.2003) 339 F.3d 23, 26; *EPA v. State Water Resources Control Bd.* (1976) 426 U.S. 200, 205, 96 S.Ct. 2022, 48 L.Ed.2d 578.) The trial court found there was no statutory right to a "safe harbor" provision to be included as the term of the permit. We agree.

This seems like much ado about nothing because 33 U.S.C. § 1342, subdivision (k), already affords Rancho Cucamonga the protection it seeks: "Compliance with a permit issued pursuant to this section shall be deemed compliance, for purposes of sections 1319 and 1365 of this title, with sections 1311, 1312, 1316, 1317, and 1343 of this title, except any standard imposed under section 1317 of this title for a toxic pollutant injurious to human health." Rancho Cucamonga does not cite any persuasive authority as to why this statutory protection had to be duplicated as a provision in the 2002 permit.

Furthermore, the 2002 permit complied with the State Board's Water Quality Order No. 99-05, a precedential decision requiring NPDES permits to omit "safe harbor" language used in earlier permits. A permit without "safe harbor" language was upheld in ****459** *Building Industry, supra*, 124 Cal.App.4th at p. 877, 22 Cal.Rptr.3d 128. The trial court did not err.

10. *Maximum Extent Practicable*

Rancho Cucamonga protests that the 2002 permit's discharge limitations/prohibitions exceed the federal requirement that storm water dischargers should "reduce the discharge of pollutants to the maximum extent practicable." (33 U.S.C. § 1342, subd. (p)(3)(B)(iii).) The trial court, however, found there was no evidence presented that the 2002 permit exceeded federal requirements. Because there is no evidence, the issue presented is hypothetical and, therefore, premature. (*Building Industry, supra*, 124 Cal.App.4th at p. 890, 22 Cal.Rptr.3d 128.)

Additionally, as Rancho Cucamonga recognizes, *Building Industry* rejected the contention that a "regulatory permit violates federal law because it allows the Water Boards to impose municipal storm sewer control measures more ***1389** stringent than a federal standard known as 'maximum extent practicable.' [Citation.] [Fn. omitted.] [W]e ... conclude the Water Boards had the authority to include a permit provision requiring compliance with state water quality standards." (*Building Industry, supra*, 124 Cal.App.4th at p. 871, 22 Cal.Rptr.3d 128.) The *Burbank* case, allowing for consideration of economic factors when federal standards are exceeded, does not alter the analysis in this case where there was no showing that federal standards were exceeded and where there was evidence that economic factors were considered. Furthermore, like the permit in *Building Industry*, the 2002 permit contemplates controlling discharge of pollutants to the maximum extent practicable through a "cooperative iterative process where the Regional Water Board and Municipality work together to identify violations of water quality standards." (*Building, supra*, at p. 889, 22 Cal.Rptr.3d 128.) The 2002 permit does not exceed the maximum extent practicable standard.

11. *The Requirements of the 2002 Permit*

[11] Rancho Cucamonga lastly complains the requirements of the 2002 permit are "overly prescriptive," illegally dictating the manner of compliance and improperly delegating to the permittees the inspection duties of the State Board and the Regional Board. Rancho Cucamonga's arguments contradict the meaning and spirit of the Clean Water Act.

In creating a permit system for dischargers from municipal storm sewers, Congress intended to implement actual programs. (*Natural Resources Defense Council, Inc. v. Costle* (D.C.Cir.1977) 568 F.2d 1369, 1375.) The Clean Water Act authorizes the imposition of permit conditions, including: "management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator of the State determines appropriate for the control of such pollutants." (33 U.S.C. § 1342, subd. (p)(3)(B)(iii).) The Act authorizes states to issue permits with conditions necessary to carry out its provisions. (33 U.S.C. § 1342, subd. (a)(1).) The permitting agency has discretion to decide what practices, techniques, methods and other provisions are appropriate and necessary to control the discharge of pollutants. (*NRDC v. EPA* (9th Cir.1992) 966 F.2d 1292, 1308.) That is what the Regional Board has created in the 2002 permit.

Rancho Cucamonga's reliance on [Water Code section 13360](#) is misplaced because that code section involves enforcement and implementation of state water quality law, ([Wat.Code, § 13300 et seq.](#)) not compliance with the Clean Water Act ([Wat.Code, § 13370 et seq.](#)) The federal law ****460** preempts the state law. (*Burbank, supra*, 35 Cal.4th at p. 626, 26 Cal.Rptr.3d 304, 108 P.3d 862.) The Regional Board must comply with federal law requiring detailed conditions for NPDES permits.

*1390 Furthermore, the 2002 permit does afford the permittees discretion in the manner of compliance. It is the permittees who design programs for compliance, implementing best management practices selected by the permittees in the DAMP report and approved by the Regional Board. Throughout the permit, the permittees are granted considerable autonomy and responsibility in maintaining and enforcing the appropriate legal authority; inspecting and maintaining their storm drain systems according to criteria they develop; establishing the priorities for their own inspection requirements; and establishing programs for new development. The development and implementation of programs to control the discharge of pollutants is left largely to the permittees.

More particularly, we agree with the Regional Board that the permit properly allocated some inspection duties to the permittees. As part of their ROWD application for a permit, the permittees proposed to "Conduct Inspection, Surveillance, and Monitoring. Carry out all inspections, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal storm drain system." The ROWD also discussed continuing existing inspection programs.

[Water Code section 13383](#) provides that as part of compliance with the Clean Water Act, the Regional Board may establish inspection requirements for any pollutant discharger. Federal law, either expressly or by implication, requires NPDES permittees to perform inspections for illicit discharge prevention and detection; landfills and other waste facilities; industrial facilities; construction sites; certifications of no discharge; non-stormwater discharges; permit compliance; and local ordinance compliance. (40 C.F.R. 122.26, subs. (d), (g); 33 U.S.C. § 1342, subd. (p)(3)(B)(ii).) Permittees must report annually on their inspection activities. (40 C.F.R. § 122.42, subd. (c)(6) (2005).)

Rancho Cucamonga claims it is being required to conduct inspections for facilities covered by other state-issued general permits. Rancho Cucamonga and the other permittees are responsible for inspecting construction and industrial sites and commercial facilities within their jurisdiction for compliance with and enforcement of local municipal ordinances and permits. But the Regional Board continues to be responsible under the 2002 NPDES permit for inspections under the general permits. The Regional Board may conduct its own inspections but permittees must still enforce their own laws at these sites. (40 C.F.R. § 122.26, subd. (d)(2) (2005).)

***1391** 12. *Disposition*

Rancho Cucamonga is the only of the original 18 permittees still objecting to the 2002 NPDES permit. It has not successfully demonstrated that substantial evidence does not support the trial court's factual determinations or the trial court erred in its interpretation and application of state and federal law.

We affirm the judgment and order the prevailing parties to recover their costs on appeal.

[HOLLENHORST](#), Acting P.J., and [RICHLI](#), J., concur.

All Citations

135 Cal.App.4th 1377, 38 Cal.Rptr.3d 450, 36 Env'tl. L. Rep. 20,026, 06 Cal. Daily Op. Serv. 845, 06 Cal. Daily Op. Serv. 1699, 2006 Daily Journal D.A.R. 1126

Footnotes

- 1 Upland is not a party to this appeal.
- 2 The National Pollutant Discharge Elimination System.

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ATTACHMENT D-5



KeyCite Yellow Flag - Negative Treatment

Declined to Extend by [Cachil Dehe Band of Wintun Indians of the Colusa Indian Community v. California](#), 9th Cir.(Cal.), October 24, 2008

33 Cal.4th 1055
Supreme Court of California

Bill LOCKYER, as Attorney General, etc., Petitioner,

v.

CITY AND COUNTY OF SAN FRANCISCO et al., Respondents.

Barbara Lewis et al., Petitioners,

v.

Nancy Alfaro, as County Clerk, etc., Respondent.

Nos. S122923, S122865.

|

Aug. 12, 2004.

Synopsis

Background: The Attorney General and three city residents filed petitions for writs of mandate, and requests for an immediate stay, alleging that actions of city officials in issuing marriage licenses to same-sex couples and solemnizing and registering the marriages of such couples were unlawful, and Supreme Court consolidated the two cases for decision.

Holdings: The Supreme Court, [George](#), C.J., held that:

[1] city mayor exceeded scope of his authority by requesting that county clerk and county recorder determine what changes were necessary to render marriage licensing forms nondiscriminatory as to gender and sexual orientation;

[2] a local executive official, who is charged with the ministerial duty of enforcing a statute, does not possess the authority to disregard the terms of a statute in the absence of a judicial determination that it is unconstitutional, based solely upon the official's opinion that the governing statute is unconstitutional;

[3] city and county officials lacked authority to issue marriage licenses to, solemnize marriages of, and register certificates of marriage for same-sex couples; and

[4] marriages conducted between same-sex couples in violation of the applicable statutes were void and of no legal effect.

Petition granted with directions.

Moreno, J., filed concurring opinion.

[Kennard](#), J., filed concurring and dissenting opinion.

[Werdegar](#), J., filed concurring and dissenting opinion.

West Headnotes (17)

[1] **Marriage and Cohabitation** 🔑 Regulation and control in general

Legislature has full control of the subject of marriage and may fix the conditions under which the marital status may be created or terminated, except as restricted by the Constitution. [West's Ann.Cal.Fam.Code §§ 300–310](#).

[2 Cases that cite this headnote](#)

[2] **Marriage and Cohabitation** 🔑 Regulation and control in general

Municipal Corporations 🔑 Local legislation

Marriage is a matter of statewide concern rather than a municipal affair. [West's Ann.Cal. Const. Art. 11, §§ 4, 5, 6](#).

[1 Cases that cite this headnote](#)

[3] **Marriage and Cohabitation** 🔑 Authority to issue license

Marriage and Cohabitation 🔑 Certificate

Under the relevant statutes, the only local officials to whom the state has granted authority to act with regard to marriage licenses and marriage certificates are the county clerk and the county recorder. [West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125](#).

[2 Cases that cite this headnote](#)

[4] **Marriage and Cohabitation** 🔑 Authority to issue license

Marriage and Cohabitation 🔑 Return, record, and registration

A mayor has no authority to expand or vary the authority of a county clerk or county recorder to grant marriage licenses or register marriage certificates under the governing state statutes, or to direct those officials to act in contravention of those statutes. [West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125](#).

[3 Cases that cite this headnote](#)

[5] **Marriage and Cohabitation** 🔑 Licenses and Licensing Officers

Municipal Corporations 🔑 Mayor or other chief executive

City mayor exceeded scope of his authority by requesting county clerk and county recorder to “determine what changes should be made to the forms and documents used to apply for and issue marriage licenses in order to provide marriage licenses on a non–discriminatory basis, without regard to gender or sexual orientation” based on his asserted “sworn duty to uphold the California Constitution, including specifically its equal protection clause.” [West's Ann.Cal. Const. Art. 1, § 7](#); [West's Ann.Cal.Fam.Code §§ 300, 355](#); [West's Ann.Cal.Fam.Code § 359](#) (1996); [West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125](#).

[5 Cases that cite this headnote](#)

[6] **Marriage and Cohabitation** 🔑 Duties of officers in general

Marriage and Cohabitation 🔑 Return, record, and registration

Duties of county clerk and county recorder in issuing marriage licenses and recording certificate of registry of marriage are mandatory, once statutory procedural and substantive prerequisites have been satisfied, and thus discharge of such duties is ministerial rather than discretionary. [West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125](#).

[2 Cases that cite this headnote](#)

[7] Public Employment 🔑 Duties

A ministerial act is an act that a public officer is required to perform in a prescribed manner in obedience to the mandate of legal authority and without regard to his own judgment or opinion concerning such act's propriety or impropriety, when a given state of facts exists.

[Cases that cite this headnote](#)

[8] Constitutional Law 🔑 Encroachment on Judiciary

Public Employment 🔑 Duties

Pursuant to state common law and practical considerations, a local executive official, who is charged with the ministerial duty of enforcing a statute, does not possess the authority to disregard the terms of the statute in the absence of a judicial determination that it is unconstitutional, based solely upon the official's opinion that the governing statute is unconstitutional.

[5 Cases that cite this headnote](#)

[9] Constitutional Law 🔑 Presumptions and Construction as to Constitutionality

A statute, once duly enacted, is presumed to be constitutional.

See 7 Witkin, Summary of Cal. Law (9th ed. 1988) Constitutional Law, § 58.

[5 Cases that cite this headnote](#)

[10] Constitutional Law 🔑 Clearly, positively, or unmistakably unconstitutional

Constitutional Law 🔑 Doubt

The unconstitutionality of a statute must be clearly shown, and doubts as to its constitutionality will be resolved in favor of its validity.

[7 Cases that cite this headnote](#)

[11] Public Employment 🔑 Authority and Powers

When a public official's authority to act in a particular area derives wholly from statute, the scope of that authority is measured by the terms of the governing statute.

[2 Cases that cite this headnote](#)

[12] Municipal Corporations 🔑 Powers and functions of local government in general

Municipal Corporations 🔑 Judicial Supervision

Municipal Corporations 🔑 Nature and scope of legislative power in general

In establishing a governmental structure for the purpose of managing municipal affairs, the Legislature, through statutes, or local entities, through charter provisions and the like, may combine executive, legislative, and judicial functions in a manner different from the structure that the California Constitution prescribes for state government. [West's Ann.Cal. Const. Art. 3, § 3.5](#).

[5 Cases that cite this headnote](#)

[13] Marriage and Cohabitation 🔑 Duties of officers in general

Unconstitutionality of state marriage statutes limiting marriage to couple comprised of a man and a woman under state equal protection clause was not so patent or clearly established that actions of city and county officials in issuing marriage licenses to same-sex couples, and solemnizing and registering the marriages of such couples, would fall within narrow exception, applicable when it would be absurd or unreasonable to require public official to comply with statute that was clearly unconstitutional, to general rule that a local executive official, who is charged with the ministerial duty of enforcing a statute, does not possess the authority to disregard the terms of the statute in the absence of a judicial determination that it is unconstitutional, based solely upon the official's opinion that the governing statute is unconstitutional. [West's Ann.Cal. Const. Art. 1, § 7](#); [West's Ann.Cal.Fam.Code §§ 300, 355](#); [West's Ann.Cal.Fam.Code § 359](#) (1996); [West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125](#).

[14 Cases that cite this headnote](#)

[14] Marriage and Cohabitation 🔑 Authority to issue license

City and county officials lacked authority to refuse to perform their ministerial duty in conformity with current state marriage statutes, and, based on view that statutory limitation of marriage to couple comprised of a man and a woman violated state equal protection clause, to alter form prescribed by State Registrar of Vital Statistics, issue marriage licenses to, solemnize marriages of, and register certificates of marriage for same-sex couples. [West's Ann.Cal. Const. Art. 1, § 7](#); [West's Ann.Cal.Fam.Code §§ 300, 355](#); [West's Ann.Cal.Fam.Code § 359](#); [West's Ann.Cal.Health & Safety Code §§ 102100, 102180, 102200, 102295, 103125](#).

See Hogoboom & King, Cal. Practice Guide: Family Law (The Rutter Group 2003) ¶¶ 19:6.5, 19:24-24.1(CAFAMILY Ch. 19-A).

[7 Cases that cite this headnote](#)

[15] States 🔑 Preemption in general

Federal supremacy clause does not itself grant a state or local official the authority to refuse to enforce a statute that the official believes to be unconstitutional. [U.S.C.A. Const. Art. 6, cl. 2](#).

[Cases that cite this headnote](#)

[16] Mandamus 🔑 Scope and extent of relief in general

As a general matter, the nature of the relief warranted in a mandate action is dependent upon the circumstances of the particular case, and a court is not necessarily limited by the prayer sought in the mandate petition but may grant the relief it deems appropriate.

[1 Cases that cite this headnote](#)

[17] **Marriage and Cohabitation** 🔑 Sex or gender; same-sex marriage

All same-sex marriages authorized, solemnized, or registered by city and county officials in contravention of statute defining marriage as a “personal relationship arising out of a civil contract between a man and a woman” and the legislative history of this provision demonstrating that the purpose of this limitation was to “prohibit persons of the same sex from entering lawful marriage” were void and of no legal effect from their inception, despite fact that affected same-sex couples were not parties to mandate proceeding challenging such marriages, as validity of marriages was purely legal question, and numerous amicus curiae briefs were filed on behalf of such couples, so that their legal arguments in support of validity of existing marriages were heard and fully considered. [West's Ann.Cal.Fam.Code § 300](#).

[11 Cases that cite this headnote](#)

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Opinion

[GEORGE](#), C.J.

We assumed jurisdiction in these original writ proceedings to address an important but relatively narrow legal issue—whether a local executive official who is charged with the ministerial duty of enforcing a state ***1067** statute exceeds his or her authority when, without any court having determined that the statute is unconstitutional, the official deliberately declines to enforce the statute because he or she determines or is of the opinion that the statute is unconstitutional.

In the present case, this legal issue arises out of the refusal of local officials in the City and County of San Francisco to enforce the provisions of California's marriage statutes that limit the granting of a marriage license and marriage certificate only to a couple comprised of a man and a woman.

The same legal issue and the same applicable legal principles could come into play, however, in a multitude of situations. For example, we would face the same legal issue if the statute in question were among those that restrict the possession or require the registration of assault weapons, and a local official, charged with the ministerial duty of enforcing those statutes, refused to apply their provisions because of the official's view that they violate the Second Amendment of the federal Constitution. In like manner, the same legal issue would be presented if the statute were one of the environmental measures that impose restrictions upon a property owner's ability to obtain a building permit for a development that interferes with the public's access to the California coastline, and a local official, charged with the ministerial ****463** duty of issuing building permits, refused to apply the statutory limitations because of his or her belief that they effect an uncompensated “taking” of property in violation of the just compensation clause of the state or federal Constitution.

Indeed, another example might illustrate the point even more clearly: the same legal issue would arise if the statute at the center of the controversy were the recently enacted provision (operative January 1, 2005) that imposes a ministerial

duty upon local officials to accord the same rights and benefits to registered domestic partners as are granted to spouses (see [Fam.Code, § 297.5](#), added by Stats.2003, ch. 421, § 4), and a local official—perhaps an officeholder in a locale where domestic partnership ***230 rights are unpopular—adopted a policy of refusing to recognize or accord to registered domestic partners the equal treatment mandated by statute, based solely upon the official's view (unsupported by any judicial determination) that the statutory provisions granting such rights to registered domestic partners are unconstitutional because they improperly amend or repeal the provisions of the voter-enacted initiative measure commonly known as Proposition 22, the California Defense of Marriage Act ([Fam.Code, § 308.5](#)) without a confirming vote of the electorate, in violation of [article II, section 10, subdivision \(c\) of the California Constitution](#).

As these various examples demonstrate, although the present proceeding may be viewed by some as presenting primarily a question of the substantive *1068 legal rights of same-sex couples, in actuality the legal issue before us implicates the interest of all individuals in ensuring that public officials execute their official duties in a manner that respects the limits of the authority granted to them as officeholders. In short, the legal question at issue—the scope of the authority entrusted to our public officials—involves the determination of a fundamental question that lies at the heart of our political system: the role of the rule of law in a society that justly prides itself on being “a government of laws, and not of men” (or women).¹

As indicated above, that issue—phrased in the narrow terms presented by this case—is whether a local executive official, charged with the ministerial duty of enforcing a statute, has the authority to disregard the terms of the statute in the absence of a judicial determination that it is unconstitutional, based solely upon the official's opinion that the governing statute is unconstitutional. As we shall see, it is well established, both in California and elsewhere, that—subject to a few narrow exceptions that clearly are inapplicable here—a local executive official does *not* possess such authority.

This conclusion is consistent with the classic understanding of the separation of powers doctrine—that the legislative power is the power to enact statutes, the executive power is the power to execute or enforce statutes, and the judicial power is the power to interpret statutes and to determine their constitutionality. It is true, of course, that the separation of powers doctrine does not create an absolute or rigid division of functions. ([Superior Court v. County of Mendocino](#) (1996) 13 Cal.4th 45, 52, 51 Cal.Rptr.2d 837, 913 P.2d 1046.) Furthermore, legislators and executive officials may take into account constitutional considerations in making discretionary decisions within their authorized sphere of action—such as whether to enact or veto proposed legislation or exercise prosecutorial discretion. When, however, a duly enacted statute imposes a ministerial duty upon an executive official to follow the dictates of the statute in performing a mandated act, the official generally has no ***231 authority to disregard **464 the statutory mandate based on the official's own determination that the statute is unconstitutional. (See, e.g., [Kendall v. United States](#) (1838) 37 U.S. (12 Pet.) 524, 613, 9 L.Ed. 1181 [“To contend that the obligation imposed on the president to see the *1069 laws faithfully executed implies a power to forbid their execution is a novel construction of the constitution, and entirely inadmissible”].)

Accordingly, for the reasons that follow, we agree with petitioners that local officials in San Francisco exceeded their authority by taking official action in violation of applicable statutory provisions. We therefore shall issue a writ of mandate directing the officials to enforce those provisions unless and until they are judicially determined to be unconstitutional and to take all necessary remedial steps to undo the continuing effects of the officials' past unauthorized actions, including making appropriate corrections to all relevant official records and notifying all affected same-sex couples that the same-sex marriages authorized by the officials are void and of no legal effect.

To avoid any misunderstanding, we emphasize that the substantive question of the constitutional validity of California's statutory provisions limiting marriage to a union between a man and a woman is not before our court in this proceeding, and our decision in this case is not intended, and should not be interpreted, to reflect any view on that issue. We hold only that in the absence of a judicial determination that such statutory provisions are unconstitutional, local executive officials lacked authority to issue marriage licenses to, solemnize marriages of, or register certificates of marriage for same-sex couples, and marriages conducted between same-sex couples in violation of the applicable statutes are void and

of no legal effect. Should the applicable statutes be judicially determined to be unconstitutional in the future, same-sex couples then would be free to obtain valid marriage licenses and enter into valid marriages.

I

The events that gave rise to this proceeding began on February 10, 2004, when Gavin Newsom, the Mayor of the City and County of San Francisco and a respondent in one of the consolidated cases before us,² sent a letter to ***1070** Nancy Alfaro, identified in the letter as the San Francisco County Clerk,³ requesting that she “determine *****232** what changes should be made to the forms and documents used to apply for and issue marriage licenses in order to provide marriage licenses on a non-discriminatory basis, without regard to gender or sexual orientation.” The mayor stated in his letter that “[t]he Supreme Courts in other states have held that equal protection provisions in their state constitutions prohibit ****465** discrimination against gay men and lesbians with respect to the rights and obligations flowing from marriage,” and explained that it is his “belief that these decisions are persuasive and that the California Constitution similarly prohibits such discrimination.” The mayor indicated that the request to the county clerk was made “[p]ursuant to [his] sworn duty to uphold the California Constitution, including specifically its equal protection clause....”⁴

In response to the mayor's letter, the county clerk designed what she describes as “a gender-neutral application for public marriage licenses, and a gender-neutral marriage license,” to be used by same-sex couples. The newly designed form altered the official state-prescribed form for the “Application ***1071** for Marriage License” and the “License and Certificate of Marriage” by eliminating the terms “bride,” “groom,” and “unmarried man and unmarried woman,” and by replacing them with the terms “first applicant,” “second applicant,” and “unmarried individuals.” The revised form also contained a new warning at the top of the form, advising applicants that “[b]y entering into marriage you may lose some or all of the rights, protections and benefits you enjoy as a domestic partner” and that “marriage of gay and lesbian couples may not be recognized as valid by any jurisdiction other than San Francisco, and may not be recognized as valid by any employer,” and encouraging same-sex couples “to seek legal advice regarding the effect of entering into marriage.”⁵

*****233** The county clerk, using the altered forms, began issuing marriage licenses to same-sex couples on February 12, 2004, and the county recorder thereafter registered marriage certificates submitted on behalf of same-sex couples who had received licenses from the city and had participated in marriage ceremonies. The declaration of the county clerk, filed in this court on March 5, 2004, indicates that as of that date, the clerk had issued more than approximately 4,000 marriage licenses to same-sex couples. In more recent filings, the city has indicated that approximately 4,000 same-sex marriages have been performed under licenses issued by the County Clerk of the City and County of San Francisco.

On February 13, 2004, two separate actions were filed in San Francisco County Superior Court seeking to halt the city's issuance of marriage licenses to same-sex couples and the solemnization and registration of marriages of such couples. (*Thomasson v. Newsom* (Super. Ct. S.F. City and County, 2004, No. CGC-04-428794)); ****466** *Proposition 22 Legal Defense and Education Fund v. City and County of San Francisco* (Super. Ct. S.F. City and County, 2004, No. CPF-04-50943 (hereafter *Proposition 22 Legal Defense*).) In each case, a request for an immediate stay of the city's actions was denied by the superior court after a hearing.⁶

***1072** On February 27, 2004, the Attorney General filed in this court a petition for an original writ of mandate, prohibition, certiorari, and/or other relief, and a request for an immediate stay. The petition asserted that the actions of the city officials in issuing marriage licenses to same-sex couples and solemnizing and registering the marriages of such couples are unlawful, and that the problems and uncertainty created by the growing number of these marriages justify intervention by this court. The petition pointed out that despite a directive issued by the state Registrar of Vital Statistics, the San Francisco County Recorder had not ceased the practice of registering marriage certificates submitted

by same-sex couples on forms other than those approved by the State of California, and that officials of the federal Social Security Administration had raised questions regarding that agency's processing of name-change applications resulting from California marriages—not confined to single-sex marriages—because of the uncertainty as to whether certain marriage certificates issued in California are valid under state law. Noting that “[t]he Attorney General has the constitutional duty to see that the laws of the state are uniformly and adequately enforced” (see [Cal. Const., art. V, § 13](#)), the petition maintained that the existing “conflict and uncertainty, and the potential for future ambiguity, instability, ***234 and inconsistent administration among various jurisdictions and levels of government, present a legal issue of statewide importance that warrants immediate intervention by this Court.” The petition requested that this court issue an order (1) directing the local officials to comply with the applicable statutes in issuing marriage licenses and certificates, (2) declaring invalid the same-sex marriage licenses and certificates that have been issued, and (3) directing the city to refund any fees collected in connection with such licenses and certificates.

Anticipating that the respondent city officials likely would oppose the petition by arguing that the applicable state laws are unconstitutional, the petition maintained that such a claim could not justify the officials' issuance of same-sex marriage licenses in violation of state law “because [article III, section 3.5 of the California Constitution](#) prohibits administrative agencies from declaring state laws unconstitutional in the absence of an appellate court determination.” The petition asserted that “[t]he county is a political subdivision of the state charged with administering state government, and local registrars of vital statistics act as state officers. The state's agents at the local level simply cannot refuse to enforce state law.”

*1073 Although the Attorney General's petition acknowledged that the court could grant the relief requested in the petition without reaching the substantive question of the constitutionality of the California statutes limiting marriage to a man and a woman, the petition urged that we also resolve the substantive constitutional issue at this time, arguing that “[a]s the issues presented are pure legal issues, and there is no need for the development of a factual record, these issues are ready for this Court's review.”

On February 25, 2004, two days prior to the filing of the petition in *Lockyer*, the petition in *Lewis* was filed in this court. In *Lewis*, three residents and taxpayers in the City and County of San Francisco sought a writ of mandate to compel the county clerk to cease and desist issuing marriage licenses to couples other than those who meet state law marriage requirements and on forms that do not comply with state law license requirements, and also sought an immediate stay **467 pending the court's determination of the petition.

After receiving the petitions in *Lockyer* and *Lewis*, we requested that the city file an opposition to the petition in each case on or before March 5, 2004. The city filed its opposition to the petitions on March 5, arguing that the provisions of [article III, section 3.5 of the California Constitution](#) do not apply to local officials and that, in any event, under the supremacy clause of the United States Constitution, [California Constitution article III, section 3.5](#) could not properly be applied to preclude a local official from refusing to enforce a statute that the official believes violates the federal Constitution. With regard to the question of the constitutionality of California's statutory ban on same-sex marriages, the opposition maintained that “the issue is one best left to the lower courts in the first instance to undertake the extensive fact-finding that will be necessary.”⁷

On March 11, 2004, we issued an order in both *Lockyer* and *Lewis* directing the city officials to show cause why a writ of mandate should not issue requiring the officials to apply and abide by the current California marriage statutes in the absence ***235 of a judicial determination that the statutory provisions are unconstitutional. Pending our determination of these matters, we directed the officials to enforce the existing marriage statutes and refrain from issuing marriage licenses or certificates not authorized by such provisions. We also stayed all proceedings in the two pending San Francisco County Superior Court cases (the *Proposition 22 Legal Defense* action and the *Thomasson v. Newsom* action), but specified that the stay *1074 preclude the filing of a separate action in superior court raising a substantive constitutional challenge to the current marriage statutes.”

Our March 11 order also specified that the return to be filed by the city officials in each case was to be limited “to the issue whether respondents are exceeding or acting outside the scope of their authority in refusing to enforce the provisions of [Family Code sections 300, 301, 308.5, and 355](#) in the absence of a judicial determination that such provisions are unconstitutional,” and that in addressing this issue, the return “should discuss not only the applicability and effect of [article III, section 3.5 of the California Constitution](#)” but also any other constitutional or statutory provisions or legal doctrines that bear on the question whether the city officials acted outside the scope of their authority in refusing to comply with the applicable statutes in the absence of a judicial determination that the statutes are unconstitutional.

Our March 11 order further established an expedited briefing schedule and indicated that the court would hear oral argument in these matters at its late May 2004 or June 2004 oral argument calendar. After receiving the briefs filed by the parties and numerous amici curiae, we requested that the parties file supplemental letter briefs addressing several questions relating to the validity of the marriage licenses and certificates of registry of marriage that already had been issued or registered by city officials to or on behalf of same-sex couples. The supplemental briefs were timely filed, and the cases were argued before this court on May 25, 2004. After oral argument, we filed an order consolidating the two cases for decision.

II

[1] It is well settled in California that “the Legislature has full control of the subject of marriage and may fix the conditions under which the marital status may be created or terminated....” (*McClure v. Donovan* (1949) 33 Cal.2d 717, 728, 205 P.2d 17.) “The regulation of marriage and divorce is solely within the province of the Legislature, except as the same may be restricted by the Constitution.” (*Beeler v. Beeler* (1954) 124 Cal.App.2d 679, 682, 268 P.2d 1074; see, e.g., *Estate of DePasse* (2002) 97 Cal.App.4th 92, 99, 118 Cal.Rptr.2d 143.) In view of the primacy of the Legislature's role in this area, we begin by setting forth the relevant statutes relating to marriage that have some bearing on the issue before us. As we shall ****468** see, the Legislature has dealt with the subject of marriage in considerable detail.

As applicable to the issues presented by this case, the relevant statutes dealing with marriage are contained in the Family Code and the Health and Safety Code.

***1075** The provisions regarding the validity of marriage are set forth in [Family Code sections 300 to 310](#).

[Section 300](#) provides in full: “*Marriage is a personal relation arising out of a civil contract between a man and a woman, to which the consent of the parties capable of making that contract is necessary. Consent alone does not constitute marriage. Consent must be followed by the issuance of a license and solemnization as authorized *****236** by this division, except as provided by Section 425 [8] and Part 4 (commencing with Section 500). [9]*” (Italics added.)

[Section 301](#) provides: “*An unmarried male of the age of 18 years or older, and an unmarried female of the age of 18 or older, and not otherwise disqualified, are capable of consenting to and consummating marriage.*” (Italics added.)

[Section 308.5](#) provides: “*Only marriage between a man and a woman is valid or recognized in California.*” (Italics added.)

In the opposition filed in this court, the city takes the position that neither [section 301](#) nor [section 308.5](#) is relevant to the question whether current California statutes limit marriages performed in California to marriages between a man and a woman,¹⁰ but the city concedes that [section 300](#), both ***1076** by its terms and its purpose, imposes such a limitation on marriages performed in California.¹¹ Because we agree that [section 300](#) clearly establishes that current California

statutory law limits marriage to couples comprised of a man and a woman, we need not and do not ***237 address the scope or effect of sections 301 and 308.5 in this case.

The Family Code provisions relating to marriage licenses and to the certificate of **469 registry of marriage are set forth in Family Code sections 350 to 360. These statutes provide that “before entering a marriage, ... the parties shall first obtain a marriage license from a county clerk” (Fam.Code, § 350), and the provisions state what information must be contained on the license (Fam.Code, § 351) and place the responsibility on the county clerk to ensure that the statutory requirements for obtaining a marriage license are satisfied. (Fam.Code, § 354.) The statutes also specifically provide that the forms for (1) the application for a marriage license, (2) the marriage license, and (3) the certificate of registry of marriage that are to be used by the county clerk and provided to the applicants “shall be prescribed by the State Department of Health Services.” (Fam.Code, §§ 355, 359.)¹²

*1077 Provisions regarding the solemnization of marriage are set forth in Family Code sections 400 to 425. These statutes contain a list of the numerous persons who may solemnize a marriage under California ***238 law (Fam.Code, § 400), and require the person solemnizing a marriage (1) to require the applicants to present the marriage license to him or her prior to solemnization (Fam.Code, § 421), (2) to sign and endorse upon or attach to the marriage license a statement, “in the form prescribed by the State Department of Health Services,” setting forth specified information (Fam.Code, § 422), and (3) to return the marriage license, with the requisite endorsement, to the county recorder of the county in which the license was issued within 30 days after the marriage ceremony. **470 (Fam.Code, § 423.)¹³

The Health and Safety Code contains numerous additional provisions prescribing in detail the procedures governing marriage licenses and marriage *1078 certificates as part of the state's registration and maintenance of vital statistics. These statutes designate the California Director of Health Services as the State Registrar of Vital Statistics (Health & Saf.Code, § 102175) and provide that “[e]ach live birth, fetal death, death, and marriage that occurs in this state shall be registered as provided in this part on the prescribed certificate forms ...” (Health & Saf.Code, § 102100, italics added.) The statutes also specify that “[t]he State Registrar is charged with the execution of this part in this state, and has supervisory power over local registrars, so that there shall be uniform compliance with all the requirements of this part ” (Health & Saf.Code, § 102180, italics added), that “[t]he Attorney General will assist in the enforcement of this part upon request of the State Registrar” (Health & Saf.Code, § 102195), and that “[t]he State Registrar shall prescribe and furnish all record forms for use in carrying out the purpose of this part, ... and no record forms or formats other than those prescribed shall be used.” (Health & Saf.Code, § 102200, italics added.)¹⁴ The code also contains a specific provision pertaining to all of the official forms related to marriage, which expressly provides that “[t]he forms for the application for license to marry, the certificate of registry of marriage including the license to marry, and the marriage certificate shall be prescribed by the State Registrar.” (Health & Saf.Code, § 103125, italics added.)

The relevant Health and Safety Code statutes also specify that “[t]he county recorder is the local registrar of marriages and shall perform all the duties of the local registrar of marriages” (Health & Saf.Code, § 102285), and that “[e]ach local registrar is hereby charged with the enforcement of this part in his or her registration district under the supervision and direction of the State Registrar and shall make an immediate report to the State ***239 Registrar of any violation of this law coming to his or her knowledge.” (Health & Saf.Code, § 102295, italics added.) The statutes also provide that “[t]he local registrar of marriages shall carefully examine each certificate before acceptance for registration and, if it is incomplete or unsatisfactory, he or she shall require any further information to be furnished as may be necessary to make the record satisfactory before acceptance for registration.” (Health & Saf.Code, § 102310.)

Pursuant to the foregoing provisions, the State Registrar of Vital Statistics (who, as noted, is also the California Director of Health Services) has prescribed a form—Department of Health Services Form VS-117—which serves as the application for license to marry, the license to marry, and the certificate of registry of marriage. One of the principal California family law practice guides describes the relevant portions of the form as follows: “The *1079 first three

sections of the form (Groom Personal Data, Bride Personal Data, and Affidavit) constitute the application for license to marry. The personal data sections are filled out by the court clerk, using information and/or documents provided by the applicants. The bride and groom must both sign the application (*see* **471 lines 23 [entitled Signature of Groom], 24 [entitled Signature of Bride]) after the personal data sections have been completed. The fourth section of the form (lines 25A–25F) constitutes the license to marry. This section is to be completed by the clerk.” (1 Kirkland et al., Cal. Family Law: Practices and Procedure (2d ed. 2003) Validity of Marriage, Forms, § 10.100[1], p. 10–80.)

The city acknowledges that the county clerk altered the form prescribed by the State Registrar of Vital Statistics by replacing references to “bride,” “groom,” and “unmarried man and unmarried woman” with references to “first applicant,” “second applicant,” and “unmarried individuals,” that the county clerk further issued marriage licenses to same-sex couples, and that the county recorder registered certificates of registry of marriage for such couples, despite the knowledge of these officials that the current California statutes do not authorize such actions. The city defends the actions of these officials on the ground that they were based on the belief that the statutory restriction in California law limiting marriage to a man and a woman is unconstitutional. The principal question before us is whether the local officials exceeded or acted outside of their authority in taking these actions.

III

In light of several questions raised by the briefs filed by the city in this court, we begin with a brief discussion of the respective roles of state and local officials with regard to the enforcement of the marriage statutes (in particular, the issuance of marriage licenses and the registering of marriage certificates), and of the nature of the duties of local officials under the applicable statutes.

A

[2] As is demonstrated by the above review of the relevant statutory provisions, the Legislature has enacted a comprehensive scheme regulating marriage in California, establishing the substantive standards for eligibility for marriage and setting forth in detail the procedures to be followed and the public officials who are entrusted with carrying out these procedures. In light of both the historical understanding reflected in this statutory scheme and the statutes' repeated emphasis on the importance of having uniform rules and procedures apply throughout the ***240 state to the subject of marriage, *1080 there can be no question but that marriage is a matter of “statewide concern” rather than a “municipal affair” (see Cal. Const., art. XI, §§ 4, 5, 6; see, e.g., *California Fed. Savings & Loan Assn. v. City of Los Angeles* (1991) 54 Cal.3d 1, 17, 283 Cal.Rptr. 569, 812 P.2d 916), and that state statutes dealing with marriage prevail over any conflicting local charter provision, ordinance, or practice.

[3] [4] Furthermore, the relevant statutes also reveal that the only local officials to whom the state has granted authority to act with regard to marriage licenses and marriage certificates are *the county clerk* and *the county recorder*. The statutes do not authorize the mayor of a city (or city and county, as is San Francisco) or any other comparable local official to take any action with regard to the process of issuing marriage licenses or registering marriage certificates. Although a mayor may have authority under a local charter to supervise and control the actions of a county clerk or county recorder with regard to other subjects, a mayor has no authority to expand or vary the authority of a county clerk or county recorder to grant marriage licenses or register marriage certificates under the governing state statutes, or to direct those officials to act in contravention of those statutes. (See, e.g., *Coulter v. Pool* (1921) 187 Cal. 181, 187, 201 P. 120 [“A public officer is a public agent and as such acts only on behalf of his principal.... The most general characteristic of a public officer ... is that a public duty is delegated and entrusted to him, as agent, *the performance of which is an exercise of a part of the governmental functions of the particular political unit for which he, as agent, is acting*” (Italics added)]; *Sacramento v. Simmons* (1924) 66 Cal.App. 18, 24–25, 225 P. 36 [when state statute designated local health officers as

local registrars of vital statistics, “to the extent [such officials] are discharging such duties they are acting as state officers. *They are state officers performing state functions and are under the **472 exclusive jurisdiction of the state registrar of vital statistics*” (italics added); *Boss v. Lewis* (1917) 33 Cal.App. 792, 794, 166 P. 843 [city clerk, when acting as local registrar of vital statistics under state law, is state officer].)

[5] Accordingly, to the extent the mayor purported to “direct” or “instruct” the county clerk and the county recorder to take specific actions with regard to the issuance of marriage licenses or the registering of marriage certificates, we conclude he exceeded the scope of his authority. (See, e.g., *Sacramento v. Simmons*, *supra*, 66 Cal.App. 18, 24–28, 225 P. 36.)¹⁵ Furthermore, if the county clerk or the county recorder acted in this case in contravention of the *1081 applicable statutes solely at the behest of the mayor and not on the basis of the official's own determination that the statutes are unconstitutional, such official also would appear to have acted improperly by abdicating the statutory responsibility imposed directly on him or her as a state officer. (See, e.g., ***241 *California Radioactive Materials Management Forum v. Department of Health Services* (1993) 15 Cal.App.4th 841, 874, 19 Cal.Rptr.2d 357, disapproved on another point in *Carmel Valley Fire Protection Dist. v. State of California* (2001) 25 Cal.4th 287, 305, fn. 5, 105 Cal.Rptr.2d 636, 20 P.3d 533 [“An executive or administrative officer can no more abdicate responsibility for executing the laws than the Legislature can be permitted to usurp it”].)

Although it is not clear that the county clerk and the county recorder acted on the basis of each individual official's own opinion or determination as to the unconstitutionality of the applicable statutes (see fn. 15, *ante*), and the actions of these officials might be vulnerable to challenge on that ground alone, it is nonetheless appropriate in this case to address the question whether a public official may refuse to enforce a statute when he or she determines the statute to be unconstitutional. The city maintains that when, as here, a public official has asserted in a mandate proceeding that a statutory provision that the official has refused to enforce is unconstitutional, a court may not issue a writ of mandate to compel the official to perform a ministerial duty prescribed by the statute unless the court first determines that the statute is constitutional. If, however, the controlling rule of law requires such an official to carry out a ministerial duty dictated by statute unless and until the statute has been judicially determined to be unconstitutional, it follows that such an official cannot *compel* a court to rule on the constitutional issue by refusing to apply the statute and that a writ of mandate properly may issue, without a judicial determination of the statute's constitutionality, directing the official to comply with the statute unless and until the statute has been judicially determined to be unconstitutional. Accordingly, in deciding whether a writ of mandate should issue, it is appropriate to determine whether the city officials were obligated to comply with the ministerial duty prescribed by statute without regard to their view of the constitutionality of the statute.

B

[6] [7] In addition, we believe it is appropriate to clarify at the outset that, under the statutes reviewed above, the duties of the county clerk and the county recorder at issue in this case properly are characterized as *ministerial* rather than discretionary. When the substantive and procedural requirements *1082 established by the state marriage statutes are satisfied, the county clerk and the county recorder each has the respective mandatory duty to issue a marriage license and record a certificate of registry of marriage; in that circumstance, the officials have no discretion to withhold a marriage license or refuse to record a marriage certificate. By the same **473 token, when the statutory requirements have not been met, the county clerk and the county recorder are not granted any discretion under the statutes to issue a marriage license or register a certificate of registry of marriage. As we stated recently in *Kavanaugh v. West Sonoma County Union High School Dist.* (2003) 29 Cal.4th 911, 916, 129 Cal.Rptr.2d 811, 62 P.3d 54: “ ‘A ministerial act is an act that a public officer is required to perform in a prescribed manner in obedience to the mandate of legal authority and without regard to his own judgment or opinion concerning such act's propriety or impropriety, when a given state of facts exists.’ ”

Thus, the issue before us is whether under California law the authority of a local executive official, charged with the ministerial duty of enforcing a state statute, includes the authority to disregard the statutory requirements when the

official is of the opinion the provision is unconstitutional ***242 but there has been no judicial determination of unconstitutionality.

IV

[8] In the opposition and supplemental opposition filed in this court, the city maintains that a local executive official's general duty and authority to apply the law includes the authority to refuse to apply a statute whenever the official believes it to be unconstitutional, even in the absence of a judicial determination of unconstitutionality and even when the duty prescribed by the statute is ministerial. The city asserts that such authority flows from every public official's duty "to conform [his or her] acts to constitutional norms." The Attorney General argues, by contrast, that it is well established that a duly enacted statute is presumed to be constitutional, and he maintains that "the prospect of local governmental officials unilaterally defying state laws with which they disagree is untenable and inconsistent with the precepts of our legal system."

As we shall explain, we conclude that a local public official, charged with the ministerial duty of enforcing a statute, generally does not have the authority, in the absence of a judicial determination of unconstitutionality, to refuse to enforce the statute on the basis of the official's view that it is unconstitutional.¹⁶

*1083 A

In the initial petitions filed in this matter, petitioners relied primarily on the provisions of [article III, section 3.5 of the California Constitution](#) (hereafter generally referred to as [article III, section 3.5](#)) in maintaining that the challenged actions of the local officials were improper.

[Article III, section 3.5](#) provides in full: "An administrative agency, including an administrative agency created by the Constitution or an initiative statute, has no power: [¶] (a) To declare a statute unenforceable, or refuse to enforce a statute, on the basis of its being unconstitutional unless an appellate court has made a determination that such statute is unconstitutional. [¶] (b) To declare a statute unconstitutional. [¶] (c) To declare a statute unenforceable, or to refuse to enforce a statute on the basis that federal law or federal regulations prohibit the enforcement of such statute unless an appellate court has made a determination that the enforcement of such statute is prohibited by federal law or federal regulations."

[Article III, section 3.5](#) does not define the term "administrative agency" as used in this constitutional provision. Petitioners maintain that in light of the purpose of the provision, the term "administrative agency" should be interpreted to include local executive officials, particularly local officials who **474 are acting as state officers in carrying out a function prescribed by state statute.

[Article III, section 3.5](#) was proposed by the Legislature and placed before the voters as Proposition 5 at the June 6, 1978 ***243 election, and was adopted by the electorate. The ballot argument in favor of Proposition 5, contained in the election brochure distributed to voters prior to the election, stated in part: "Every statute is enacted only after a long and exhaustive process, involving as many as four open legislative committee meetings where members of the public can express their views. If the agencies question the constitutionality of a measure, they can present testimony at the public hearing during legislative consideration. Committee action is followed by full consideration by both houses of the Legislature. [¶] Before the Governor signs or vetoes a bill, he receives analyses from the agencies which will be called upon to implement its provisions. If the Legislature has passed the bill over the objections of the agency, the Governor is not likely to ignore valid apprehensions of his department, as he is Chief Executive of the State and is *1084 responsible for most of its administrative functions. [¶] Once the law has been enacted, however, it does not make sense

for an administrative agency to refuse to carry out its legal responsibilities because the agency's members have decided the law is invalid. Yet, administrative agencies are so doing with increasing frequency. These agencies are all part of the Executive Branch of government, charged with the duty of enforcing the law. [¶] The Courts, however, constitute the proper forum for determination of the validity of State statutes. There is no justification for forcing private parties to go to Court in order to require agencies of government to perform the duties they have sworn to perform. [¶] Proposition 5 would prohibit the State agency from refusing to act under such circumstances, unless an appellate court has ruled the statute is invalid. [¶] We urge you to support this Proposition 5 in order to insure that appointed officials do not refuse to carry out their duties by usurping the authority of the Legislature and the Courts. Your passage of Proposition 5 will help preserve the concept of the separation of powers so wisely adopted by our founding fathers.” (Ballot Pamp. Primary Elec. (June 6, 1978) argument in favor of Prop. 5, p. 26.) Petitioners maintain that the rationale set forth in this ballot argument applies to local executive officials as well as state administrative agencies, and thus that the term “administrative agency” as used in the provision properly should be construed to apply to local executive officials.

The city vigorously contests petitioners' suggested interpretation of [article III, section 3.5](#), maintaining that this provision is addressed only to state, not local, administrative agencies, and that in any event the local officials here at issue are not an “administrative agency” within the meaning of [article III, section 3.5](#). The city concedes there may be some anomaly in [article III, section 3.5](#)'s application only to state administrative agencies and not to local executive officials, but insists such an anomaly “would not be license to rewrite [Section 3.5](#) and give it a meaning nobody had in mind when it was passed.” The city argues that “[t]he voters were responding to a specific problem [involving state administrative agencies] when they enacted [Section 3.5](#), and they chose specific means to address that problem. In the end, if some in hindsight question the wisdom of that choice, the answer lies in amending California's Constitution, not judicially rewriting it.” In sum, the city asserts that the existing terms of [article III, section 3.5](#) cannot properly be interpreted to include local executive officials.

Although one Court of Appeal decision contains language directly supporting petitioners' argument that [article III, section 3.5](#)'s reference to administrative agencies properly is interpreted to include local executive officials such as county clerks ***244 (*Billig v. Voges* (1990) 223 Cal.App.3d 962, 969, 273 Cal.Rptr. 91 (*Billig*)), the city maintains that the question of the proper scope of [article III, section 3.5](#) never was raised in *Billig*, and further that the *1085 pertinent language in *Billig* clearly is dictum. Accordingly, the city argues, the appellate court's decision in *Billig* cannot properly be viewed as resolving **475 the issue whether [article III, section 3.5](#) applies to local officials.¹⁷

As we shall explain, we have determined that we need not (and thus do not) decide in this case whether the actions of the local executive officials here at issue fall within the scope or reach of [article III, section 3.5](#), because *1086 we conclude that prior to the adoption of [article III, section 3.5](#), it already was established under California law—as in the overwhelming majority of other states (see, ***245 *post*, 17 Cal.Rptr.3d at pp. 260–263, 95 P.3d at pp. 486–490)—that a local executive official, charged with a ministerial duty, generally lacks authority to determine that a statute is unconstitutional and on that basis refuse to apply the statute. Because the adoption of [article III, section 3.5](#) plainly *did not grant or expand* the authority of local executive officials to determine that a statute is unconstitutional and to act in contravention of the statute's terms on the basis of such a determination, we conclude that the city officials do not possess this authority and that the actions challenged in the present case were unauthorized and invalid.

B

We begin with a few basic legal principles that were well established prior to the adoption of [article III, section 3.5](#) in 1978.

[9] [10] First, one of the fundamental principles of our constitutional system of government is that a statute, once duly enacted, “is presumed to be constitutional. Unconstitutionality must be clearly shown, and doubts will be resolved in favor of its validity.” (7 Witkin, Summary of Cal. Law (9th ed. 1988) **476 Constitutional Law, § 58, pp. 102–

103 [citing, among numerous other authorities], *In re Madera Irrigation District* (1891) 92 Cal. 296, 308, 28 P. 272; *San Francisco v. Industrial Acc. Com.* (1920) 183 Cal. 273, 280, 191 P. 26; *People v. Globe Grain and Mill. Co.* (1930) 211 Cal. 121, 127, 294 P. 3.)

[11] Second, it is equally well established that when, as here, a public official's authority to act in a particular area derives wholly from statute, the scope of that authority is measured by the terms of the governing statute. “It is well settled in this state and elsewhere, that when a statute prescribes the particular method in which a public officer, acting under a special authority, shall perform his duties, the mode is the measure of the power.” (*Cowell v. Martin* (1872) 43 Cal. 605, 613–614; see, e.g., *County of Alpine v. County of Tuolumne* (1958) 49 Cal.2d 787, 797, 322 P.2d 449; *California State Restaurant Assn. v. Whitlow* (1976) 58 Cal.App.3d 340, 346–347, 129 Cal.Rptr. 824[“[a]dministrative bodies and officers have only such powers as have expressly or impliedly been conferred upon them by the Constitution or by statute”].)

The city has not identified any provision in the California Constitution or in the applicable statutes that purports to grant the county clerk or the county recorder (or any other local official) the authority to determine the constitutionality of the statutes each public official has a ministerial duty to enforce. Instead, the city's position appears to be that a public executive official's duty *1087 to follow the law (including the Constitution) includes the implied or inherent authority to refuse to follow an applicable statute whenever the official personally believes the statute to be unconstitutional, even though there has been no judicial determination of the statute's unconstitutionality and despite the existence of the rule that a duly enacted statute is presumed to be constitutional.

As we shall see, the California authorities that were in place prior to the adoption of [article III, section 3.5](#), do not support the city's position.

C

Although in this case we need not determine the scope of [article III, section 3.5](#), the historical background that led to the proposal and adoption of that constitutional provision in 1978 nonetheless provides a useful starting point for our analysis. As this court explained in *Reese v. Kizer* (1988) 46 Cal.3d 996, 1002, 251 Cal.Rptr. 299, 760 P.2d 495, “[a]rticle III, [section 3.5](#), ***246 ... was placed on the ballot by a unanimous vote of the Legislature in apparent response to this court's decision in *Southern Pac. Transportation v. Public Utilities Com.* (1976) 18 Cal.3d 308, 134 Cal.Rptr. 189, 556 P.2d 289 [hereafter *Southern Pacific*], in which the majority held that the Public Utilities Commission had the power to declare a state statute unconstitutional.” Accordingly, the decision in *Southern Pacific* is an appropriate place to begin.

In *Southern Pacific*, the plaintiff railroad company sought review of two decisions of the Public Utilities Commission (PUC) in which the PUC held that [section 1202.3 of the Public Utilities Code](#), a statute enacted in 1971, was unconstitutional. [Section 1202.3](#) was one of a number of statutes in the Public Utilities Code dealing with railroad crossings. With respect to private or farm railroad crossings, [Public Utilities Code section 7537\(1\)](#) granted “the owner of adjoining lands the right to *private* or *farm* crossings necessary or convenient for egress or ingress” (*Southern Pacific, supra*, 18 Cal.3d at p. 311, 134 Cal.Rptr. 189, 556 P.2d 289), (2) provided that the railroad must maintain the crossings, and (3) granted the PUC the authority to fix and assess the cost of such crossings. With respect to railroad crossings on *public* or *publicly used roads*, [Public Utilities Code section 1202](#) gave the PUC the exclusive power “to regulate *public* or *publicly used* road or highway crossings, including locating, maintaining, protecting, and closing them” (*Southern Pacific, supra*, 18 Cal.3d at p. 312, 134 Cal.Rptr. 189, 556 P.2d 289), and further granted the PUC the authority to allocate costs among the railroad and the affected public entities responsible for maintaining the public or publicly used road, including any costs involved in closing a crossing.

**477 [Public Utilities Code section 1202.3](#), the statute at issue in *Southern Pacific*, provided, in turn, that in any proceeding under *1088 [Public Utilities Code section 1202](#) “involving a *publicly used* road or highway not on a publicly

maintained road system,” the PUC could apportion costs to the public entity if the PUC found “(a) express dedication and acceptance of the road or (b) a judicial determination of implied dedication.” (*Southern Pacific*, *supra*, 18 Cal.3d at p. 312, 134 Cal.Rptr. 189, 556 P.2d 289.) If neither condition was found, section 1202.3 provided that the PUC “shall order the crossing abolished by physical closing.” Section 1202.3 further provided that “the railroad shall in no event be required to bear improvement costs ‘in excess of what it would be required to bear in connection with the improvement of a public street or highway crossing.’” (*Southern Pacific*, *supra*, 18 Cal.3d at pp. 312–313, 134 Cal.Rptr. 189, 556 P.2d 289.)

In *Southern Pacific*, the PUC concluded in an administrative proceeding that Public Utilities Code section 1202.3 was unconstitutional because it unlawfully delegated the state's police power to private litigants by granting private litigants absolute discretion to require the closing of a railroad crossing merely by commencing a proceeding under Public Utilities Code section 1202. The PUC's conclusion was based in part on its determination that under section 1202.3, once the PUC found that there had been neither an express dedication and acceptance of the publicly used road, nor a judicial determination of an implied dedication of the road, the PUC had no alternative but to order the crossing closed and to require the railroad to pay for the closing. (*Southern Pacific*, *supra*, 18 Cal.3d at p. 313, 134 Cal.Rptr. 189, 556 P.2d 289.)

***247 On review, this court unanimously disagreed with the PUC's constitutional determination. Observing that Public Utilities Code section 1202.3 provided, in its introductory phrase, that the statute applied “in any proceeding under Section 1202,” the court in *Southern Pacific* reasoned that “the Legislature has declared that section 1202.3 is an exception to the former section and that the provisions for cost allocation and closing crossings in the latter section are only applicable when the commission would otherwise have ordered improvement of a crossing pursuant to the former section. The standard for compelling crossing improvement implicit in section 1202 is obviously public convenience and necessity, including safety concerns [citations], and this standard must be read into section 1202.3. [¶] Thus, before the commission may close a crossing under section 1202.3, it must not only find public use and lack of requisite dedication, but also find that necessity and convenience preclude continued use of the crossing in its existing condition. Such findings—rather than mere commencement of a proceeding under section 1202—are the basis for closing a crossing under section 1202.3. [¶] The function of the private litigant within the statutory framework is merely to call the commission's attention to the need for improving or closing a crossing and perhaps to urge action on the commission.” (*Southern Pacific*, *supra*, 18 Cal.3d at p. 314, 134 Cal.Rptr. 189, 556 P.2d 289, italics added.)

*1089 As noted, in *Southern Pacific* all of the justices of this court agreed that the PUC had erred in concluding that Public Utilities Code section 1202.3 was unconstitutional. Although the briefs filed in this court in *Southern Pacific* did not raise any question regarding the authority of the PUC to determine the constitutionality of section 1202.3,¹⁸ and the majority in *Southern Pacific* did not address that question in the text of the opinion, Justice Mosk authored a vigorous concurring and dissenting opinion in *Southern Pacific*, arguing strongly that neither the PUC nor any other administrative agency “may declare a duly enacted statute unconstitutional,” and that “it is incongruous for the will of the people of the state, reflected by their elected legislators, to be thwarted by a governmental body which exists only to implement that will.” (*Southern Pacific*, *supra*, 18 Cal.3d at p. 315, 134 Cal.Rptr. 189, 556 P.2d 289 (conc. & dis. opn. of Mosk, J.))

478 Justice Mosk's concurring and dissenting opinion in *Southern Pacific* acknowledged that a prior California decision—*Walker v. Munro* (1960) 178 Cal.App.2d 67, 2 Cal.Rptr. 737 (hereafter *Walker*)—had held that an administrative agency that has been granted judicial or quasi-judicial power by the California Constitution (a type of entity commonly referred to as a “constitutional agency”)¹⁹ has the authority to consider the constitutionality of a statute in the course of its quasi-judicial proceedings. Justice Mosk suggested, however, that *Walker* had been “indirectly *248 criticized and implicitly disapproved” (*Southern Pacific*, *supra*, 18 Cal.3d at p. 316, 134 Cal.Rptr. 189, 556 P.2d 289 (conc. & dis. opn. of Mosk, J.)) in *State of California v. Superior Court* (1974) 12 Cal.3d 237, 250–251, 115 Cal.Rptr. 497, 524 P.2d 1281 (hereafter *State of California v. Superior Court (Veta)*), and he took issue with “the debatable premise that any and all ‘judicial power’ inherently entails the authority to declare a law unconstitutional.” (*Southern*

Pacific, supra, 18 Cal.3d at p. 317, 134 Cal.Rptr. 189, 556 P.2d 289.) Relying upon language in numerous decisions of the United States Supreme Court indicating that an administrative agency or executive official has no power to adjudicate constitutional issues (*id.* at p. 316, 134 Cal.Rptr. 189, 556 P.2d 289), and decisions from other jurisdictions holding “that administrative agencies lack the powers appropriated in this case” (*ibid.*), Justice Mosk concluded that the extensive powers granted by the California Constitution to the PUC did not include the power to declare a statute unconstitutional and to refuse to apply it.

***1090** The majority in *Southern Pacific* responded to Justice Mosk's concurring and dissenting opinion in a lengthy footnote. (See *Southern Pacific, supra*, 18 Cal.3d 308, 311–312, fn. 2, 134 Cal.Rptr. 189, 556 P.2d 289.) The initial portion of the footnote contains some broad language that could be read to support the conclusion that the duty of any administrative agency or public official to obey the Constitution affords such agency or official the authority to determine the constitutional validity of statutes the agency or official is charged with enforcing. The majority in *Southern Pacific*, however, ultimately rested its holding that the PUC had the authority to determine the constitutional validity of statutes on the circumstance that the California Constitution grants broad judicial or quasi-judicial power to the PUC.

The majority in *Southern Pacific* stated in this regard: “[T]he Constitution and statutes of this state grant the commission wide administrative, legislative, and judicial powers. [Citations.] The Legislature has limited the judiciary from interfering with the commission by restricting review to the Supreme Court and by additionally restricting review to determining ‘whether the commission has regularly pursued its authority, *including* a determination of whether the order or decision under review violates any right of the petitioner under the Constitution of the United States or of this State.’ (Italics added; [citations].) **Public Utilities Code section 1732** provides corporations and individuals may not raise matters in any court not presented to the commission on petition for rehearing, reflecting, when read with the judicial review sections, legislative determination that all issues must be presented to the commission. *Under the broad powers granted it, the commission may determine the validity of statutes.*” (*Southern Pacific, supra*, 18 Cal.3d at pp. 311–312, fn. 2, 134 Cal.Rptr. 189, 556 P.2d 289, italics added.)

This review of the decision in *Southern Pacific* demonstrates that there was a significant disagreement in this court on the particular question *whether a so-called constitutional agency* (like the PUC), *that has been granted the authority to exercise quasi-judicial power by the California Constitution*, has the authority to determine that a statute the agency is called upon to apply is unconstitutional and need not be followed. We are ****479** unaware, however, of any case, either prior to or subsequent to *Southern Pacific*, that suggests that under the California Constitution *a local executive official such as a county clerk*, who is charged with the *ministerial* duty to enforce a statute, has the authority *****249** to exercise judicial power by determining whether a statute is unconstitutional.

The case of *Walker, supra*, 178 Cal.App.2d 67, 2 Cal.Rptr. 737, cited (and criticized) in Justice Mosk's concurring and dissenting opinion in *Southern Pacific*, appears to be the first case in California to address the question whether an administrative agency has the authority to determine the constitutionality of a ***1091** statute that the agency is required to enforce. In *Walker*, the plaintiffs were retail liquor dealers who had been charged in an administrative proceeding before the Department of Alcoholic Beverage Control with violating the fair trade provisions of the California Alcoholic Beverage Control Act. While the administrative proceeding was pending, the plaintiffs filed a declaratory judgment action in superior court against the administrative officials, seeking a declaration that the fair trade provisions of the Alcoholic Beverage Control Act were unconstitutional, and an order enjoining the officials from enforcing those provisions. The trial court in *Walker* granted summary judgment in favor of the defendants, relying upon the circumstance that the same constitutional issue had been raised in the pending administrative proceeding and upon the trial court's conclusion “that it is more expeditious and proper that the Department rule on the question before the court is required to rule on it.” (178 Cal.App.2d at p. 70, 2 Cal.Rptr. 737.)

On appeal, the plaintiffs argued that the exhaustion of remedies doctrine upon which the trial court had relied was inapplicable, because the Department of Alcoholic Beverage Control “does not have the power ... to decide constitutional

questions.” (*Walker, supra*, 178 Cal.App.2d at p. 73, 2 Cal.Rptr. 737.) In rejecting this contention, the Court of Appeal in *Walker* began by referring to the applicable provision of the California Constitution that empowers the Alcoholic Beverage Control Appeals Board to review questions “ ‘whether the department has proceeded without or in excess of its jurisdiction, whether the department has proceeded in the manner required by law, whether the decision is supported by the findings, and whether the findings are supported by substantial evidence in light of the whole record.’ (Cal. Const., art. XX, § 22.)” (178 Cal.App.2d at p. 73, 2 Cal.Rptr. 737.) The court in *Walker* then observed: “The department and the Appeals Board are thus constitutional agencies *upon which limited judicial powers have been conferred*. [Citations.]” (*Ibid.*, italics added.)

In response to the plaintiffs' claim in *Walker* that the department only could make findings of fact and that the appeals board only was empowered “to review certain questions of law, which are only procedural” (*Walker, supra*, 178 Cal.App.2d at p. 74, 2 Cal.Rptr. 737), the court in *Walker* stated: “However, there does not appear to be any basis for so limiting the grant of power to the Appeals Board. The Appeals Board may determine whether the department acted within its jurisdiction. In *United Insurance Co. v. Maloney* [(1954)] 127 Cal.App.2d [155,] 157 [273 P.2d 579], the court stated: ‘A charge of unconstitutional action goes to the very jurisdiction of the administrative officer or body to entertain the proceeding....’ [Citation.] This would also seem applicable to a charge that the statute which the agency is seeking to enforce is unconstitutional.” (*Walker, supra*, 178 Cal.App.2d at p. 74, 2 Cal.Rptr. 737.)

1092** Accordingly, in concluding that the administrative agency in that case had the authority to determine, at least in the first instance, the question whether the fair trade statutes were unconstitutional, the court in *Walker* specifically relied upon the **250** circumstance that the Alcoholic Beverage Control Appeals Board had been granted the authority by the California Constitution to exercise limited judicial power.²⁰

****480** As noted in Justice Mosk's concurring and dissenting opinion in *Southern Pacific*, this court held in *State of California v. Superior Court (Veta)*, *supra*, 12 Cal.3d 237, 115 Cal.Rptr. 497, 524 P.2d 1281, some years after the appellate court's decision in *Walker*, that a plaintiff seeking a declaration that the California Coastal Zone Conservation Act of 1972 was unconstitutional was not required to pursue that constitutional claim before the Coastal Zone Conservation Commission prior to bringing a court action. (12 Cal.3d at pp. 250–251, 115 Cal.Rptr. 497, 524 P.2d 1281.) Although there is some language in *Veta* critical of *Walker*, the two cases nonetheless are clearly and easily distinguishable, because the Coastal Zone Conservation Commission, unlike the Alcoholic Beverage Control Appeals Board, had not been granted any judicial power by the California Constitution. Thus, the holding in *State of California v. Superior Court (Veta)* that the commission lacked authority to pass on the constitutionality of the statute establishing its status and functions was not inconsistent with the *Walker* decision.

In light of the foregoing review of the relevant case law, we believe that after this court's decision in *Southern Pacific, supra*, 18 Cal.3d 308, 134 Cal.Rptr. 189, 556 P.2d 289 the state of the law in this area was clear: administrative agencies that had been granted judicial or quasi-judicial power by the California Constitution possessed the authority, in the exercise of their administrative functions, to determine the constitutionality of statutes, but agencies that had not been granted such power under the California Constitution lacked such authority. (See *Hand v. Board of Examiners in Veterinary Medicine* (1977) 66 Cal.App.3d 605, 617–619, 136 Cal.Rptr. 187.) Accordingly, these decisions recognize that, under ***1093** California law, the determination whether a statute is unconstitutional and need not be obeyed is an exercise of judicial power and thus is reserved to those officials or entities that have been granted such power by the California Constitution.²¹

Given the foregoing decisions and their reasoning, it appears evident that under California law as it existed prior to the adoption of [article III, section 3.5 of the California Constitution](#), a local executive official, such as a county clerk or county *****251** recorder, possessed no authority to determine the constitutionality of a statute that the official had a ministerial duty to enforce. If, in the absence of a grant of judicial authority from the California Constitution, an administrative agency that was required by law to reach its decisions only after conducting court-like quasi-judicial proceedings did not

generally possess the authority to pass on the constitutionality of a statute that the agency was required to enforce, it follows even more so that a local executive official who is charged simply with the ministerial duty of enforcing a statute, and who generally acts without any quasi-judicial authority or procedure whatsoever, did not possess such authority. As indicated above, we are unaware of any California case that suggests such a public official has been granted judicial or quasi-judicial power by the California Constitution.²²

****481 [12]** The city, in arguing that [article III, section 3.5](#) does not apply to local officials, relies upon the statement in *Strumsky v. San Diego County Employees Ret. Assn.* (1974) 11 Cal.3d 28, 36, 112 Cal.Rptr. 805, 520 P.2d 29, that the separation of powers clause in [article III](#) “is inapplicable to the government below the state level.”²³ The city might well argue that this language in *Strumsky* also renders inapposite the line of California cases (*Southern Pacific*, [supra](#), 18 Cal.3d 308, 134 Cal.Rptr. 189, 556 P.2d 289; *State of California v. Superior Court (Veta)*, [supra](#), 12 Cal.3d 237, 115 Cal.Rptr. 497, 524 P.2d 1281; and *Walker*, [supra](#), 178 Cal.App.2d 67, 2 Cal.Rptr. 737) that we have just discussed. The city fails to recognize, however, that the decision in *Strumsky* emphatically did *not* hold that under the California Constitution local executive officials are free to exercise judicial power. On the contrary, in *Strumsky* this court expressly *overruled* a line of earlier California decisions that had held (for purposes of determining the appropriate standard of judicial review of a decision of a local administrative agency) that such an agency could exercise judicial power; the opinion in *Strumsky* concluded instead that a local administrative agency has *no* authority under the California Constitution to exercise judicial power. (*Strumsky*, [supra](#), 11 Cal.3d at pp. 36–44, 112 Cal.Rptr. 805, 520 P.2d 29.) In light of this holding in *Strumsky*, it appears clear that a local executive official who makes decisions— *****252** without the benefit of even a quasi-judicial proceeding—has no authority to exercise judicial power, such as by determining the constitutionality of applicable statutory provisions.

Accordingly, we conclude that at the time [article III, section 3.5](#) was adopted, it was clear under California law that a local executive official did not have the authority to determine that a statute is unconstitutional or to refuse to enforce a statute in the absence of a judicial determination that the statute is unconstitutional.²⁴

The adoption of [article III, section 3.5](#), of course, effectively overruled the majority's holding in *Southern Pacific* and largely embraced the reasoning set forth in Justice Mosk's concurring and dissenting opinion, amending the California Constitution to provide that “[a]n administrative agency, including an administrative agency created by the Constitution or an initiative statute, has no power ... [t]o ... refuse to enforce a statute on the basis of its being unconstitutional unless an appellate court has made a determination that such ***1095** statute is unconstitutional.” ****482** (Italics added.) As we already have noted, we need not and do not decide in this case what effect the adoption of [article III, section 3.5](#) has on the authority of local executive officials, because it is abundantly clear that this constitutional amendment did not *expand* the authority of such officials so as to permit them to refuse to enforce a statute solely on the basis of their view that the statute is unconstitutional. Accordingly, we conclude that under California law a local executive official generally lacks such authority.

D

In support of its contrary claim that, as a general matter, California law long has recognized that an executive public official has the authority to refuse to comply with a ministerial statutory duty whenever the official personally believes the statute is unconstitutional, the city relies upon a line of California decisions that have reviewed the validity of statutes or ordinances authorizing the issuance of bonds, the letting of public contracts, or the disbursement of public funds in mandate actions filed against public officials who refused to comply with a ministerial duty. As the city accurately notes, numerous California decisions addressing these three subjects have held that “mandate is the proper remedy to compel a public officer to perform ministerial acts such as issuance of bonds [and that] the constitutionality of the law authorizing a bond issuance may be determined in a proceeding for such a writ.” *****253** (*California Housing Finance Agency v.*

Elliott (1976) 17 Cal.3d 575, 579–580, 131 Cal.Rptr. 361, 551 P.2d 1193 [bond]; see, e.g., *California Educational Facilities Authority v. Priest* (1974) 12 Cal.3d 593, 598, 116 Cal.Rptr. 361, 526 P.2d 513 [bond]; *Metropolitan Water District v. Marquardt* (1963) 59 Cal.2d 159, 170–171, 28 Cal.Rptr. 724, 379 P.2d 28 [public contract]; *City of Whittier v. Dixon* (1944) 24 Cal.2d 664, 666, 151 P.2d 5 [warrant]; *Golden Gate Bridge etc. Dist. v. Felt* (1931) 214 Cal. 308, 315–320, 5 P.2d 585 [bond]; *Los Angeles Co. F.C. Dist. v. Hamilton* (1917) 177 Cal. 119, 121, 169 P. 1028 [bond]; *Denman v. Broderick* (1896) 111 Cal. 96, 99, 105, 43 P. 516 [warrant].)

In each of the foregoing cases, the mandate action was instituted after a public official who was under a statutory duty to perform a ministerial act that was a necessary step in the issuance of the bond, the letting of the contract, or the disbursement of public funds (such as affixing the official's signature to the bond or contract, or issuing a warrant) refused to perform that act based upon the official's ostensible doubts as to the constitutional validity of the statute authorizing the bond, contract, or public expenditure. The city emphasizes that in none of these cases did the court criticize such a public official for declining to perform his or her ministerial act, but instead concluded that the public official's refusal to act was an appropriate means of ***1096** bringing the constitutional question of the validity of the bond, contract, or expenditure of public funds before the court for resolution. The city maintains that these decisions demonstrate that the general rule in California always has been that *every* public official is free to determine the constitutional validity of the statutory provisions that he or she has a ministerial duty to enforce or execute, and free to refuse to perform the ministerial act if he or she in good faith believes the statute to be unconstitutional. The city argues that the line of decisions we have analyzed above—holding, prior to the adoption of [article III, section 3.5](#), that only administrative agencies constitutionally authorized to exercise judicial power have the authority to determine the constitutional validity of statutes—involved *a limited exception* applicable only to administrative agencies.

We believe the city's argument misconceives the state of the law prior to the adoption of [article III, section 3.5](#). As we have discussed above, the general rule established by California decisions at the time *Southern Pacific, supra*, 18 Cal.3d 308, 134 Cal.Rptr. 189, 556 P.2d 289, was decided was that, among administrative agencies, only one that had been granted judicial power under the California Constitution possessed the authority to determine the constitutionality of a statute it was charged with enforcing and to decline to apply the statute if the agency determined it was unconstitutional. As already ****483** explained, if a nonconstitutional administrative agency that rendered its decisions after an extensive quasi-judicial procedure—in which the arguments for and against constitutionality could be fully presented and considered in a quasi-judicial fashion—lacked authority to determine constitutional issues, it clearly would be anomalous to permit an ordinary executive official (who carries out his or her official action without the benefit of any sort of quasi-judicial procedures) to determine the constitutionality of a statute and to refuse to apply it based simply upon the official's own good faith belief that the statute is unconstitutional. Thus, the general rule in California—and, as we shall discuss below, in most jurisdictions—was (and continues to be) that an executive official does not possess such authority.

It is the line of public finance cases upon which the city relies that involves the exceptional *****254** situation. As the applicable decisions make clear, the public official in each of those cases was permitted to refuse to perform a ministerial act when he or she had doubts about the validity of the underlying bond, contract, or public expenditure, both in order to ensure that a mechanism was available for obtaining a timely *judicial* determination of the validity of the bond issue, contract, or public expenditure—a determination often essential to the marketability of bonds or to the contracting parties' willingness to go forward with the contract (see, e.g., *Golden Gate Bridge etc. Dist. v. Felt, supra*, 214 Cal. 308, 315, 5 P.2d 585), or to avoid irreparable loss of public funds²⁵—and in recognition of the circumstance that, in this specific context, the public official frequently faced potential *personal* liability (as distinguished from the potential liability of a governmental entity) if the bond, contract, or public expenditure ultimately was found to be invalid. (See, e.g., *Golden Gate Bridge etc. Dist. v. Felt, *1097 supra*, 214 Cal. at pp. 316–317, 5 P.2d 585; *Denman v. Broderick, supra*, 111 Cal. 96, 105, 43 P. 516.)

Although the city points to language in some of these decisions that could be read to support the city's broad position here, the *holdings* in these cases clearly are limited to a public official's ability to refuse to perform a ministerial act

necessary for the execution of a bond issue or public contract, or the disbursement of public funds, where such refusal permits a judicial determination prior to the actual sale of the bonds, the carrying out of the contract, or the disbursement of public funds, and where the official's personal liability frequently is at stake. Contrary to the city's contention, the circumstance that a public official may refuse to perform a ministerial act in that context does not signify that in all other contexts every public official is free to refuse to perform a ministerial act based upon the official's view that the statute the officer is statutorily obligated to apply is unconstitutional.

The city attempts to bring the present matter within the reach of the foregoing cases by arguing that if the city officials enforced California's current marriage laws limiting marriage to a man and a woman, the officials would face possible personal liability for monetary damages under state or federal law if the marriage statutes subsequently were determined to be unconstitutional. The city's argument in this regard clearly lacks merit.

First, as a matter of state law, [Government Code section 820.6](#) explicitly provides that “[i]f a public employee acts in good faith, without malice, and under the apparent authority of an enactment that is unconstitutional, invalid, or inapplicable, he is not liable for an injury caused thereby except to the extent that he would have been liable had the enactment been constitutional, valid and applicable.” Thus, the officials clearly would not have incurred liability under California law simply for following the current marriage statutes and declining to issue marriage licenses ****484** or register marriage certificates in contravention of those statutes. Second, under federal ***1098** law, a local public official generally is immunized from liability for official acts so long as the official's conduct “does not violate *clearly established* statutory or constitutional *****255** rights of which a reasonable person would have known” (*Harlow v. Fitzgerald* (1982) 457 U.S. 800, 818, 102 S.Ct. 2727, 73 L.Ed.2d 396, italics added; see *Anderson v. Creighton* (1987) 483 U.S. 635, 639, 107 S.Ct. 3034, 97 L.Ed.2d 523), and, as we discuss below (see, *post*, 17 Cal.Rptr.3d pp. 258–260, 95 P.3d pp. 486–489), in this instance there simply is no plausible argument that the city officials would have violated “clearly established” constitutional rights by continuing to enforce California's current marriage statutes in the absence of a judicial determination that the statutes are unconstitutional. (Cf. *LSO, Ltd. v. Stroh* (9th Cir.2000) 205 F.3d 1146, 1160 [finding state officials were not entitled to qualified immunity when “no reasonable official could have believed” that application of the statute at issue was constitutional in light of prior controlling judicial decisions].) Finally, even if the city officials were to be sued in their personal capacity for actions taken pursuant to statute and in the scope of their employment, under [Government Code section 825](#) the officials would be entitled to have their public employer provide a defense and pay any judgment entered in such an action, whether the action was based on a state law claim or a claim under the federal civil rights statutes. (See *Williams v. Horvath* (1976) 16 Cal.3d 834, 842–848, 129 Cal.Rptr. 453, 548 P.2d 1125.) Accordingly, there is no merit to the city's contention that the actions of the city officials that are challenged here can be defended as necessary to avoid the incurring of personal liability on the part of such officials.

E

Some academic commentators, while confirming that as a general rule executive officials must comply with duly enacted statutes even when the officials believe the provisions are unconstitutional, have suggested that there may be room to recognize an exception to this general rule in instances in which a public official's refusal to apply the statute would provide the most practical or reasonable means of enabling the question of the statute's constitutionality to be brought before a court. (See, e.g., May, *Presidential Defiance of “Unconstitutional” Laws: Reviving the Royal Prerogative* (1994) 21 *Hastings Const. L.Q.* 865, 994–996.)²⁶ As we have just seen, the line of public finance cases relied upon by the city may be viewed as an example of ***1099** just such a limited exception, and there are a number of other California decisions in which a constitutional challenge to a statute or other legislative enactment has been brought before a court for judicial resolution by virtue of a public entity's refusal to comply with the statute, under circumstances in which the public entity had a personal stake or interest *****256** in the constitutional issue and the public entity's action was the most practicable or reasonable method of obtaining a judicial determination of the validity of the statute. (See, e.g., *County of Riverside v. Superior Court* (2003) 30 Cal.4th 278, 132 Cal.Rptr.2d 713, 66 P.3d 718 [impingement on county's home rule authority];

Star-Kist Foods, Inc. v. County of Los Angeles (1986) 42 Cal.3d 1, 5–10, 227 Cal.Rptr. 391, 719 P.2d 987 [impingement on county's taxing authority].)

****485** Although it may be appropriate in some circumstances for a public entity or public official to refuse or decline to enforce a statute as a means of bringing the constitutionality of the statute before a court for judicial resolution, it is nonetheless clear that such an exception does not justify the actions of the local officials at issue in the present case. Here, there existed a clear and readily available means, other than the officials' wholesale defiance of the applicable statutes, to ensure that the constitutionality of the current marriage statutes would be decided by a court. If the local officials charged with the ministerial duty of issuing marriage licenses and registering marriage certificates believed the state's current marriage statutes are unconstitutional and should be tested in court, they could have denied a same-sex couple's request for a marriage license and advised the couple to challenge the denial in superior court. *That* procedure—a lawsuit brought by a couple who has been denied a license under existing statutes—is the procedure that was utilized to challenge the constitutionality of California's antimiscegenation statute in *Perez v. Sharp* (1948) 32 Cal.2d 711, 198 P.2d 17, and the procedure apparently utilized in all of the other same-sex marriage cases that have been litigated recently in other states. (See, e.g., *Baehr v. Lewin* (1993) 74 Haw. 530, 852 P.2d 44; *Goodridge v. Department of Pub. Health* (2003) 440 Mass. 309, 798 N.E.2d 941; *Baker v. State of Vermont* (1999) 170 Vt. 194, 744 A.2d 864.) The city cannot plausibly claim that the desire to obtain a judicial ruling on the constitutional issue justified the wholesale defiance of the applicable statutes that occurred here.²⁷

***1100** Accordingly, the city cannot defend the challenged actions on the ground that such actions were necessary to obtain a judicial determination of the constitutionality of California's marriage statutes.

F

The city also relies on the circumstance that each of the city officials in question took an oath of office to “support and defend” the state and federal Constitutions,²⁸ suggesting that a public official *****257** would violate his or her oath of office were the official to perform a ministerial act under a statute that the official personally believes violates the Constitution. In our view, this contention clearly lacks merit.

As Justice Mosk explained in his concurring and dissenting opinion in *Southern Pacific, supra*, 18 Cal.3d 308, 319, 134 Cal.Rptr. 189, 556 P.2d 289, a public official “faithfully upholds the Constitution by complying with the mandates of the Legislature, leaving to courts the decision whether those mandates are invalid.” A public official does not honor his or her oath to defend the Constitution by taking action in contravention of the restrictions of his or her office or authority and justifying such action by reference to his or her personal constitutional views. For example, it is clear that a justice of this court or of an intermediate appellate court does not act ****486** in contravention of his or her oath of office when the justice follows a controlling constitutional decision of a higher court even though the justice personally believes that the controlling decision was wrongly decided and that the Constitution actually requires the opposite result. On the contrary, the oath to support and defend the Constitution requires a public official to act within the constraints of our constitutional system, not to disregard presumptively valid statutes and take action in violation of such statutes on the basis of the official's own ***1101** determination of what the Constitution means.²⁹ (See also *State v. State Board of Equalizers* (1922) 84 Fla. 592, 94 So. 681, 682–683 [“The contention that the oath of a public official requiring him to obey the Constitution places upon him the duty or obligation to determine whether an act is constitutional before he will obey it is ... without merit. The fallacy in it is that every act of the legislature is presumed constitutional until judicially *****258** declared otherwise, and the oath of office ‘to obey the Constitution’ means to obey the Constitution, not as the officer decides, but as judicially determined”].)³⁰

***1102 G**

The city further contends that a general rule requiring an executive official to comply with an existing statute unless and until the statute has been judicially determined to be unconstitutional is impractical and would lead to intolerable circumstances. The city posits a hypothetical example of a public official faced with a statute that is identical in all respects to another statute that a court already has determined is unconstitutional, and suggests it would be absurd to require the official to apply the clearly invalid statute in that instance. For support, the city points to a passage in the majority opinion in *Southern Pacific*, which asks rhetorically: “[W]hen the United States Supreme Court, for example, ****487** repudiates the separate but equal doctrine established by the statutes of one state, should the school boards of other states continue to apply identical statutes until a court declares them invalid [?]” (*Southern Pacific, supra*, 18 Cal.3d 308, 311, fn. 2, 134 Cal.Rptr. 189, 556 P.2d 289.)

[13] Whatever force this argument might have in a case in which a governing decision previously has found an identical statute unconstitutional or in which the invalidity of the statute is so patent or clearly established that no reasonable official could believe the statute is constitutional,³¹ the argument plainly is of no avail here. Although we have no occasion in this case to determine the constitutionality of the current California marriage statutes, we can say with confidence that the asserted invalidity of those statutes certainly is not so patent or clearly established that no reasonable official could believe that the current California marriage *****259** statutes are valid. Indeed, the city cannot point to any judicial decision that has held a statute limiting marriage to a man and a woman unconstitutional under the California or federal Constitution. Instead, the city relies on state court decisions from Massachusetts, Vermont, and Hawaii, that, in interpreting their own state constitutions, assertedly have found similar statutory restrictions to violate provisions of their state's own constitution. (See *Goodridge v. Department of Pub. Health, supra*, 440 Mass. 309, 798 N.E.2d 941; *Baker v. State of *1103 Vermont, supra*, 170 Vt. 194, 744 A.2d 864; *Baehr v. Lewin, supra*, 74 Haw. 530, 852 P.2d 44.)³² A significant number of ****488** other state and federal courts, however, have reached a contrary conclusion and have upheld the constitutional validity of such a restriction on marriage under both the federal Constitution and other state constitutions. (See, e.g., *Baker v. Nelson* (1971) 291 Minn. 310, 191 N.W.2d 185, 186–187, app. dismiss. for want of substantial federal question (1972) 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65 [federal Constitution];³³ ***1104 ***260** *Standhardt v. Super. Ct., supra*, 206 Ariz. 276, 77 P.3d 451, 454–465 [federal and Arizona Constitutions]; *Dean v. District of Columbia* (D.C.Ct.App.1995) 653 A.2d 307, 361–364 (opns. of Terry, J. & Steadman, J.) [federal Constitution]; *Jones v. Hallahan* (Ky.Ct.App.1973) 501 S.W.2d 588, 590 [federal Constitution]; *Singer v. Hara* (1974) 11 Wash.App. 247, 522 P.2d 1187, 1189–1197 [federal and Washington Constitutions]; *Adams v. Howerton* (C.D.Cal.1980) 486 F.Supp. 1119, 1124–1125, affd. (9th Cir.1982) 673 F.2d 1036, cert. den. (1982) 458 U.S. 1111, 102 S.Ct. 3494, 73 L.Ed.2d 1373 [federal Constitution].) Although the state court decisions from Massachusetts, Vermont, and Hawaii relied upon by the city surely would be of interest to a California court faced with the question whether the current California marriage statutes violate the California Constitution, a California court would be equally interested in the decisions of the courts that have reached a contrary conclusion (and in the reasoning of the minority opinions in the state court decisions relied upon by the city [see *Goodridge v. Department of Pub. Health, supra*, 440 Mass. 309, 798 N.E.2d 941, 974–1005 (dis. opns. of Spina, J., Sosman, J., & Cordy, J.); *Baehr v. Lewin, supra*, 74 Haw. 530, 852 P.2d 44, 70–73 (dis. opn. of Heen, J.)]. In light of the absence of any California authority directly on point and the sharp division of judicial views expressed in the out-of-state decisions that have considered similar constitutional challenges, this plainly is not an instance in which the invalidity of the California marriage statutes is so patent or clearly established that no reasonable official could believe that the statutes are constitutional. Therefore, this case does not fall within any narrow exception that may apply to instances in which it would be absurd or unreasonable to require a public official to comply with a statute that any reasonable official would conclude is unconstitutional.

H

[14] Accordingly, we conclude that, under California law, the city officials had no authority to refuse to perform their ministerial duty in conformity with the current California marriage statutes on the basis of their view that the ***1105** statutory limitation of marriage to a couple comprised of a man and a woman is unconstitutional.

It is worth noting that the California rule generally precluding an executive official from refusing to perform a ministerial duty imposed by statute on the basis of the official's determination or opinion that the statute is unconstitutional is consistent with the ****489** general rule applied in the overwhelming *****261** majority of cases from other jurisdictions. (See generally Annot., [Unconstitutionality of Statute as Defense to Mandamus Proceeding \(1924\)](#) 30 A.L.R. 378, 379[“[t]he weight of authority [holds] that a public officer whose duties are of a ministerial character cannot question the constitutionality of a statute as a defense to a mandamus proceeding to compel him to perform some official duty, where in the performance of such duty his personal interests or rights will not be affected, and he will not incur any personal liability, or violate his oath of office”]; Annot. (1940) 129 A.L.R. 941 [supplementing 30 A.L.R. 378]; see also Note (1928) 42 Harv. L.Rev. 1071.)³⁴

*****262 *1106** Although there are numerous out-of-state cases that address this issue, one of the most quoted decisions is *State v. Heard*, [supra](#), 18 So. 746, 752, where the court, after an extensive ****490** review of the then existing authorities from various jurisdictions, concluded: “[E]xecutive officers of the State government have no authority to decline the performance of purely ministerial duties which are imposed upon them by a law, on the ground that it contravenes the Constitution. Laws are presumed to be, and must be treated and acted upon by subordinate executive functionaries as constitutional and legal, until their unconstitutionality or illegality has been judicially established, for, in all well regulated government, obedience to its laws by executive officers is absolutely essential, and of paramount importance. Were it not so the most inextricable confusion would inevitably result, and ‘produce such collisions in the administration of public affairs as to materially impede the proper and necessary operations of the government.’ ‘It was surely never intended that an executive functionary should nullify a law by neglecting or refusing to execute it.’” (See also *Department of State Highways v. Baker*, [supra](#), 69 N.D. 702, 290 N.W. 257, 259 [“There is no question as to the general rule that a subordinate ministerial officer to whom no injury can result and to whom no violation of duty can be imputed by reason of compliance with the statute may not question the constitutionality of the statute imposing such duty”]; *State v. Becker*, [supra](#), 328 Mo. 541, 41 S.W.2d 188, 190 [“It is well settled in this state and in a great majority of our sister states that, as a general rule, a ministerial officer cannot defend his refusal to perform a duty prescribed by a statute on the ground that such statute is unconstitutional”]; *State v. Steele* ***1107** *County Board of Com'rs*, [supra](#), 181 Minn. 427, 232 N.W. 737, 738 [although “[t]he authorities are in conflict,” “[t]he better doctrine, supported by the weight of authority, is that an official so charged with the performance of a ministerial duty will not be allowed to question the constitutionality of such a law.... Officials acting ministerially are not clothed with judicial authority.... Their authority is the command of the statute, and it is the limit of their power”]; *State v. State Board of Equalizers*, [supra](#), 84 Fla. 592, 94 So. 681, 683 [“It is contended that an *individual* may refuse to obey a law that he believes to be unconstitutional, and take a chance on its fate in the courts. He does this, however, ‘at his peril’; the ‘peril’ being to suffer the consequences, such as fine or imprisonment, or both, if the courts should hold the act to be constitutional. [¶] A *ministerial officer* refusing to enforce a law because in his opinion it is unconstitutional takes no such risk. He does nothing ‘at his peril,’ because he subjects himself to no penalty if his opinion as to the unconstitutionality of an act is not sustained by the courts. [¶] It is the doctrine of nullification, pure and simple, and whatever may have been said of the soundness of that doctrine when sought to be applied by states to acts of Congress, the most ardent *****263** followers of Mr. Calhoun never extended it to give to ministerial officers the right and power to nullify a legislative enactment” (italics added) .]

I

In addition to the California decisions reviewed above and the weight of judicial authority from other jurisdictions, consideration of the practical consequences of a contrary rule further demonstrates the unsoundness of the city's position.

To begin with, most local executive officials have no legal training and thus lack the relevant expertise to make constitutional determinations. Although every individual (lawyer or nonlawyer) is, of course, free to form his or her own opinion of what the Constitution means and how it should be interpreted and applied, a local executive official has no authority to impose his or her personal view on others by refusing to comply with a ministerial duty imposed by statute. (See, e.g., *Southern Pacific, supra*, 18 Cal.3d 308, 321, 134 Cal.Rptr. 189, 556 P.2d 289 (conc. & dis. opn. of Mosk, J.) [“Certainly attorneys have no monopoly on wisdom, but a person trained for three or more years in a college of law and then tempered with at least a decade of experience within the judicial system is likely to be far better equipped to make difficult constitutional judgments than a lay administrator with no background in the law”].)³⁵

1108 **491** Second, if, as the city maintains, a local official were to possess the authority to act on the basis of his or her own constitutional determination, such an official generally would arrive at that determination without affording the affected individuals any due process safeguards and, in particular, without providing any opportunity for those supporting the constitutionality of the statutes to be heard. In its opposition to the initial petition filed in this case, the city urged this court not to immediately accept jurisdiction over the substantive question of the constitutionality of California's marriage laws at this time, because that question properly could be determined only after a full presentation of evidence before a trial court. The city officials themselves, however, made their own constitutional determination without conducting any such evidentiary hearing or taking other measures designed to protect the rights of those who maintain that the statute is constitutional. Thus, despite the settled rule that a duly enacted statute is presumed to be constitutional, under the city's proposed rule a local executive official **264** would be free to determine that a statute is unconstitutional and refuse to enforce it, without providing even the most rudimentary of due process procedures—notice and an opportunity to be heard—to anyone directly affected by the official's action.

Third, there are thousands of elected and appointed public officials in California's 58 counties charged with the ministerial duty of enforcing thousands of state statutes. If each official were empowered to decide whether or not to carry out each ministerial act based upon the official's own personal judgment of the constitutionality of an underlying statute, the enforcement of statutes would become haphazard, leading to confusion and chaos and thwarting the uniform statewide treatment that state statutes generally are intended to provide. (Cf. *Haring v. Blumenthal, supra*, 471 F.Supp. 1172, 1178–1179 [“Unless and until the Congress, or a court of competent jurisdiction ..., determines that a particular tax exemption ruling is invalid, the employees of the [Internal Revenue] Service ... are obliged to implement that ruling. Not merely the concept of a uniform tax policy but the effectiveness of the government of the United States as a functioning entity would be ***1109** in jeopardy if each employee could take it upon himself to decide which particular laws, regulations, and policies are legal or illegal, and to base his official actions upon that private determination”].) Although in the past the multiplicity of public officials performing similar ministerial acts under a single statute never has posed a problem in this regard, that is undoubtedly true only because most officials never imagined they had the authority to determine the constitutionality of a statute that they have a ministerial duty to enforce. Were we to hold that such officials possess this authority, it is not difficult to anticipate that private individuals who oppose enforcement of a statute and question its constitutionality would attempt to influence ministerial officials in various locales to exercise—on behalf of such opponents—the officials' newly recognized authority. The circumstance that many local officials have no legal training would only exacerbate the problem. As a consequence, the uneven enforcement of statutory *****492** mandates in different local jurisdictions likely would become a significant concern.

Fourth, the confused state of affairs arising from diverse actions by a multiplicity of local officials frequently would continue for a considerable period of time, because under the city's proposed rule a court generally could not order a public official to comply with the challenged statute until the court actually had determined that it was constitutional. In view of the many instances in which a constitutional challenge to a statute entails lengthy litigation, the lack of uniform treatment afforded to similarly situated citizens throughout the state often would be a long-term phenomenon.

These practical considerations simply confirm the soundness of the established rule that an executive official generally does not have the authority to refuse to comply with a ministerial duty imposed by statute on the basis of the official's opinion that the statute is unconstitutional.³⁶

***265 V

The city further claims, however, that even if *California law* does not recognize the authority of a local official to refuse to comply with a statutorily mandated ministerial duty absent a judicial determination that the statute is unconstitutional, under the federal supremacy clause (U.S. Const., art. VI, § 2) California lacks the power to require a public official to comply with a state statute that the official believes violates the federal Constitution. *1110 Although in the present case the mayor's initial letter to the county clerk relied solely upon the asserted unconstitutionality of the California marriage statutes under the *California* Constitution, the city, in the opposition filed in this court, for the first time advanced the position that the action taken by the city officials was based, at least in part, on their belief that the California statutes violate the *federal* Constitution, and the city now rests its supremacy clause claim on this newly asserted belief. Putting aside the question of the bona fides of this belatedly proffered rationale, we conclude that, in any event, the federal supremacy clause provides no support for the city's argument.

To begin with, the principal cases upon which the city relies—*Ex Parte Young* (1908) 209 U.S. 123, 28 S.Ct. 441, 52 L.Ed. 714 and *LSO, Ltd. v. Stroh, supra*, 205 F.3d 1146—are readily distinguishable from the present case. Those cases stand only for the proposition that the circumstance that a state official is acting pursuant to the provisions of an applicable state statute does not necessarily shield the official (or the public entity on whose behalf the official acts) either from an injunction or a monetary judgment issued by a federal court, where the federal court subsequently determines that the state statute violates the federal Constitution.³⁷ The city has not cited any case holding that the federal Constitution prohibits a state from defining the authority of a state's executive officials in a manner that requires such officials to comply with a clearly applicable statute unless and until such a statute is judicially determined to be unconstitutional, nor any case holding that the federal Constitution compels a state to permit every executive official, state or local, to refuse to enforce an applicable statutory provision whenever the official personally believes the statute violates the federal Constitution.

[15] Furthermore, numerous pronouncements by the United States Supreme Court directly refute the city's contention that the supremacy clause or any other provision of the federal Constitution embodies such a principle. To begin with, the high court's position on the proper role of federal executive **493 officials with regard to constitutional determinations is instructive. In *Davies Warehouse Co. v. Bowles* (1944) 321 U.S. 144, 152–153, 64 S.Ct. 474, 88 L.Ed. 635, for example, in response to the plaintiff's contention that under one proposed reading of the applicable statute “the [federal Price] Administrator [an executive official] would have to decide whether the state regulation is constitutional before he should recognize it,” the United States Supreme *1111 Court stated: “We cannot give weight to this view of [the Price Administrator's] functions, which we think it unduly magnifies. *State statutes, like federal ones, are entitled to the presumption of constitutionality until their invalidity is judicially declared. Certainly ***266 no power to adjudicate constitutional issues is conferred on the Administrator.... We think the Administrator will not be remiss in his duties if he assumes the constitutionality of state regulatory statutes, under both state and federal constitutions, in the absence of a contrary judicial determination.*” (Italics added; see also *Weinberger v. Salfi* (1975) 422 U.S. 749, 765, 95 S.Ct. 2457, 45 L.Ed.2d 522 [“[T]he constitutionality of a statutory requirement [is] a matter which is beyond [the Secretary of Health, Education, and Welfare's] jurisdiction to determine”]; *Johnson v. Robison* (1974) 415 U.S. 361, 368, 94 S.Ct. 1160, 39 L.Ed.2d 389 [“[a]djudication of the constitutionality of congressional amendments has generally been thought beyond the jurisdiction of administrative agencies”]; *Oestereich v. Selective Service Board* (1968) 393 U.S. 233, 242, 89 S.Ct. 414, 21 L.Ed.2d 402 (conc. opn. of Harlan, J.) [same]; cf. *Thunder Basin Coal Co. v. Reich* (1994) 510 U.S. 200, 215, 114 S.Ct. 771, 127 L.Ed.2d 29.) In light of the high court's repeated statements that federal executive officials generally lack

authority to determine the constitutionality of statutes, the city's claim that the federal supremacy clause itself grants a state or local official the authority to refuse to enforce a statute that the official believes is unconstitutional is plainly untenable.

Furthermore, there are several earlier United States Supreme Court cases that even more directly refute the city's contention. *Smith v. Indiana* (1903) 191 U.S. 138, 24 S.Ct. 51, 48 L.Ed. 125 was a case, arising from the Indiana state courts, in which a county auditor had refused to grant a statutorily authorized exemption to a taxpayer because the auditor believed the exemption violated the federal Constitution. A mandate action was filed against the auditor, and the state courts permitted the auditor to raise and litigate the asserted unconstitutionality of the statute as a defense in the mandate action, ultimately determining that the exemption was constitutionally permissible and directing the auditor to grant the exemption. The auditor appealed the state court decision upholding the constitutionality of the state statute to the United States Supreme Court.

In its opinion in *Smith*, the high court observed that “there are many authorities to the effect that a ministerial officer, charged by law with the duty of enforcing a certain statute, cannot refuse to perform his plain duty thereunder upon the ground that in his opinion it is repugnant to the Constitution” (*Smith v. Indiana, supra*, 191 U.S. at p. 148, 24 S.Ct. 51), but it recognized that a state court “has the power ... to assume jurisdiction in such a case if it chooses to do so.” (*Ibid.*) At the same time, however, the court in *Smith* stated explicitly that “the power of a public officer to question the constitutionality of a statute as an excuse for refusing to enforce it ... is a purely ***1112** local question ” (*ibid.*, italics added)—that is, purely a question of state (not federal) law—a conclusion that directly refutes the city's claim that federal law requires a state to recognize the authority of a ministerial official to refuse to comply with a statute whenever the official believes it violates the federal Constitution. Moreover, in *Smith* itself the United States Supreme Court went on to hold that although the state court in that case had permitted the auditor to litigate the constitutionality of the state statute, the auditor did not have a sufficient personal interest in the litigation to support jurisdiction in the United States Supreme Court; thus the high court dismissed the auditor's appeal without reaching the question of the constitutionality of the underlying *****267** statute.³⁸ A few years later, the high ****494** court followed its decision in *Smith*, dismissing a similar appeal by a state auditor in *Braxton County Court v. West Virginia* (1908) 208 U.S. 192, 197, 28 S.Ct. 275, 52 L.Ed. 450.

In light of the foregoing high court decisions, we conclude that the California rule set forth above does not conflict with any federal constitutional requirement.

VI

The city contends, however, that even if we conclude that its officials lacked the authority to refuse to enforce the marriage statutes, we still cannot issue the writ of mandate sought by petitioners without first determining whether California's current marriage statutes are constitutional, in light of the general proposition that courts will not issue a writ of mandate to require a public official to perform an unconstitutional act. As the Florida Supreme Court explained in a similar context, however, “[i]t is no answer to say that the courts will not require a ministerial officer to perform an unconstitutional act. That aspect of the case is not before us. We must first determine the power of the ministerial officer to refuse to perform a statutory duty because *in his opinion* the law is unconstitutional. When we decide that, we do not get to the question of the constitutionality of the act, and it will not be decided.” (*State v. State Board of Equalizers, supra*, 84 Fla. 592, 94 So. 681, 684.) Accordingly, because we have concluded that the city officials have no authority to refuse to apply the current marriage statutes in the absence of a judicial determination that these statutes are unconstitutional, we conclude that the requested writ of mandate should issue.

*1113 VII

[16] Finally, we must determine the appropriate scope of the relief to be ordered. As a general matter, the nature of the relief warranted in a mandate action is dependent upon the circumstances of the particular case, and a court is not necessarily limited by the prayer sought in the mandate petition but may grant the relief it deems appropriate. (See *Johnson v. Fontana County F.P. Dist.* (1940) 15 Cal.2d 380, 391–392, 101 P.2d 1092; *George M. v. Superior Court* (1988) 201 Cal.App.3d 755, 760, 247 Cal.Rptr. 330; *Sacramento City Police Dept. v. Superior Court* (1984) 156 Cal.App.3d 1193, 1197, fn. 5, 203 Cal.Rptr. 169.)

In the present case, we are faced with an unusual, perhaps unprecedented, set of circumstances. Here, local public officials have purported to authorize, perform, and register literally thousands of marriages in direct violation of explicit state statutes. The Attorney General, as well as a number of local taxpayers, have filed these original mandate proceedings in this court to halt the local officials' unauthorized conduct and to compel these officials to correct or undo the numerous unlawful actions they have taken in the immediate past. As explained above, we have determined that the city officials exceeded their authority in issuing marriage licenses to, solemnizing marriages of, and registering marriage certificates on behalf of, same-sex couples. Under these circumstances, we conclude ***268 that it is appropriate in this mandate proceeding not only to order the city officials to comply with the applicable statutes in the future, but also to direct the officials to take all necessary steps to remedy the continuing effect of their past unlawful actions, including correction of all relevant official records and notification of affected individuals of the invalidity of the officials' actions.

[17] In light of the clear terms of [Family Code section 300](#) defining marriage as a “personal relationship arising out of a civil contract between a man and a woman” and the legislative history of this provision demonstrating that the purpose of this limitation was to “prohibit persons of the same sex from entering lawful marriage” (Sen. Com. on Judiciary, Analysis of Assem. Bill No. 607 (1977–1978 Reg. Sess.) as amended May 23, 1977, p. 1 [discussed, ***495 *ante*, 17 Cal.Rptr.3d p. 236, fn. 11, 95 P.3d p. 468, fn. 11]), we believe it plainly follows that all same-sex marriages authorized, solemnized, or registered by the city officials must be considered void and of no legal effect from their inception. Although this precise issue has not previously been presented under California law, every court that has considered the question has determined that when state law limits marriage to a union between a man and a woman, a same-sex marriage performed in violation of state law is void and of no legal effect. (See, e.g., *Jones v. Hallahan*, *supra*, 501 S.W.2d 588, 589 [same-sex marriage “would not constitute a marriage” under Kentucky law]; *Anonymous v. Anonymous* (N.Y.Sup.Ct.1971) 67 Misc.2d 982, 325 N.Y.S.2d 499, 501 [under New York law, same-sex “marriage ceremony was a nullity” and “no legal relationship could be created by it”]; *McConnell v. Nooner* (8th Cir.1976) 547 F.2d 54, 55–56 [“purported” same-sex marriage of no legal effect under Minnesota law]; *Adams v. Howerton*, *supra*, 486 F.Supp. 1119, 1122 [purported same-sex marriage has “no legal effect” under Colorado or federal law].) The city has not cited any case in which a same-sex marriage, performed in contravention of a state statute that bans such marriages and that has not judicially been held unconstitutional, has been given any legal effect.

The city and several amici curiae representing same-sex couples who obtained marriage licenses from city officials—and had certificates of registry of marriage registered by such officials—raise a number of objections to our determining that the same-sex marriages that have been performed in California are void and of no legal effect, but we conclude that none of these objections is meritorious.

First, the city and amici curiae contend that the Attorney General and the petitioners in *Lewis* lack standing to challenge the validity of the same-sex marriages that already have been performed, relying upon the provisions of [Family Code section 2211](#), which sets forth the categories of individuals who may bring an action to nullify a “voidable” marriage—categories that generally are limited to one of the parties to the marriage or, where a party to the marriage is a minor or a person incapable of giving legal consent, the parent, guardian, or conservator of such party. Past California decisions, however, make clear that the procedural requirements generally applicable in an action to nullify or annul a “voidable”

marriage are inapplicable when a purported marriage is void from the beginning or is a legal nullity. As this court stated in *Estate of Gregorson* (1911) 160 Cal. 21, 26, 116 P. 60: “A marriage prohibited as incestuous *or illegal* and declared to be ‘void’ or ‘void from the beginning’ is a legal nullity *and its validity may be asserted or shown in any proceeding in which the fact of marriage ***269 may be material.*” (Italics added.) In our view, the present mandate action, which seeks to compel public officials to correct the effects of their unauthorized official conduct in issuing marriage licenses to or registering marriage certificates of thousands of same-sex couples, is such a proceeding, because the validity or invalidity of the same-sex marriages authorized and registered by such officials is central to the scope of the remedy that may and should be ordered in this case.³⁹

1115** The city and amici curiae additionally contend that we cannot properly determine the validity or invalidity of the existing same-sex marriages in this proceeding because the parties to a marriage are indispensable parties to any legal action seeking to invalidate a marriage, and the thousands of same-sex couples whose marriages were authorized and registered by the local authorities are not formal parties to the present mandate proceeding. The city relies on cases involving actions that have been brought to annul a particular marriage on the basis of facts peculiar to that marriage, in which the courts have held the parties to the marriage to be *496** indispensable parties. (See, e.g., *McClure v. Donovan* (1949) 33 Cal.2d 717, 725, 205 P.2d 17.) In the present instance, by contrast, the question of the validity or invalidity of a same-sex marriage does not depend upon any facts that are peculiar to any individual same-sex marriage, but rather is a purely legal question applicable to all existing same-sex marriages, and rests on the circumstance that the governing state statute limits marriage to a union between a man and a woman. Under ordinary principles of stare decisis, an appellate decision holding that, under current California statutes, a same-sex marriage performed in California is void from its inception effectively would resolve that legal issue with respect to all couples who had participated in same-sex marriages, even though such couples had not been parties to the original action. Because the validity or invalidity of same-sex marriages under current California law involves only a pure question of law, couples who are not formal parties to this action are in no different position than if this question of law had been presented and resolved in an action involving some other same-sex couple rather than in an action in which the legal arguments regarding the validity of such marriages have been vigorously asserted not only by the city officials who authorized and registered such marriages but also by various amici curiae representing similarly situated same-sex couples. Requiring a separate legal proceeding to be brought to invalidate each of the thousands of same-sex marriages, or requiring each of the thousands of same-sex couples to be named and served as parties in the present action, would add nothing of substance to this proceeding.

The city and amici curiae further contend that it would violate the due process rights of the same-sex couples who obtained marriage licenses, and had their marriage certificates registered by the local officials, for this court to determine the validity of same-sex marriages without giving the couples notice and an opportunity to be heard. To begin with, there may be some question whether an individual who, *****270** through the deliberate unauthorized conduct of a public official, obtains a license, permit, or other status that clearly is not authorized by state law, possesses a constitutionally protected ***1116** property or liberty interest that gives rise to procedural due process guarantees. (Cf., e.g., *Snyder v. City of Minneapolis* (Minn.1989) 441 N.W.2d 781, 792; *Mellin v. Flood Brook Union School Dist.* (2001) 173 Vt. 202, 790 A.2d 408, 421; *Gunkel v. City of Emporia, Kan.* (10th Cir.1987) 835 F.2d 1302, 1304–1305 & fns. 7, 8.) In any event, these same-sex couples have not been denied the right to meaningfully participate in these proceedings. Although we have not permitted them to intervene formally in these actions as parties, our order denying intervention to a number of such couples explicitly was without prejudice to participation as amicus curiae, and numerous amicus curiae briefs have been filed on behalf of such couples directly addressing the question of the validity of the existing same-sex marriages. Accordingly, the legal arguments of such couples with regard to the question of the validity of the existing same-sex marriages have been heard and fully considered. Furthermore, under the procedure we adopt below (see, *post*, 17 Cal.Rptr.3d p. 272, 95 P.3d p. 498), before the city takes corrective action with regard to the record of any particular same-sex marriage license or same-sex marriage certificate, each affected couple will receive individual notice and an opportunity to show that the holding of the present opinion is not applicable to the couple.

The city and amici curiae next maintain that even if this court properly may address the validity of the existing same-sex marriages in this proceeding, under California law such marriages cannot be held void (or voidable, for that matter), because there is no California statute that explicitly provides that a marriage between two persons of the same sex or gender is void (or voidable). As we have seen, however, [Family Code section 300](#) explicitly *defines* marriage as “a personal relation arising out of a civil contract between a man and a woman,” and in view of the language and legislative history of this provision (see, *ante*, 17 Cal.Rptr.3d p. 236, fn. 11, 95 P.3d p. 468, fn. 11), we believe that the Legislature has made clear its intent that a same-sex marriage performed in California is not a valid marriage under California law. Accordingly, we view ****497** [Family Code section 300](#) itself as an explicit statutory provision establishing that the existing same-sex marriages at issue are void and invalid.

The city and amici curiae also rely upon [Family Code section 306](#), which provides in part that “[n]oncompliance with this part by a nonparty to the marriage does not invalidate the marriage,” maintaining that this statute demonstrates that even if the county clerk erred in issuing marriage licenses to same-sex couples, such noncompliance by the county clerk (a nonparty to the marriage) does not invalidate the marriage. In our view, [section 306](#)—which is unofficially entitled “Procedural requirements; effect of noncompliance”—has no application here. The defect at issue clearly is not simply a procedural defect in the issuance of the license or in the solemnization or registration process. Indeed, it is not simply the invalidity or unauthorized nature of the *county clerk's* action in issuing a marriage license to a same-sex ***1117** couple that renders void any marriage between a same-sex couple. What renders such a purported marriage void is the circumstance that the current California statutes reflect a clear legislative decision to “prohibit persons of the same sex from entering lawful marriage.” (Sen. Com. on Judiciary, Analysis of Assem. Bill No. 607 (1977–1978 Reg. Sess.) as amended May 23, 1977, discussed, *****271** *ante*, 17 Cal.Rptr.3d at p. 236, fn. 11, 95 P.3d at p. 468, fn. 11.) It is that substantive legislative limitation on the institution of marriage, and not simply the circumstance that the actions of the county clerk or county recorder were unauthorized, that renders the existing same-sex marriages invalid and void from the beginning.

Finally, the city urges this court to postpone the determination of the validity of the same-sex marriages that already have been performed and registered until a court rules on the substantive constitutional challenges to the California marriage statutes that are now pending in superior court. From a practical perspective, we believe it would not be prudent or wise to leave the validity of these marriages in limbo for what might be a substantial period of time given the potential confusion (for third parties, such as employers, insurers, or other governmental entities, as well as for the affected couples) that such an uncertain status inevitably would entail. ⁴⁰

In any event, we believe such a delay in decision is unwarranted on more fundamental grounds. As we have explained, because [Family Code section 300](#) clearly limits marriage in California to a marriage between a man and a woman and flatly prohibits persons of the same sex from lawfully marrying in California, the governing authorities establish that the same-sex marriages that already have been performed are void and of no legal effect *from their inception*. (See, *ante*, 17 Cal.Rptr.3d p. 267, 95 P.3d p. 493 and cases cited; see also *Estate of Gregorson, supra*, 160 Cal. 21, 26, 116 P. 60 [“A marriage prohibited as ... illegal and declared to be ‘void’ or ‘void from the beginning’ is a legal nullity....”].) In view of this well-established rule, we do not believe it would be responsible or appropriate for this court to fail at this time to inform the parties to the same-sex marriages and other persons whose legal rights and responsibilities may depend upon the validity or invalidity of these marriages that these marriages are invalid, notwithstanding the pendency of numerous lawsuits challenging the constitutionality of California's marriage statutes. Withholding or delaying a ruling on the current validity of the existing same-sex marriages might lead numerous persons to make fundamental changes in their lives or otherwise proceed on the basis of erroneous expectations, creating potentially irreparable harm.

1118** Although the city and the amici curiae representing same-sex couples suggest that these couples would prefer to live with uncertainty rather than be told at this point that the marriages are invalid, in light of the explicit terms of [Family Code section 300](#) and the warning included in the same-sex marriage license applications provided by the *498** city (see, *ante*, 17 Cal.Rptr.3d p. 232, fn. 5, 95 P.3d p. 465, fn. 5) these couples clearly were on notice that

the validity of their marriages was dependent upon whether a court would find that the city officials had authority to allow same-sex marriages. Now that we have confirmed that the city officials lack this authority, we do not believe that these couples have a persuasive equitable claim to have the validity of the marriages left in doubt at this point in time, creating uncertainty and potential harm to others who may need to know whether the marriages are valid or not. Had the current constitutional ***272 challenges to the California marriage statutes followed the traditional and proper course (see, *ante*, 17 Cal.Rptr.3d p. 256, 95 P.3d p. 485), no same-sex marriage would have been conducted in California prior to a judicial determination that the current California marriage statutes are unconstitutional. Accordingly, as part of the remedy for the city officials' unauthorized and unlawful actions, we believe it is appropriate to make clear that the same-sex marriages that already have purportedly come into being must be considered void from their inception. Of course, should the current California statutes limiting marriage to a man and a woman ultimately be repealed or be held unconstitutional, the affected couples then would be free to obtain lawfully authorized marriage licenses, have their marriages lawfully solemnized, and lawfully register their marriage certificates.⁴¹

Accordingly, to remedy the effects of the city officials' unauthorized actions, we shall direct the county clerk and the county recorder of the City and County of San Francisco to take the following corrective actions under the supervision of the California Director of Health Services, who, by statute, has general supervisory authority over the marriage license and marriage certificate process. (See, *ante*, 17 Cal.Rptr.3d pp. 237–239, 95 P.3d pp. 469–471.) The county clerk and the county recorder are directed to (1) identify all same-sex couples to whom the officials issued marriage licenses, solemnized marriage ceremonies, or registered marriage certificates, (2) notify these couples that this court has determined that same-sex marriages that have been performed in California are void from their inception and a legal nullity, and that these officials have been directed to correct their records to reflect the invalidity of these marriage licenses and marriages, (3) provide these couples an opportunity to *1119 demonstrate that their marriages are not same-sex marriages and thus that the official records of their marriage licenses and marriages should not be revised, (4) offer to refund, upon request, all marriage-related fees paid by or on behalf of same-sex couples, and (5) make appropriate corrections to all relevant records.

VIII

As anyone familiar with the docket of the United States Supreme Court, of this court, or of virtually any appellate court in this nation is aware, many statutes currently in force may give rise to constitutional challenges, and not infrequently the constitutional questions presented involve issues upon which reasonable persons, including reasonable jurists, may disagree. If every public official who is under a statutory duty to perform a ministerial act were free to refuse to perform that act based solely on the official's view that the underlying statute is unconstitutional, any semblance of a uniform rule of law quickly would disappear, and constant and widespread judicial intervention would be required to permit the ordinary mechanisms of government to function. This, of course, is not the system of law with which we are familiar. Under long-established ***273 principles, a statute, once enacted, is presumed to be constitutional until it has been judicially determined to be unconstitutional.

**499 An executive official, of course, is free to criticize existing statutes, to advocate their amendment or repeal, and to voice an opinion as to their constitutionality or unconstitutionality. As we have explained, however, an executive official who is charged with the ministerial duty of enforcing a statute generally has an obligation to execute that duty in the absence of a judicial determination that the statute is unconstitutional, regardless of the official's personal view of the constitutionality of the statute.

In this case, the city has suggested that a contrary rule—one under which a public official charged with a ministerial duty would be free to make up his or her own mind whether a statute is constitutional and whether it must be obeyed—is necessary to protect the rights of minorities. But history demonstrates that members of minority groups, as well as individuals who are unpopular or powerless, have the most to lose when the rule of law is abandoned—even for what

appears, to the person departing from the law, to be a just end.⁴² As observed at the outset of this opinion, granting every *1120 public official the authority to disregard a ministerial statutory duty on the basis of the official's opinion that the statute is unconstitutional would be fundamentally inconsistent with our political system's commitment to John Adams' vision of a government where official action is determined not by the opinion of an individual officeholder—but by the rule of law.

IX

For the reasons discussed above, a writ of mandate shall issue compelling respondents to comply with the requirements and limitations of the current marriage statutes in performing their ministerial duties under such statutes, and directing the county clerk and the county recorder of the City and County of San Francisco to take the following corrective actions under the supervision of the California Director of Health Services: (1) identify all same-sex couples to whom the officials issued marriage licenses, solemnized marriage ceremonies, or registered marriage certificates, (2) notify these couples that this court has determined that same-sex marriages that have been performed in California are void from their inception and a legal nullity, and that these officials have been directed to correct their records to reflect the invalidity of these marriage licenses and marriages, (3) provide these couples an opportunity to demonstrate that their marriages are not same-sex marriages and thus that the official records of their marriage licenses and marriages should not be revised, (4) offer to refund, upon request, all marriage related fees paid by or on behalf of same-sex ***274 couples, and (5) make appropriate corrections to all relevant records.

As the prevailing parties, petitioners shall recover their costs.

WE CONCUR: [BAXTER](#), [CHIN](#), BROWN and MORENO, JJ.

Concurring Opinion by MORENO, J.

I concur. The majority opinion addresses primarily the limitations on the power of local officials to disobey statutes that may be, but have not yet been judicially established to be, unconstitutional. I write separately to focus on the related but distinct question of what courts should do when confronted with such disobedience on the part of local officials. As the majority opinion suggests, a court should not invariably refuse to decide constitutional questions arising from local governments' or local officials' refusal to obey purportedly unconstitutional statutes. Indeed, California courts *1121 under these circumstances **500 have, on a number of occasions, decided the underlying constitutional questions. In the present case, the majority declines to decide the constitutional validity of [Family Code section 300](#), prohibiting same-sex marriage, but instead concludes that a writ of mandate against San Francisco's (the city's) local officials is justified because they exceeded their ministerial authority. As elaborated below, I agree that under these somewhat unusual circumstances, local officials' disobedience of the statute justifies this court's issuance of a writ of mandate against those officials before the underlying constitutional question has been adjudicated.

At the outset, I review the requirements for obtaining a writ of mandate. To obtain writ relief a petitioner must show: “(1) A clear, present and usually ministerial duty on the part of the respondent ...; and (2) a clear, present and beneficial right in the petitioner to the performance of that duty....” (*Santa Clara County Counsel Attys. Assn. v. Woodside* (1994) 7 Cal.4th 525, 539–540, 28 Cal.Rptr.2d 617, 869 P.2d 1142.) Also required is “the lack of any plain, speedy and adequate remedy in the usual course of law....” (*Flora Crane Service, Inc. v. Ross* (1964) 61 Cal.2d 199, 203, 37 Cal.Rptr. 425, 390 P.2d 193.) Although the writ of mandate generally must issue if the above requirements are clearly met (see *May v. Board of Directors* (1949) 34 Cal.2d 125, 133–134, 208 P.2d 661), the writ of mandate is an equitable remedy that will not issue if it is contrary to “promoting the ends of justice.” (*McDaniel v. City etc. of San Francisco* (1968) 259 Cal.App.2d 356, 361, 66 Cal.Rptr. 384; see also *Bartholomae Oil Corp. v. Superior Court* (1941) 18 Cal.2d 726, 730, 117 P.2d 674.)

The local officials in the present case have a clear ministerial duty to issue marriage licenses in conformance with state statute and have violated that duty. The Attorney General, and for that matter the plaintiffs in *Lewis v. Alfaro*, have a substantial right to ensure that marriage licenses conform to the statute. (See *Bd. of Soc. Welfare v. County of L.A.* (1945) 27 Cal.2d 98, 100–101, 162 P.2d 627.) But when a court is asked to grant a writ of mandate to enforce a statute over which hangs a substantial cloud of unconstitutionality, the above-stated principles dictate that a court at least has the discretion to refuse to issue the writ until the underlying constitutional question has been decided.

How should courts exercise that discretion? In California, generally speaking, courts faced with local governments' or local officials' refusal to obey assertedly unconstitutional statutes have decided the constitutional question before determining whether a writ or other requested relief should issue. (See, e.g., *County of Riverside ***275 v. Superior Court* (2003) 30 Cal.4th 278, 132 Cal.Rptr.2d 713, 66 P.3d 718 [county refused to obey as unconstitutional a state statute mandating binding arbitration for local agencies that reach *1122 negotiating impasse with police and firefighters]; *Star-Kist Foods, Inc. v. County of Los Angeles* (1986) 42 Cal.3d 1, 227 Cal.Rptr. 391, 719 P.2d 987 [county refused to act in accordance with a state revenue statute it had judged, correctly, to violate the U.S. Const.]; *Zee Toys, Inc. v. County of Los Angeles* (1978) 85 Cal.App.3d 763, 777–781, 149 Cal.Rptr. 750 [same]; *Paso Robles etc. Hospital Dist. v. Negley* (1946) 29 Cal.2d 203, 173 P.2d 813 [local financial officer refused to issue bonds and defended a lawsuit in order to expeditiously settle the constitutional validity of the bond issue]; *Denman v. Broderick* (1896) 111 Cal. 96, 105, 43 P. 516 [local official refused to spend public funds required by a statute believed to be unconstitutional “special legislation”]; *City of Oakland v. Digre* (1988) 205 Cal.App.3d 99, 252 Cal.Rptr. 99 [local official refused to enforce a parcel tax believed to be unconstitutional and required the city to demonstrate its constitutionality in court]; *Bayside Timber Co. v. Board of Supervisors* (1971) 20 Cal.App.3d 1, 14–15, 97 Cal.Rptr. 431 [county board of supervisors refused to issue permission for timber operations, although such refusal was not authorized under rules promulgated pursuant to state statute].) Indeed, any time a city determines that a state law is contrary to its own constitutional prerogative of self-governance and therefore refuses to obey the law, it is making a constitutional determination. (See, e.g., *Bishop v. City of San Jose* (1969) 1 Cal.3d 56, 63–64, 81 Cal.Rptr. 465, 460 P.2d 137 [determining that state prevailing **501 wage law for public works projects was not binding on cities].)

As the majority states, “the classic understanding of the separation of powers doctrine [is] that the legislative power is the power to enact statutes, the executive power is the power to execute or enforce statutes, and the judicial power is the power to interpret statutes and to determine their constitutionality.” (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 230, 95 P.3d at p. 463.) But “the separation of powers doctrine does not create an absolute or rigid division of functions.” (*Ibid.*) As the above cases suggest, local officials sometimes exercise their authority to *preliminarily* determine that a statute that directly affects the local government's functioning is unconstitutional and, in some circumstances, refuse to obey that statute as a means of bringing the constitutional challenge. This preliminary determination is the exercise of an *executive* function. Local officials and agencies do not “arrogate[] to [the local executive] core functions of the ... judicial branch” in violation of the separation of powers (*Carmel Valley Fire Protection Dist. v. State of California* (2001) 25 Cal.4th 287, 297–298, 105 Cal.Rptr.2d 636, 20 P.3d 533), but rather raise constitutional issues for the courts to ultimately decide.

In my view, there are at least three types of situations in which a local government's disobedience of a statute would be reasonable. In these situations, courts asked to grant a writ of mandate to compel the local agency to obey the statute should therefore address the underlying constitutional issue rather than simply conclude the local governmental entity exceeded its *1123 ministerial authority. First, there are some cases in which the statute in question violates a “clearly established ... constitutional right” (*Harlow v. Fitzgerald* (1982) 457 U.S. 800, 818, 102 S.Ct. 2727, 73 L.Ed.2d 396). An executive decision not to spend resources to comply with a clearly unconstitutional statute is a reasonable exercise of the local executive power and ***276 does not usurp a core judicial function. Indeed, refusing to enforce clearly unconstitutional statutes saves the resources of both the executive and the judiciary.

A second category of “disobedience” cases involves a local official or governmental entity disobeying a statute when there is a substantial question as to its constitutionality *and* the statute governs matters integral to a locality's limited power of self-governance. In these cases, a local entity or official is directly affected by the statute and in a unique position to challenge it. As the above cases illustrate, local entities and officials have challenged statutes to determine the validity of a bond, or the payment of a government salary for a position unconstitutionally created, or an exemption to a local tax that assertedly violates the commerce clause, or a statute that intrudes on local matters of city or county employee compensation. It is noteworthy that in virtually all the above cases, the local agency's or official's refusal to obey an assertedly unconstitutional statute had the effect of preserving the status quo, pending judicial resolution of the matter, thereby minimizing interference with the judicial function.

Perhaps in some of these cases localities could have proceeded by obtaining declaratory relief as to a statute's unconstitutionality, rather than by disobeying the statute. In other cases, an actual controversy necessary for declaratory relief may have been lacking. In any case, the fact that the local government agency did not proceed by means of declaratory relief provided no insurmountable obstacle to a court's deciding the underlying constitutional issue raised by the agency's disobedience. (See, e.g., *County of Riverside v. Superior Court*, *supra*, 30 Cal.4th 278, 283, 132 Cal.Rptr.2d 713, 66 P.3d 718.)¹ Of course, if a court determines that interim relief to compel a government agency to obey a statute is appropriate, it may grant such relief before the constitutional question is ultimately adjudicated.

A third possible category of cases in which city officials might legitimately disobey statutes **502 of doubtful constitutionality are those in which the question of a statute's constitutionality is substantial, and irreparable harm may result to individuals to which the local government agency has some protective *1124 obligation—be they employees, or students of a public college, or patrons of a public library, or patients in a public hospital, or in some cases simply residents of the city. Again, a court asked to grant a writ of mandate could conclude that a delay in granting the writ pending resolution of the underlying constitutional question is justified. To issue a writ enforcing a statute that may be unconstitutional, and that will work irreparable harm, would not “promote [] the ends of justice” (*McDaniel v. City etc. of San Francisco*, *supra*, 259 Cal.App.2d at pp. 360–361, 66 Cal.Rptr. 384), and a court has the discretion to delay such issuance until the underlying constitutional question is resolved.

The present case is quite different from the above situations. First, as the majority demonstrates, the unconstitutionality of [Family Code section 300](#) is not clearly established by either state or federal constitutional precedent, and certainly not from the language of the constitutional provisions themselves. Nor does this case ***277 pertain to a statute that interferes with a city's or county's limited power of self-governance that these entities are in a unique position to challenge. Rather, local officials in this case perform a ministerial function pursuant to the state marriage law. Unlike the cases cited above, in which the constitutionality of a statute is likely to go unchallenged if a local governmental entity does not do so, [Family Code section 300](#) limits individual rights, and those individuals subject to that limitation are in the best position to challenge it.

Nor does the present case fit the third category of cases, in which a city refuses to enforce a law so as to protect its citizens from irreparable harm. The only harm caused here is a delay in the ability of same-sex couples to get married while the constitutional issue is being adjudicated. But that delay will occur whether or not we grant a writ of mandate against the city in this case. Put another way, local officials have no real power to marry same-sex couples, given the statutory prohibition against doing so. What *was* within their power, prior to our issuance of a stay, was to issue licenses of indeterminate legal status. The exercise of the court's mandate power to preclude local officials from continuing this course of action, and voiding the licenses already issued, brings no irreparable harm to the individuals who have received or might receive such licenses.

In sum, the city advances no plausible reason why it had to disobey the statute in question. Even so, it might have been appropriate to have delayed the issuance of a writ of mandate against it until the underlying constitutional question had been adjudicated if, for example, the city had issued a single “test case” same-sex marriage license. But it went far beyond

a test case. It issued thousands of these marriage licenses. As such, the city went well beyond making a preliminary determination of the statute's unconstitutionality or performing an act that would bring the constitutional issue to the *1125 courts. Rather, city officials drastically and repeatedly altered the status quo based on their constitutional determination, issuing a multitude of licenses that purported to have an independent legal effect, contrary to their ministerial duty and statutory obligation and prior to any judicial determination of the statute's unconstitutionality. By such dramatic overreaching, these officials trespassed on a core judicial function of deciding the constitutionality of statutes and endowed the issue of their authority to disobey the statute with a life of its own, independent of the underlying constitutional issue. I therefore agree with the majority that a writ of mandate is rightly issued against the city and its officials in this case.

I reiterate what is clear in the majority opinion. Our holding in this case in no way expresses or implies a view on the underlying issue of the constitutionality of a statute prohibiting same-sex marriage. That issue will be addressed in the context of litigation in which the issue is properly raised. (See *Goodridge v. Department of Pub. Health* (2003) 440 Mass. 309, 798 N.E.2d 941.)

****503** Concurring and Dissenting Opinion by **KENNARD, J.**

I concur in the judgment, except insofar as it declares void some 4,000 marriages performed in reliance on the gender-neutral marriage licenses¹ issued in the City ***278 and County of San Francisco. Although I agree with the majority that San Francisco public officials exceeded their authority when they issued those licenses, and that the licenses themselves are therefore invalid, I would refrain from determining here, in a proceeding from which the persons whose marriages are at issue have been excluded, the validity of the marriages solemnized under those licenses. That determination should be made after the constitutionality of California laws restricting marriage to opposite-sex couples has been authoritatively resolved through judicial proceedings now pending in the courts of California.

I

Like the majority, I conclude that officials in the City and County of San Francisco exceeded their authority when they issued gender-neutral marriage licenses to same-sex couples, and I agree with the majority that those officials may not justify their actions on the ground that state laws restricting marriage to opposite-sex couples violate the state or the federal Constitution. The cases discussed by the majority demonstrate, in my view, that a public official may refuse to enforce a statute on constitutional grounds only in these situations: *1126 1) when the statute's unconstitutionality is obvious beyond dispute in light of unambiguous constitutional language or controlling judicial decisions; (2) when refraining from enforcement is necessary to preserve the status quo and to prevent irreparable harm pending judicial determination of a legitimate and substantial constitutional question about the statute's validity; (3) when enforcing the statute could put the public official at risk for substantial personal liability; or (4) when refraining from enforcement is the only practical means to obtain a judicial determination of the constitutional question. (See Field, *The Effect of an Unconstitutional Statute* (1935, reprint ed.1971) p. 119 et seq.; Note, *Right of Ministerial Officer to Raise Defense of Unconstitutionality in Mandamus Proceeding* (1931) 15 Minn. L.Rev. 340; Rapacz, *Protection of Officers Who Act Under Unconstitutional Statutes* (1927) 11 Minn. L.Rev. 585; Note, *Who Can Set Up Unconstitutionality—Whether Public Official Has Sufficient Interest* (1920) 34 Harv. L.Rev. 86.) Because none of these situations is present here, as I explain below, the public officials acted wrongly in refusing to enforce the opposite-sex restriction in California's marriage laws.

A. Indisputably Unconstitutional Law

In restricting marriages to couples consisting of one woman and one man, California's marriage laws are not plainly or obviously unconstitutional under either the state or the federal Constitution. Neither Constitution expressly prohibits

limiting marriage to opposite-sex couples, and neither Constitution expressly grants any person a right to marry someone of the same sex. Nor does any judicial decision establish beyond reasonable dispute that restricting marriage to heterosexual couples violates any provision of the California Constitution or the United States Constitution.

Indeed, there is a decision of the United States Supreme Court, binding on all other courts and public officials, that a state law restricting marriage to opposite-sex couples does *not* violate the federal Constitution's guarantees of equal protection and due process of law. After the Minnesota Supreme Court held that Minnesota laws preventing marriages between persons of ***279 the same sex did not violate the equal protection or due process clauses of the United States Constitution (*Baker v. Nelson* (1971) 291 Minn. 310, 191 N.W.2d 185), the decision was appealed to the United States Supreme Court, as federal law then permitted (see 28 U.S.C. former **504 § 1257(2), 62 Stat. 929 as amended by 84 Stat. 590). The high court later dismissed that appeal “for want of substantial federal question.” (*Baker v. Nelson* (1972) 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65.)

As the United States Supreme Court has explained, a dismissal on the ground that an appeal presents no substantial federal question is a decision on *1127 the merits of the case, establishing that the lower court's decision on the issues of federal law was correct. (*Mandel v. Bradley* (1977) 432 U.S. 173, 176, 97 S.Ct. 2238, 53 L.Ed.2d 199; *Hicks v. Miranda* (1975) 422 U.S. 332, 344, 95 S.Ct. 2281, 45 L.Ed.2d 223.) Summary decisions of this kind “prevent lower courts from coming to opposite conclusions on the precise issues presented and necessarily decided by those actions.” (*Mandel v. Bradley*, *supra*, at p. 176, 97 S.Ct. 2238.) Thus, the high court's summary decision in *Baker v. Nelson*, *supra*, 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65, prevents lower courts and public officials from coming to the conclusion that a state law barring marriage between persons of the same sex violates the equal protection or due process guarantees of the United States Constitution.

The binding force of a summary decision on the merits continues until the high court instructs otherwise. (*Hicks v. Miranda*, *supra*, 422 U.S. at p. 344, 95 S.Ct. 2281.) That court may release lower courts from the binding effect of one of its decisions on the merits either by expressly overruling that decision or through “‘doctrinal developments’” that are necessarily incompatible with that decision. (*Id.* at p. 344, 95 S.Ct. 2281.) The United States Supreme Court has not expressly overruled *Baker v. Nelson*, *supra*, 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65, nor do any of its later decisions contain doctrinal developments that are necessarily incompatible with that decision.

The San Francisco public officials have argued that the United States Supreme Court's decision in *Lawrence v. Texas* (2003) 539 U.S. 558, 123 S.Ct. 2472, 156 L.Ed.2d 508, holding unconstitutional a state law “making it a crime for two persons of the same sex to engage in certain intimate sexual conduct” (*id.* at p. 562, 123 S.Ct. 2472), amounts to a doctrinal development that releases courts and public officials from any obligation to obey the high court's decision in *Baker v. Nelson*, *supra*, 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65. Although *Lawrence* represents a significant shift in the high court's view of constitutional protections for same-sex relationships, the majority in *Lawrence* carefully pointed out that “there is no longstanding history in this country of laws directed at homosexual conduct as a distinct matter” (*Lawrence v. Texas*, *supra*, at p. 568, 123 S.Ct. 2472) and that the case “d[id] not involve whether the government must give formal recognition to any relationship that homosexual persons seek to enter” (*id.* at p. 578, 123 S.Ct. 2472). Because there is a long history in this country of defining marriage as a relation between one man and one woman, and because marriage laws do involve formal government recognition of relationships, the high court's decision in *Lawrence* did not undermine the authority of *Baker v. Nelson* to such a degree that a lower federal or state court, much less a public official, could disregard it. Until the United States Supreme Court says otherwise, which it has not yet done, *Baker v. Nelson* defines federal constitutional law on the ***280 question whether a state may deny same-sex couples the right to marry.

*1128 Because neither the federal nor the California Constitution contains any provision directly and expressly guaranteeing a right to marry another person of the same sex, and because no court has ever decided that either Constitution confers that right, this is not a situation in which a public official refused to enforce a law that was obviously and indisputably unconstitutional.

B. Preserving the Status Quo to Prevent Serious Harm

Nor was this a situation in which a public official, by temporarily refraining from enforcing a state law, merely preserved the status quo to prevent potentially irreparable harm pending judicial determination of a legitimate and substantial constitutional question about the law's validity. By issuing licenses authorizing same-sex marriages, the San Francisco public officials did not preserve ****505** a status quo, but instead they altered the status quo in that California law has always prohibited same-sex marriage.

In 1977, the Legislature amended [Family Code section 300](#) to specify that marriage is a relation “between a man and a woman.” (See maj. opn., *ante*, 17 Cal.Rptr.3d at p. 236, fn. 11, 95 P.3d at p. 468, fn. 11.) At the March 2000 election, the voters approved Proposition 22, which enacted [Family Code section 308.5](#) declaring that “[o]nly marriage between a man and a woman is valid or recognized in California.”² But those statutory measures did not change existing law. Since the earliest days of statehood, California has recognized only opposite-sex marriages. (See, e.g., *Mott v. Mott* (1890) 82 Cal. 413, 416, 22 P. 1142 [quoting legal dictionary's definition of marriage as a contract “ ‘by which a man and woman reciprocally engage to live with each other during their joint lives, and to discharge toward each other the duties imposed by law on the relation of husband and wife’ ”].) In issuing gender-neutral marriage licenses, therefore, San Francisco public officials could not have intended merely a temporary or interim preservation of an existing state of affairs pending a judicial determination of a newly enacted law's constitutionality. Instead, as their public statements indicated, they issued those licenses to effect a fundamental and permanent change in traditional marriage eligibility requirements, based on their own views about constitutional questions. In so doing, they exceeded their authority.

C. Public Officials' Personal Liability

This was not a situation in which public officials had reason to fear they might be held personally liable in damages for enforcing a constitutionally ***1129** invalid state law. In a federal civil rights action brought under [42 United States Code section 1983](#), a public official may not be held personally liable for enforcing a state law that violates a federal constitutional right unless the “contours of the right [are] sufficiently clear that a reasonable official would understand that what he is doing violates that right.” (*Anderson v. Creighton* (1987) 483 U.S. 635, 640, 107 S.Ct. 3034, 97 L.Ed.2d 523; accord, *Saucier v. Katz* (2001) 533 U.S. 194, 202, 121 S.Ct. 2151, 150 L.Ed.2d 272; *Wilson v. Layne* (1999) 526 U.S. 603, 614–615, 119 S.Ct. 1692, 143 L.Ed.2d 818.) Because the United *****281** States Supreme Court has determined that a state law prohibiting same-sex marriage does not violate the federal Constitution (*Baker v. Nelson, supra*, 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65), no reasonable public official could conclude that denying marriage licenses to same-sex couples would violate a right that was clearly established under the federal Constitution. Accordingly, federal civil rights law could not impose personal liability on local officials in California for enforcing California's same-sex marriage prohibition. “[A]bsent contrary direction, state officials and those with whom they deal are entitled to rely on a presumptively valid state statute, enacted in good faith and by no means plainly unlawful.” (*Lemon v. Kurtzman* (1973) 411 U.S. 192, 208–209, 93 S.Ct. 1463, 36 L.Ed.2d 151 (plur. opn. of Burger, C. J.))

Nor was there any reasonable basis for local officials to anticipate personal liability under the California Constitution or California civil rights laws for denying marriage licenses to same-sex couples. [Government Code section 820.6](#) provides immunity for public employees acting in good faith, without malice, under a statute that proves to be unconstitutional. Because same-sex marriage has never been legally authorized in California, the California Constitution does not expressly grant a right to same-sex marriage, and no judicial decision by any California court has ever suggested, much less held, that state laws limiting marriage to opposite-sex couples violate the California Constitution, [Government Code section 820.6](#) would immunize any public official from personal liability for enforcing the same-sex marriage prohibition should that prohibition, at some ****506** later time, be held to violate the California Constitution.

D. Necessity of Nonenforcement to Obtain Judicial Resolution

Finally, this is not a situation in which a public official's nonenforcement of a law was the only practical way to obtain a judicial determination of that law's constitutionality. Just as the constitutionality of California's prohibition against interracial marriage was properly challenged by a mixed-race couple who were denied a marriage license (*Perez v. Sharp* (1948) 32 Cal.2d 711, 198 P.2d 17), the constitutionality of California's prohibition against same-sex marriage could have been readily challenged at any time through a lawsuit brought by a same-sex couple who had been denied a marriage *1130 license. Indeed, challenges of this sort are now pending in the superior court. (See maj. opn., ante, 17 Cal.Rptr.3d at p. 270, 95 P.3d at p. 495.)

E. Policy Grounds for General Rule Prohibiting Nonenforcement on Constitutional Grounds

As the majority points out (maj. opn., ante, 17 Cal.Rptr.3d at pp. 229–230, 264, 95 P.3d at pp. 462–463, 491), confusion and chaos would ensue if local public officials in each of California's 58 counties could separately and independently decide not to enforce long-established laws with which they disagreed, based on idiosyncratic readings of broadly worded constitutional provisions. To ensure uniformity and consistency in the statewide application and enforcement of duly enacted and presumptively valid statutes, the authority of public officials to decline enforcement of state laws, in the absence of a judicial determination of invalidity, based on the officials' own constitutional determinations, is and must be carefully and narrowly limited. I agree with the majority that San Francisco public officials exceeded those limits when they declined to enforce state marriage laws by issuing gender-neutral marriage licenses to same-sex couples.

***282 II

Although I agree with the majority that San Francisco officials exceeded their authority when they issued gender-neutral marriage licenses to same-sex couples, I do not agree with all the reasoning that the majority offers in support of that conclusion. In particular, I do not agree that a “line of decisions” had established, before the 1978 enactment of [section 3.5 of article III of the California Constitution](#), that “only administrative agencies constitutionally authorized to exercise judicial power have the authority to determine the constitutional validity of statutes.” (Maj. opn., ante, 17 Cal.Rptr.3d at p. 253, 95 P.3d at p. 482.)

The majority does not identify any pre–1978 decision holding that a nonconstitutional administrative agency, during quasi-judicial administrative proceedings, lacked authority to determine a statute's constitutionality. The majority asserts that this court so held in *State of California v. Superior Court (Veta)* (1974) 12 Cal.3d 237, 115 Cal.Rptr. 497, 524 P.2d 1281. (Maj. opn., ante, 17 Cal.Rptr.3d at p. 250, 95 P.3d at p. 480.) But this court there decided only that the doctrine of exhaustion of administrative remedies did not apply to a constitutional challenge to the statute from which the administrative agency derived its authority. (*State of California v. Superior Court (Veta)*, supra, at p. 251, 115 Cal.Rptr. 497, 524 P.2d 1281.) In concluding that a litigant was not *required* during quasi-judicial administrative proceedings to make a constitutional challenge to the statute that created the agency, this court explained that “[i]t would be heroic indeed to compel a party to appear before an administrative body to challenge its very existence and to expect a dispassionate hearing before its *1131 preponderantly lay membership on the constitutionality of the statute establishing its status and functions.” (*Ibid.*) This court did not state, or even imply, that an administrative agency *lacked authority* to resolve constitutional issues that a litigant might present.

I also see no need for, and do not join, the majority's observations on topics far removed from the issue presented here, such as the powers of the President of the United States **507 (maj. opn., ante, 17 Cal.Rptr.3d at p. 255, fn. 26, 95 P.3d at p. 484, fn. 26) and the existence of certain legal defenses to war crimes charges (*id.* at p. 258, fn. 30, 95 P.3d at p. 486, fn. 30). These issues are not before this court.

III

Because I agree with the majority that San Francisco's public officials exceeded their authority when they issued gender-neutral marriage licenses to same-sex couples, I concur in the judgment insofar as it requires those officials to comply with state marriage laws, to identify the same-sex couples to whom gender-neutral marriage licenses were issued, to notify those couples that their marriage licenses are invalid, to offer refunds of marriage license fees collected, and to make appropriate corrections to all relevant records. But I would not require notification that the marriages themselves “are void from their inception and a legal nullity.” (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 273, 95 P.3d at p. 499.)

Although a marriage license is a requirement for a valid marriage (Fam.Code, §§ 300, 350), some defects in a marriage license do not invalidate the marriage. (See *id.*, § 306; see also, e.g., *Argonaut Ins. Co. v. Industrial Acc. Com.* (1962) 204 Cal.App.2d 805, 809, 23 Cal.Rptr. 1 [applicant's use of false names on license application did not invalidate marriage].) Whether the issuance of a gender-neutral ***283 license to a same-sex couple, in violation of state laws restricting marriage to opposite-sex couples, is a defect that precludes any possibility of a valid marriage may well depend upon resolution of the constitutional validity of that statutory restriction. If the restriction is constitutional, then a marriage between persons of the same sex would be a legal impossibility, and no marriage would ever have existed. But if the restriction violates a fundamental constitutional right, the situation could be quite different. A court might then be required to determine the validity of same-sex marriages that had been performed *before* the laws prohibiting those marriages had been invalidated on constitutional grounds.

When a court has declared a law unconstitutional, questions about the effect of that determination on prior actions, events, and transactions “are among the most difficult of those which have engaged the attention of courts, state and federal, and it is manifest from numerous decisions that an *1132 all-inclusive statement of a principle of absolute retroactive invalidity cannot be justified.” (*Chicot County Dist. v. Baxter State Bank* (1940) 308 U.S. 371, 374, 60 S.Ct. 317, 84 L.Ed. 329; accord, *Lemon v. Kurtzman, supra*, 411 U.S. at p. 198, 93 S.Ct. 1463.) This court has acknowledged that, in appropriate circumstances, an unconstitutional statute may be judicially reformed to retroactively extend its benefits to a class that the statute expressly but improperly excluded. (*Kopp v. Fair Pol. Practices Com.* (1995) 11 Cal.4th 607, 624–625, 47 Cal.Rptr.2d 108, 905 P.2d 1248 (lead opn. of Lucas, C.J.), 685, 47 Cal.Rptr.2d 108, 905 P.2d 1248 (conc. & dis. opn. of Baxter, J.) [joining in pt. III of lead opn.].) Thus, it is possible, though by no means certain, that if the state marriage laws prohibiting same-sex marriage were held to violate the state Constitution, same-sex marriages performed before that determination could then be recognized as valid.

Although the United States Supreme Court has determined that there is no right to same-sex marriage under the federal Constitution (*Baker v. Nelson, supra*, 409 U.S. 810, 93 S.Ct. 37, 34 L.Ed.2d 65), courts in other states construing their own state Constitutions in recent years have reached differing conclusions on this question. (Compare *Goodridge v. Dept. of Public Health* (2003) 440 Mass. 309, 798 N.E.2d 941 [denying marriage licenses to same-sex couples violates Massachusetts Constitution] with *Standhardt v. Sup. Ct.* (Ariz.Ct.App.2003) 206 Ariz. 276, 77 P.3d 451 [no right to same-sex marriage under Arizona Constitution].) Recognizing the difficulty and seriousness of the constitutional question, which is now presented in pending superior court actions, this court has declined to address it in this case. *Until that constitutional issue has been finally resolved under the California Constitution*, it is premature and unwise to assert, as the majority essentially does, that the thousands of same-sex weddings performed in **508 San Francisco were empty and meaningless ceremonies in the eyes of the law.

For many, marriage is the most significant and most highly treasured experience in a lifetime. Individuals in loving same-sex relationships have waited years, sometimes several decades, for a chance to wed, yearning to obtain the public validation that only marriage can give. In recognition of that, this court should proceed most cautiously in resolving the ultimate question of the validity of the same-sex marriages performed in San Francisco, even though those marriages were

performed under licenses issued by San Francisco public officials without proper authority and in violation of state law. Because the licenses were issued without proper authorization, ***284 and in the absence of a judicial determination that the state laws prohibiting same-sex marriage are unconstitutional, employers and other third parties would be under no legal obligation to recognize the validity of any of the same-sex marriages at issue here. Should the pending lawsuits ultimately be resolved by a determination that the opposite-sex marriage restriction is *1133 constitutionally invalid—an issue on which I express no opinion—it would then be the appropriate time to address the validity of previously solemnized same-sex marriages.

Concurring and Dissenting Opinion by [WERDEGAR, J.](#)

I agree with the majority that San Francisco officials violated the Family Code by licensing marriages between persons of the same sex. Accordingly, I concur in the decision to order those officials to comply with the existing marriage statutes unless and until they are determined to be unconstitutional. Because constitutional challenges are pending in the lower courts, to order city officials not to license additional same-sex marriages in the meantime is an appropriate way to preserve the status quo pending the outcome of that litigation. That, however, is the extent of my agreement with the majority.

I.

I do not join in the majority's decision to address the validity of the marriages already performed and to declare them void. My concern here is not for the future of same-sex marriage. That question is not before us and, like the majority, I intimate no view on it. My concern, rather, is for basic fairness in judicial process. The superior court is presently considering whether the state statutes that limit marriage to “a man and a woman” (e.g., [Fam.Code, § 300](#)) violate the state and federal Constitutions. The same-sex couples challenging those statutes claim the state has, without sufficient justification, denied the fundamental right to marry (e.g., [Zablocki v. Redhail](#) (1978) 434 U.S. 374, 383, 98 S.Ct. 673, 54 L.Ed.2d 618; [Loving v. Virginia](#) (1967) 388 U.S. 1, 12, 87 S.Ct. 1817, 18 L.Ed.2d 1010; [Perez v. Sharp](#) (1948) 32 Cal.2d 711, 714–715, 98 P.2d 17) to a class of persons defined by gender or sexual orientation. Should the relevant statutes be held unconstitutional, the relief to which the purportedly married couples would be entitled would normally include recognition of their marriages. By analogy, interracial marriages that were void under antimiscegeny statutes at the time they were solemnized were nevertheless recognized as valid after the high court rejected those laws in [Loving v. Virginia](#). (E.g., [Dick v. Reaves](#) (Okla.1967) 434 P.2d 295, 298.) By postponing a ruling on this issue, we could preserve the status quo pending the outcome of the constitutional litigation. Instead, by declaring the marriages “void and of no legal effect from their inception” (maj. opn., ante, 17 Cal.Rptr.3d at p. 268, 95 P.3d at p. 494), the majority permanently deprives future courts of the ability to award full relief in the event the existing statutes are held unconstitutional. This premature decision can in no sense be thought to represent fair judicial process.

The majority asserts that “it would not be prudent or wise to leave the validity of these marriages in limbo for what might be a substantial period of *1134 time given the potential confusion (for third parties, such as employers, insurers, or other governmental entities, as well as for the affected couples) that such an uncertain status inevitably would entail.” (Maj. opn., ante, 17 Cal.Rptr.3d at p. 271, 95 P.3d at p. 497.) Nowhere in the opinion, **509 however, does the majority note that any same-sex couple has filed a lawsuit seeking the legal ***285 benefits of their purported marriage. Nor is the absence of such lawsuits surprising, since any reasonable court would stay such actions pending the outcome of the ongoing constitutional litigation.¹

The majority's decision to declare the existing marriages void is unfair for the additional reason that the affected couples have not been joined as parties or given notice and an opportunity to appear. On March 12, 2004, we denied all petitions to intervene filed by affected couples. That ruling made sense at the time it was announced because our prior order of March 11, 2004, which specified the issues to be briefed and argued, did not identify the validity of the existing marriages

as an issue. Only on April 14, 2004, *after* having denied the petitions to intervene, did the court identify and solicit briefing on the issue of the marriages' validity. To declare marriages void after denying requests by the purported spouses to appear in court as parties and be heard on the matter is hard to justify, to say the least.²

The majority counters that “the legal arguments of such couples with regard to the question of the validity of the existing same-sex marriages have been heard and fully considered.” (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 270, 95 P.3d at p. 496.) But this is a claim a court may not in good conscience make unless it has given, to the persons whose rights it is purporting to adjudicate, notice and the opportunity to appear. This is the irreducible minimum of due process, even in cases involving numerous parties. (See *Mullane v. Central Hanover Tr. Co.* (1950) 339 U.S. 306, 314–315, 70 S.Ct. 652, 94 L.Ed. 865.) Amicus curiae briefs, which any member of the public may ask to file and which the court has no obligation to read, cannot seriously be thought to satisfy these requirements. The majority writes that “requiring each of the thousands of same-sex couples to be named and served as parties in the present action, would add nothing of substance to this proceeding.” (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 269, 95 P.3d at p. 495.) Of ***1135** course, the same argument can be made in many class actions with respect to the absent members of the class, but due process still gives each class member the right to notice and the opportunity to appear. (*Mullane v. Central Hanover Tr. Co.*, *supra*, 339 U.S. at pp. 314–315, 70 S.Ct. 652.) Here, notice has been given to none of the 4,000 affected couples; and even the 11 same-sex couples who affirmatively sought to intervene were denied the opportunity to appear. (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 270, 95 P.3d at p. 496.) What the majority has done, in effect, is to give petitioners the benefit of an action against a defendant class of same-sex couples free of the burden of procedural due process. If the majority truly desired to hear the views of the same-sex couples *****286** whose rights it is adjudicating, it would not proceed in absentia.

Aware of this problem, the majority offers a specious imitation of due process by ordering the city to notify the same-sex couples that this court has decided their marriages are void, and to “provide these couples an opportunity to demonstrate that their marriages are not same-sex marriages” before canceling their marriage records. (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 273, 274, 95 P.3d at pp. 499, 500; see also *id.*, at p. 270, 95 P.3d at p. 497.) This procedure may prevent the city from mistakenly deleting the records of heterosexual marriages, but it cannot benefit any same-sex couple. Notice after the ****510** fact that one's rights have been adjudicated is not due process.

The majority attempts to justify the procedural shortcuts it is taking by invoking the rule that “[a] marriage prohibited as ... illegal and declared to be ‘void’ or ‘void from the beginning’ is a legal nullity and its validity may be asserted or shown in any proceeding in which the fact of marriage may be material.” (*Estate of Gregorson* (1911) 160 Cal. 21, 26, 116 P. 60, quoted in maj. opn., *ante*, 17 Cal.Rptr.3d at p. 269, 95 P.3d at p. 495.) But that rule, until today, has permitted persons other than spouses to challenge the validity of a marriage *only as and when necessary to resolve another issue in the case*, for example, the legitimacy of an heir's claim to property or an assertion of marital privilege. In essence, the *Gregorson* rule simply recognizes that a litigant whose claim or defense depends on the validity or invalidity of a marriage may introduce evidence to prove the point.³ We have never held that this type of collateral attack on a marriage has any binding effect on *nonparties* to the ***1136** action. A court's refusal in the course of a criminal trial to recognize a claim of marital privilege, for example, does not compel the State Office of Vital Records to destroy a record of the marriage. The majority asserts that the question of the existing marriages' validity or invalidity is material because it is “*central to the scope of the remedy that may and should be ordered in this case.*” (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 269, 95 P.3d at p. 495, italics added.) But this is just another way of saying the question is material because the Attorney General has asked us to decide it. With this reasoning, the majority assumes the conclusion and converts the *Gregorson* rule into a pretext for denying fundamental fairness.

II.

I also do not join in the majority's unnecessary, wide-ranging comments on the respective powers of the judicial and executive branches of government.

The ostensible occasion for the majority's comments—a threat to the rule of law (maj. opn., ***287 *ante*, 17 Cal.Rptr.3d at p. 273, 95 P.3d at p. 499)—seems an extravagant characterization of recent events. On March 11, 2004, when we assumed jurisdiction and issued an interim order directing San Francisco officials to cease licensing same-sex marriages, those officials immediately stopped. Apparently the only reason they had not stopped earlier is that the lower courts had denied similar applications for interim relief. While city officials evidently understood their oaths of office as commanding obedience to the Constitution rather than to the marriage statutes they believed to be unconstitutional, those officials never so much as hinted that they would not respect the authority of the courts to decide the matter. Indeed, not only did our interim order meet with immediate, unreserved compliance by city officials, but the same order apparently sufficed to recall to duty any other public officials who might privately have been thinking to follow San Francisco's lead. In the meantime, not one of California's 58 counties or over 400 municipalities has licensed a same-sex marriage.

Under these circumstances, I see no justification for asserting a broad claim of power over the executive branch. Make no mistake, the majority does assert such a claim by holding that executive officers must follow statutory rather than constitutional law until a court gives them permission in advance to do otherwise. For the judiciary to assert such power over the executive branch is fundamentally misguided. As the high court **511 has explained, “[i]n the performance of assigned constitutional duties *each branch of the Government must initially interpret the Constitution*, and the interpretation of its powers by any branch is due great respect from the others.” (*United States v. Nixon* (1974) 418 U.S. 683, 703, 94 S.Ct. 3090, 41 L.Ed.2d 1039, italics added.) To recognize that an executive officer has the practical freedom to act based on an interpretation of the Constitution that may ultimately prove to be wrong *1137 does not mean the rule of law has collapsed. So long as the courts remain open to hear legal challenges to executive conduct, so long as the courts have power to enjoin such conduct pending final determination of its legality, and so long as the other branches acknowledge the courts' role as “‘ultimate interpreter of the Constitution’” (*id.*, at p. 704, 94 S.Ct. 3090, quoting *Baker v. Carr* (1962) 369 U.S. 186, 211, 82 S.Ct. 691, 7 L.Ed.2d 663) in matters properly within their jurisdiction, no genuine threat to the rule of law exists. San Francisco's compliance with our interim order eloquently demonstrates this.

Furthermore, a rule requiring an executive officer to seek a court's permission before declining to comply with an apparently unconstitutional statute is fundamentally at odds with the separation of powers and, in many cases, unenforceable. The executive branch is necessarily active, managing events as they occur. The judicial branch is necessarily reactive, waiting until invited to serve as neutral referee. The executive branch does not await the courts' pleasure. A rule to the contrary, though perhaps enforceable against local officials in some cases, will be impossible to enforce against executive officers who exercise a greater share of the state's power, such as a Governor or an Attorney General. By happy tradition in this country, executive officers have generally acquiesced in the judicial branch's traditional claim of final authority to resolve constitutional disputes. (*Marbury v. Madison* (1803) 1 Cranch 137, 5 U.S. 137, 176, 2 L.Ed. 60; see also *United States v. Nixon*, *supra*, 418 U.S. 683, 703, 94 S.Ct. 3090, 41 L.Ed.2d 1039.) But a court can never afford to forget that the judiciary “may truly be said to have neither Force nor ***288 Will, but merely judgment; and must ultimately depend upon the aid of the executive arm even for the efficacy of its judgments.” (Hamilton, *The Federalist* No. 78 (Willis ed.1982) p. 394.) Accordingly, we are ill advised to announce categorical rules that will not stand the test of harder cases.

The majority acknowledges that “legislators and executive officials may take into account constitutional considerations in making discretionary decisions within their authorized sphere of action—such as whether to enact or veto proposed legislation or exercise prosecutorial discretion.” (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 230, 95 P.3d at p. 463.) But the majority views executive officers exercising “ministerial” functions as statutory automatons, denied even the scope to obey their oaths of office to follow the Constitution. (*Ibid.*) Contrary to the majority, I do not find the purported distinction between discretionary and ministerial functions helpful in this context. Were not state officials performing ministerial functions when, strictly enforcing state segregation laws in the years following *Brown v. Board of Education* (1954) 347 U.S. 483, 74 S.Ct. 686, 98 L.Ed. 873, they refused to admit African-American pupils to all-White schools

until the courts had applied *Brown's* decision about a Kansas school system to each state's law? We formerly believed that school officials' oaths of office to obey the Constitution had sufficient gravity in such cases to permit them to obey the higher law, even *before* the courts had *1138 spoken state by state. (*Southern Pac. Transportation Co. v. Public Utilities Com.* (1976) 18 Cal.3d 308, 311, fn. 2 [3d par.], 134 Cal.Rptr. 189, 556 P.2d 289.) So, too, did the United States Supreme Court. (*Cooper v. Aaron* (1958) 358 U.S. 1, 18–20, 78 S.Ct. 1401, 3 L.Ed.2d 5.) Today, in contrast, the majority equivocates on this point (see maj. opn., *ante*, 17 Cal.Rptr.3d at pp. 258–259, 95 P.3d 486–487) and writes that “a public official ‘faithfully upholds the Constitution by complying with the mandates of the Legislature, leaving to courts the decision whether those mandates are invalid’ ” (*id.*, at p. 257, 95 P.3d at p. 485, quoting *Southern Pac. Transportation Co. v. Public Utilities Com.*, *supra*, at p. 319, 134 Cal.Rptr. 189, 556 P.2d 289 (conc. & dis. opn. of Mosk, J.)). But **512 as history demonstrates, however convenient the majority's view may be in dealing with subordinate officers within a governmental hierarchy, that view is not entirely correct.

The majority's strong view of judicial power over the executive branch leads it to suggest, albeit without actually so holding, that a state may properly condition on advance judicial approval its executive officers' duty to obey even the *federal* Constitution. The majority writes, for example, that “[t]he city has not cited any case holding that the federal Constitution prohibits a state from defining the authority of a state's executive officials in a manner that requires such officials to comply with a clearly applicable statute unless and until such a statute is judicially determined to be unconstitutional” (maj. opn., *ante*, 17 Cal.Rptr.3d at p. 265, 95 P.3d at p. 492), and that “ ‘the power of a public officer to question the constitutionality of a statute as an excuse for refusing to enforce it ... *is a purely local question*’ [citation]—that is, purely a question of state (not federal) law” (*id.*, at p. 266, 95 P.3d at pp. 493–494, quoting *Smith v. Indiana* (1903) 191 U.S. 138, 148, 24 S.Ct. 51, 48 L.Ed. 125, italics in maj. opn.).⁴

***289 Given that respondent city officials have complied with our interim order to cease issuing same-sex marriage licenses, and that the constitutionality of the existing marriage statutes is presently under review, I consider the majority's determination to speculate about the limits of a state official's duty to obey *1139 the federal Constitution unnecessary and regrettable. A court should not trifle with the doctrine invoked by recalcitrant state officials, in the years following *Brown v. Board of Education*, *supra*, 347 U.S. 483, 74 S.Ct. 686, 98 L.Ed. 873, to rationalize their delay in complying with the Fourteenth Amendment. The high court definitively repudiated this erroneous doctrine in *Cooper v. Aaron*, *supra*, 358 U.S. 1, 18, 78 S.Ct. 1401, 3 L.Ed.2d 5: “No state legislator or executive or judicial officer can war against the Constitution without violating his undertaking to support it.” The United States Constitution, itself, immediately commands the unqualified obedience of state officials in article VI, section 3, which declares that “all executive and judicial officers, both of the United States *and of the several states*, shall be bound by oath or affirmation, to support this Constitution....” (Italics added; see also *Cooper v. Aaron*, *supra*, 358 U.S. at pp. 19–20, 78 S.Ct. 1401.)

We, as a court, should not claim more power than we need to do our job effectively. In particular, strong claims of judicial power over the executive branch are best left unmade and, if they must be made, are best reserved for cases presenting a real threat to the separation of powers—a threat that provides manifest necessity for the claim, a genuine test of the claim's validity, and a suitable incentive for caution in its articulation. None of these conditions, all of which are necessary to ensure sound decisions in hard cases, is present here.

III.

In conclusion, I agree with the majority's decision to order city officials not to license additional same-sex marriages pending resolution of the constitutional challenges to the existing marriage statutes. To say more at this time is neither necessary nor wise.

All Citations

33 Cal.4th 1055, 95 P.3d 459, 17 Cal.Rptr.3d 225, 04 Cal. Daily Op. Serv. 7342, 2004 Daily Journal D.A.R. 9916

Footnotes

- 1 The phrase “a government of laws, and not of men” was authored by John Adams (Adams, Novanglus Papers, No. 7 (1774), reprinted in 4 Works of John Adams (Charles Francis Adams ed. 1851) p. 106), and was included as part of the separation of powers provision of the initial Massachusetts Constitution adopted in 1780. (Mass. Const.(1780) Part The First, art. XXX.) The separation of powers provision of that state's Constitution remains unchanged to this day, and reads in full: “In the government of this commonwealth, the legislative department shall never exercise the executive and judicial powers or either of them; the executive shall never exercise the legislative and judicial powers, or either of them; the judicial shall never exercise the legislative and executive powers, or either of them: *to the end it may be a government of laws and not of men.*” (Italics added.)
- 2 Petitioner in the *Lockyer* matter is Bill Lockyer, the Attorney General of California. The petition in *Lockyer* names as respondents the City and County of San Francisco, Gavin Newsom in his official capacity as Mayor of the City and County of San Francisco, Mabel S. Teng in her official capacity as Assessor–Recorder of the City and County of San Francisco, and Nancy Alfaro in her official capacity as the County Clerk of the City and County of San Francisco.

Petitioners in the *Lewis* matter are Barbara Lewis, Charles McIlhenny, and Edward Mei, San Francisco residents and taxpayers. The petition in *Lewis* names as respondent Nancy Alfaro in her official capacity as the County Clerk of the City and County of San Francisco.

For convenience, in this opinion we generally shall refer to the Attorney General and petitioners in *Lewis* collectively as “petitioners” and to respondents in both *Lockyer* and *Lewis* collectively as “the city” or “the city officials.”
- 3 The letter from Mayor Newsom identified Alfaro as the San Francisco County Clerk. In its answer to the petition for writ of mandate in *Lockyer*, filed in this court on March 18, 2004, however, the city alleges “that Daryl M. Burton is the San Francisco County Clerk, and that Nancy Alfaro is the Director of the County Clerk's Office, to whom all of the responsibilities and privileges of County Clerk have been delegated.” The answer further alleges that “as Burton's delegate, Nancy Alfaro is the designated ‘commissioner of civil marriages’ for San Francisco.” Alfaro has filed a declaration stating that she is the Director of the County Clerk's Office for the City and County of San Francisco and that “[i]n that capacity I perform all the duties, and hold all the responsibilities of, the County Clerk. These duties include the issuance of all marriage licenses.” Petitioners do not contend that Alfaro is not the official authorized to perform the duties assigned by the applicable statutes to the county clerk, and thus we shall consider Alfaro the county clerk for purposes of this proceeding.
- 4 The letter read in full: “Upon taking the Oath of Office, becoming the Mayor of the City and County of San Francisco, I swore to uphold the Constitution of the State of California. [Article I, Section 7, subdivision \(a\) of the California Constitution](#) provides that ‘[a] person may not be ... denied equal protection of the laws.’ The California courts have interpreted the equal protection clause of the California Constitution to apply to lesbians and gay men and have suggested that laws that treat homosexuals differently from heterosexuals are suspect. The California courts have also stated that discrimination against gay men and lesbians is invidious. The California courts have held that gender discrimination is suspect and invidious as well. The Supreme Courts in other states have held that equal protection provisions in their state constitutions prohibit discrimination against gay men and lesbians with respect to the rights and obligations flowing from marriage. It is my belief that these decisions are persuasive and that the California Constitution similarly prohibits such discrimination.

“Pursuant to my sworn duty to uphold the California Constitution, including specifically its equal protection clause, I request that you determine what changes should be made to the forms and documents used to apply for and issue marriage licenses in order to provide marriage licenses on a non-discriminatory basis, without regard to gender or sexual orientation.”
- 5 The warning reads in full: “Please read this carefully prior to completing the application: [¶] By entering into marriage you may lose some or all of the rights, protections, and benefits you enjoy as a domestic partner, including, but not limited to those rights, protections, and benefits afforded by State and local government, and by your employer. If you are currently in a domestic partnership, you are urged to seek legal advice regarding the potential loss of your rights, protections, and benefits before entering into marriage. [¶] Marriage of gay and lesbian couples may not be recognized as valid by any jurisdiction other than San Francisco, and may not be recognized as valid by any employer. If you are a same-gender couple, you are encouraged to seek legal advice regarding the effect of entering into marriage.”

- 6 On February 17, 2004, the superior court, in addition to declining to grant the request for an immediate stay, issued an alternative writ in *Proposition 22 Legal Defense*, directing the city to cease and desist issuing marriage licenses to same-sex couples or performing marriage ceremonies for such couples, or show cause why the city has not done so, and set a hearing on the show cause order for March 29, 2004. On February 19, 2004, the city filed a cross-complaint for declaratory relief against the State of California in *Proposition 22 Legal Defense*, seeking a declaration that the California statutes that deny the issuance of marriage licenses to same-sex couples are unconstitutional.
- 7 The petition in *Lewis*—filed by parties who maintain that the existing California marriage statutes are constitutional—similarly took the position that “[t]he constitutionality of the marriage laws is an issue best left to full development in the lower courts.”
- 8 **Family Code section 425** provides: “If no record of the solemnization of a marriage previously contracted is known to exist, the parties may purchase a License and Certificate of Declaration of Marriage from the county clerk in the parties' county of residence.” **Family Code section 350** provides that “[b]efore ... declaring a marriage pursuant to **Section 425**, the parties shall first obtain a marriage license from a county clerk.” As the Court of Appeal explained in *Estate of DePasse, supra*, 97 Cal.App.4th 92, 104, 118 Cal.Rptr.2d 143, “[t]he purpose of the [section 425] procedure is to create a record of an otherwise unrecorded marriage, thus focusing on the registration requirement, as opposed to the licensing requirement.” The **section 425** procedure has no bearing on the issues presented by this case.
- 9 Part 4 of division 3 of the **Family Code** (§§ 500–536) governs confidential marriages. With respect to the issue presented in this case, the provisions governing confidential marriages parallel the provisions governing ordinary marriages. (Compare, e.g., **Fam.Code, § 505** [specifying form of confidential marriage license] with **Fam.Code, § 355** [specifying form of ordinary marriage license].)
- 10 With respect to **section 301**—which, as noted above, provides that “an unmarried male of the age of 18 years or older, and an unmarried female of the age of 18 years or older, ... are capable of consenting to and consummating marriage”—the opposition filed in this court maintains that “the statute is silent as to whom an unmarried male and an unmarried female may marry, and thus is irrelevant.” Petitioners maintain, by contrast, that **section 301** clearly contemplates that a marriage will be consummated between an unmarried male and unmarried female.
- With regard to **section 308.5**—which provides that “[o]nly marriage between a man and woman is valid or recognized in California”—the opposition maintains that, in light of the provision's history, “[t]his statute is irrelevant to the case at hand because it addresses only out-of-state marriages.” Petitioners assert, by contrast, that by specifying that only marriage between a man and woman is “valid” or “recognized” in California, **section 308.5** addresses both in-state and out-of-state marriages.
- 11 The language in **Family Code section 300** specifying that marriage is a relation “between a man and a woman” was adopted by the Legislature in 1977, when the provision was set forth in former **section 4100 of the Civil Code**. (Stats.1977, ch. 339, § 1, p. 1295, introduced as Assem. Bill 607 (1977–1978 Reg. Sess.)) The legislative history of the measure makes its objective clear. (See Sen. Com. on Judiciary, Analysis of Assem. Bill No. 607 (1977–1978 Reg. Sess.) as amended May 23, 1977, p. 1 [“The purpose of the bill is to prohibit persons of the same sex from entering lawful marriage”].) The provisions of Civil Code former **section 4100** were moved to **Family Code section 300** when the Family Code was enacted in 1992. (Stats.1992, ch. 162, § 10, p. 474.)
- 12 **Family Code section 350** provides: “*Before entering a marriage, or declaring a marriage pursuant to **Section 425**, the parties shall first obtain a marriage license from a county clerk.*” (Italics added.)

Section 351 provides: “The marriage license shall show all of the following: [¶] (a) The identity of the parties to the marriage. [¶] (b) The parties' real and full names, and places of residence. [¶] (c) The parties' ages.”

Section 354 provides: “(a) Each applicant for a marriage license may be required to present authentic identification as to name. [¶] (b) *For the purpose of ascertaining the facts mentioned or required in this part, if the clerk deems it necessary, the clerk may examine the applicants for a marriage license on oath at the time of the application.* The clerk shall reduce the examination to writing and the applicants shall sign it. [¶] (c) *If necessary, the clerk may request additional documentary proof as to the accuracy of the facts stated.* [¶] (d) Applicants for a marriage license shall not be required to state, for any purpose, their race or color.” (Italics added.)

Section 355 provides: “(a) *The forms for the application for a marriage license and the marriage license shall be prescribed by the State Department of Health Services, and shall be adapted to set forth the facts required in this part.* [¶] (b) The form for the application for a marriage license shall include an affidavit on the back, which the applicants shall sign, affirming that they have received the brochure provided for in Section 358.[¶] (c) *The affidavit required by subdivision (b) shall state:*

AFFIDAVIT

I acknowledge that I have received the brochure titled _____

Signature of Bride

Date

Signature
of Groom

Date

[End of section 355.]” (Italics added.)

Section 359 provides: “(a) *Applicants for a marriage license shall obtain from the county clerk issuing the license, a certificate of registry of marriage.* [¶] (b) *The contents of the certificate of registry are as provided in Division 9 (commencing with Section 10000) of the Health and Safety Code.* [¶] (c) The certificate of registry shall be filled out by the applicants, *in the presence of the county clerk issuing the marriage license*, and shall be presented to the person solemnizing the marriage. [¶] (d) The person solemnizing the marriage shall complete the registry and shall cause to be entered on the certificate of registry the signature and address of one witness to the marriage ceremony. [¶] (e) The certificate of registry shall be returned by the person solemnizing the marriage *to the county recorder of the county in which the license was issued* within 30 days after the ceremony. [¶] (f) As used in this division, ‘returned’ means presented to the appropriate person in person, or postmarked, before the expiration of the specified time period.” (Italics added.)

13 [Family Code section 421](#) provides in relevant part: “Before solemnizing a marriage, the person solemnizing the marriage shall require the presentation of the marriage license....”

[Section 422](#) provides in relevant part: “The person solemnizing a marriage shall make, sign, and endorse upon or attach to the marriage license a statement, *in the form prescribed by the State Department of Health Services*, showing all of the following: [¶] (a) The fact, date (month, day, year), and place (city and county) of solemnization. [¶] (b) The names and places of residence of one or more witnesses to the ceremony. [¶] (c) The official position of the person solemnizing the marriage....” (Italics added.)

[Section 423](#) provides: “The person solemnizing the marriage shall return the marriage license, endorsed as required in [Section 422](#), *to the county recorder of the county in which the license was issued* within 30 days after the ceremony.” (Italics added.)

14 The Health and Safety Code contains a number of additional provisions that demonstrate the state's overriding interest in the uniform application of the state's marriage laws. (See, e.g., [Health & Saf.Code, §§ 102205, 102215](#).)

15 In the mayor's February 10 letter to the county clerk, the mayor simply “request[ed]” the clerk to determine what changes should be made to the forms and documents used to apply for and issue marriage licenses. In the opposition and supplemental opposition filed in this court, however, the city states that the mayor “directed the County Clerk's Office to arrange for the issuance of marriage licenses to same-sex couples” and that “Alfaro was not the decisionmaker with respect to San Francisco's issuance of marriage licenses to same-sex couples. She and the other employees within the County Clerk's Office issued marriage licenses to such couples because Mayor Newsom told them to do so.”

16 As indicated, the issue presented in this case is purely whether a local official may refuse to apply a statute solely on the basis of the official's view that the statute is unconstitutional. There is no claim here that the officials acted as they did because of questions regarding the proper interpretation of the applicable statutes or because of doubts as to which of two or more competing statutory provisions to apply. (Cf. [Burlington Northern & Santa Fe Ry. Co. v. Public Utilities Commission](#) (2003) 112 Cal.App.4th 881, 887–889, 5 Cal.Rptr.3d 503.) Here, the officials acknowledge that the current California statutes limit marriage to a union between a man and a woman, and concede that they refused to apply the relevant statutory provisions solely because of a belief that this statutory requirement is unconstitutional.

17 In [Billig, supra](#), 223 Cal.App.3d 962, 273 Cal.Rptr. 91, the plaintiffs had submitted a referendum petition to the city clerk, but the clerk refused to process the petition or submit it to the city council because the petition did not include the full text of the challenged ordinance, as required by [section 4052 of the Elections Code](#). The plaintiffs then sought a writ of mandate in superior court against the clerk, claiming that this official's authority was limited to determining whether there were sufficient signatures on the petition and did not extend to rejecting a petition for noncompliance with [section 4052](#). The trial court ruled against the plaintiffs and the Court of Appeal affirmed.

The appellate court explained in [Billig](#) that the city clerk's duty “is limited to the ministerial function of ascertaining whether the *procedural* requirements for submitting a petition have been met” ([Billig, supra](#), 223 Cal.App.3d at pp. 968–969, 273 Cal.Rptr. 91), and found that [Elections Code section 4052](#) “involves purely procedural requirements for submitting a referendum petition. Therefore a city clerk who refuses to accept a petition for noncompliance with the statute is only performing a ministerial function involving no exercise of discretion.” ([Billig, at p. 969, 273 Cal.Rptr. 91](#).)

Stating that the city clerk lacked discretion *not* to enforce the statutory provision, the Court of Appeal discussed [article III, section 3.5](#) and observed: “Administrative agencies, *including public officials in charge of such agencies*, are expressly forbidden from declaring statutes unenforceable, unless an appellate court has determined that a particular statute is unconstitutional. ([Cal. Const., art. III, § 3.5](#).) [Elections Code] [s]ection 4052 has not been declared unconstitutional by an appellate court in this state. Consequently, *the offices of city clerks throughout the state* are mandated by the [C]onstitution

to implement and enforce the statute's procedural requirements. In the instant case, respondent had the clear and present ministerial duty to refuse to process appellants' petition because it did not comply with the procedural requirements of [section 4052](#).” (*Billig, supra*, 223 Cal.App.3d at p. 969, 273 Cal.Rptr. 91, italics added.)

Although the italicized language in *Billig* supports petitioners' position with regard to the scope of [article III, section 3.5](#), there is no indication that any party in *Billig* raised the argument that [article III, section 3.5](#) applies only to *state* agencies and not to *local* agencies or officials, and thus the court in *Billig* had no occasion to resolve that issue. Moreover, in any event the discussion of [article III, section 3.5](#) in *Billig* clearly was dictum, because an analysis and resolution of the scope of that constitutional provision not only was unnecessary to the decision in *Billig*, but arguably was entirely irrelevant. The plaintiffs in *Billig* had *not* asked the city clerk to refrain from applying [Elections Code section 4052](#) on the ground that the statute was unconstitutional, and the city clerk's decision not to accept the petition did *not* involve consideration of whether he had the authority to determine the provision's constitutionality; moreover, the plaintiffs did not raise any constitutional challenge to [section 4052](#) in the trial court or on appeal. Instead, the plaintiffs in *Billig* simply argued that the applicable provisions of [section 4052](#) did not authorize *a city clerk* (as opposed to a court) to reject a petition for noncompliance with that statute, and that only a court was authorized to disqualify a petition for nonconformance with the requirements of [section 4052](#).

Because the provisions of [article III, section 3.5](#) did not bear on the question before the court in *Billig*, we believe it would be inappropriate to accord much significance to the cited language in that decision.

18 Indeed, in the petition filed in this court, the petitioner in *Southern Pacific* expressly stated that it did “not question the authority of the Commission, which has quasi judicial powers and is a court of special jurisdiction, to declare and hold a statute to be unconstitutional.”

19 See, e.g., *Brice v. Dept. of Alcoholic Bev. Control* (1957) 153 Cal.App.2d 315, 320, 314 P.2d 807 (“[The Department of Alcoholic Beverage Control] is a constitutional agency that has succeeded to some of the powers of the State Board of Equalization in alcoholic beverage control matters. Being an agency upon which the Constitution has conferred limited judicial powers, its decisions on factual matters must be affirmed if there is substantial evidence to support them”).

20 The significance attached by the court in *Walker* to the California Constitution's grant of judicial power to the Alcoholic Beverage Control Appeals Board is confirmed by the distinction the *Walker* decision drew between the case before it and a then recent decision of the California Supreme Court that was heavily relied upon by the plaintiffs. The court in *Walker* explained: “*County of Alpine v. County of Tuolumne* (1958) 49 Cal.2d 787, 322 P.2d 449, referred to extensively by plaintiffs, is not in point. There the county of Alpine brought an action to determine its boundaries with defendant counties. Judgment of dismissal was reversed. Defendants asserted that the county of Alpine had not exhausted an administrative remedy before the State Lands Commission. But the court held that the agency [the State Lands Commission] was empowered only to ‘survey and mark’ boundaries.... [I]t was without jurisdiction to make judicial determinations of boundaries and therefore the county of Alpine could properly maintain its action.” (*Walker, supra*, 178 Cal.App.2d at p. 73, 2 Cal.Rptr. 737, italics added.)

21 In this regard it is worth noting that [article III, section 3 of the California Constitution](#) explicitly provides: “The powers of State government are legislative, executive, and judicial. Persons charged with the exercise of one power may not exercise either of the others *except as permitted by this Constitution*.” (Italics added.)

22 The city, in a footnote contained in its reply brief to several amicus curiae briefs, maintains that the actions of its officials did not constitute the exercise of judicial powers, citing a brief passage in this court's decision in *Lusardi Constr. Co. v. Aubry* (1992) 1 Cal.4th 976, 993, 4 Cal.Rptr.2d 837, 824 P.2d 643 (*Lusardi*) (the Director of the Department of Industrial Relations' “determination that a project is a public work ... cannot be accurately characterized as ‘judicial,’ because it does not encompass the conduct of a hearing or a binding order for any type of relief”). In *Lusardi*, however, the director, unlike the city officials here, acted to enforce a statutory provision; he did not defy or disregard a statutory provision on the basis of his own determination that the statute was unconstitutional. *Lusardi* clearly provides no support for the city's position.

23 The statement in numerous California decisions that the separation of powers provision of [article III](#) is inapplicable to government below the state level means simply that, in establishing a governmental structure for the purpose of managing municipal affairs, the Legislature (through statutes) or local entities (through charter provisions and the like) may combine executive, legislative, and judicial functions in a manner different from the structure that the California Constitution prescribes for state government. (See, e.g., *Wulzen v. Board of Supervisors* (1894) 101 Cal. 15, 25–26, 35 P. 353; *People v. Provines* (1868) 34 Cal. 520, 532–540.) As explained hereafter, the statement does *not* mean that a local executive official has the inherent authority to exercise judicial power.

24 In a somewhat related context, this court held in *Farley v. Healey* (1967) 67 Cal.2d 325, 62 Cal.Rptr. 26, 431 P.2d 650 that an acting registrar of voters, who refused to determine whether sufficient signatures had been submitted to qualify a local initiative measure for the ballot because of his conclusion that the content of the initiative was not a proper subject for a local

initiative, “exceeded his authority in undertaking to determine whether the proposed initiative was within the power of the electorate to adopt.” (67 Cal.2d at p. 327, 62 Cal.Rptr. 26, 431 P.2d 650.) We explained that under the applicable charter provision, the registrar’s “duty is limited to the ministerial function of ascertaining whether the procedural requirements for submitting an initiative measure have been met. *It is not his function to determine whether a proposed initiative will be valid if enacted or whether a proposed declaration of policy is one to which the initiative may apply. These questions may involve difficult legal issues that only a court can determine.* Given compliance with the formal requirements for submitting an initiative, the registrar must place it on the ballot unless he is directed to do otherwise by a court on a compelling showing that a proper case has been established for interfering with the initiative power.” (*Ibid.*, italics added.)

- 25 The public finance cases upon which the city relies generally preceded the adoption of California’s validation statutes, which currently permit a public agency to file an in rem action in order to obtain a judicial determination of the validity of bonds, warrants, contracts, obligations, or similar evidences of indebtedness. (See Code Civ. Proc., § 860 et seq. [initially adopted in 1961 (Stats.1961, ch. 1479, § 1, p. 3331)].) The current statutes provide that such actions “shall be given preference over all other civil actions ... to the end that such actions shall be speedily heard and determined.” (Code Civ. Proc., § 867.)
- 26 A number of law review articles suggest that the federal Constitution should be interpreted as permitting the President of the United States to refuse to enforce a statute that the President believes is unconstitutional. (See, e.g., Easterbrook, *Presidential Review* (1990) 40 Case W. Res. L.Rev. 905.) Other scholars, however, have made a strong argument that the history of the proceedings of the constitutional convention that drafted the federal Constitution, and in particular the Founders’ explicit rejection of a proposal for an absolute presidential veto, refutes such an interpretation. (See, e.g., May, *Presidential Defiance of ‘Unconstitutional Laws: Reviving the Royal Prerogative*, *supra*, 21 Hastings Const. L.Q. 865, 872–895.) To date, no court has accepted the contention that the President possesses such authority. (See, e.g., *Ameron, Inc. v. U.S. Army Corps of Eng’rs* (3d Cir.1986) 787 F.2d 875, 889 & fn. 11 [“This claim of right for the President to *declare* statutes unconstitutional and to declare his refusal to execute them, as distinguished from his undisputed right to veto, criticize, or even refuse to defend in court, statutes which he regards as unconstitutional, is dubious at best”].)
- 27 As noted above, after several mandate actions were filed against the city in superior court challenging the actions of the city officials, the city filed a cross-complaint in one of the actions, seeking a declaratory judgment that the marriage statutes are unconstitutional insofar as they limit marriage to a union between a man and a woman. (See, *ante*, 17 Cal.Rptr.3d p. 233, fn. 6, 95 P.3d p. 466, fn. 6.) We have no occasion in this case to determine whether the city properly could maintain a declaratory judgment action in this setting, but we note that in another context the Legislature specifically has authorized a public official who questions the constitutionality or validity of an enactment to bring a declaratory judgment action rather than act in contravention of the statute. (See Rev. & Tax.Code, § 538; see also *City of Cotati v. Cashman* (2002) 29 Cal.4th 69, 79–80, 124 Cal.Rptr.2d 519, 52 P.3d 695.)
- 28 Article XX, section 3 of the California Constitution provides in relevant part: “Members of the Legislature, and all public officers and employees, executive, legislative, and judicial, except such inferior officers and employees as may be by law exempted, shall, before they enter upon the duties of their respective offices, take and subscribe the following oath or affirmation: [¶] ‘I, _____, do solemnly swear (or affirm) that I will support and defend the Constitution of the United States and the Constitution of the State of California against all enemies, foreign and domestic; that I will bear true faith and allegiance to the Constitution of the United States and the Constitution of the State of California; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties upon which I am about to enter.’ ”
- 29 The brief footnote discussion in *Board of Education v. Allen* (1968) 392 U.S. 236, 241, footnote 5, 88 S.Ct. 1923, 20 L.Ed.2d 1060, relied upon by the city, does not conflict with this conclusion. In *Allen*, officials of a local public school district brought a court action challenging the validity, under the establishment clause of the First Amendment, of a state statute that required the school district to loan books free of charge to all students in the district, including students attending private religious schools. In the footnote in question, the court in *Allen* noted that no one had questioned the standing of the local district and its officials “to press their claim in this Court,” and then stated that “[b]elieving [the statute in question] to be unconstitutional, [the officials] are in the position of having to choose between violating their oath [to support the United States Constitution] and taking a step—refusal to comply with [the applicable statute]—that would likely bring their expulsion from office and also a reduction in state funding for their school districts. There can be no doubt that appellants thus have a ‘personal stake in the outcome’ of this litigation.” (*Allen*, 392 U.S. at p. 241, fn. 5, 88 S.Ct. 1923, quoting *Baker v. Carr* (1962) 369 U.S. 186, 204, 82 S.Ct. 691.) The footnote’s reference to the officials’ oath to support the Constitution indicates no more than that the public officials’ belief that the statute was unconstitutional afforded them standing to bring a court action to challenge the statute. The footnote in *Allen* does not hold that the federal Constitution, or a public official’s oath to support the federal Constitution, authorizes a state official to undertake official action forbidden by a state statute based solely on the official’s

belief that the statute is unconstitutional, and, as discussed below (*post*, 17 Cal.Rptr.3d pp. 265–267, 95 P.3d pp. 492–494), numerous federal authorities refute that proposition.

- 30 The city also obliquely suggests that the general rule requiring a public official to perform a ministerial duty prescribed by statute, despite the official's personal view that the statute is unconstitutional, is contrary to the teaching of the Nuremberg trials, which rejected the “I was just following orders” defense. In response to a similar claim, the federal district court in *Haring v. Blumenthal* (D.D.C.1979) 471 F.Supp. 1172, 1178, footnote 15, cogently observed: “Plaintiff’s comparison of his situation with that of the Nuremberg defendants is grossly simplistic. The Nuremberg defendants could have escaped liability by failing to seek and retain positions which exposed them to the execution of objectionable activity; and, should plaintiff feel sufficiently strongly about the matter, he may do likewise. Beyond that, plaintiff’s analogy demonstrates primarily that debates and dialogues on public issues have become so debased in recent years that such terms as genocide, war crime, crimes against humanity, and the like are bandied about with considerable abandon in connection with almost every conceivable controversial issue of public policy. There is not the slightest similarity between the crimes committed under the aegis of a violent dictatorship and the implementation of laws adopted under a system of government which offers free elections, freedom of expression, and an independent judiciary as safeguards against excesses and as a guarantee of the ultimate rule of a sovereign citizenry.” We agree.
- 31 See, for example, *Schmid v. Lovette* (1984) 154 Cal.App.3d 466, 474, 201 Cal.Rptr. 424 (holding that article III, section 3.5 of the California Constitution did not require public community college officials to continue to apply a statute requiring public employees to sign an anti-Communist-Party loyalty oath when comparable statutes had been held unconstitutional by both federal and state supreme court decisions) and *LSO, Ltd. v. Stroh*, *supra*, 205 F.3d 1146, 1160 (holding that no reasonable official could have believed that a statute prohibiting exhibition of nonobscene erotic art on any premises holding a liquor license could constitutionally be applied in light of a then recent United States Supreme Court decision).
- 32 Of the three decisions cited by the city, the Massachusetts decision in *Goodridge v. Department of Pub. Health*, *supra*, 440 Mass. 309, 798 N.E.2d 941, appears to be the only one squarely to hold that a state constitution precludes the state from withholding the status of marriage from same-sex couples.
- In *Baker v. State of Vermont*, *supra*, 170 Vt. 194, 744 A.2d 864, the court summarized its conclusion under the “common benefits” clause of the Vermont Constitution, as follows: “The State is constitutionally required to extend to same-sex couples the common benefits and protections that flow from marriage under Vermont law. Whether this ultimately takes the form of inclusion within the marriage laws themselves or a parallel ‘domestic partnership’ system or some equivalent statutory alternative rests with the Legislature.” (744 A.2d at p. 867; see also *id.* at pp. 886–887.) The Vermont Legislature subsequently enacted a civil union statute. (Vt. Stat. Ann., tit. 15, §§ 1201–1207 (supp.2001).)
- In *Baehr v. Lewin*, *supra*, 74 Haw. 530, 852 P.2d 44, the Hawaii Supreme Court held that the trial court in that case had erred in granting judgment on the pleadings against three same-sex couples who had sued for declaratory and injunctive relief after being denied marriage licenses, concluding that the plaintiffs were entitled to go forward with their action and that, under the equal protection clause of the Hawaii Constitution, the state would have to demonstrate a compelling interest to justify the statutory classification. (852 P.2d at p. 68.) Following the decision in *Baehr*, the voters in Hawaii amended the Hawaii Constitution to limit marriage to unions between a man and a woman, and, in light of that amendment, the Hawaii Supreme Court thereafter ordered entry of judgment in favor of the defendants in the *Baehr* litigation. (See *Baehr v. Miike* (1999) 92 Hawai‘i 634, 994 P.2d 566 [full order reported at 1999 Haw.Lexis 391].)
- In addition to relying upon *Goodridge*, *Baker*, and *Baehr*, the city points to a passage in the dissenting opinion of Justice Scalia in *Lawrence v. Texas* (2003) 539 U.S. 558, 123 S.Ct. 2472, 156 L.Ed.2d 508, in which he expressed the view that the reasoning of the majority opinion in *Lawrence*—holding a Texas sodomy statute unconstitutional—would lead to the conclusion that a statute precluding same-sex marriages also would be unconstitutional. (*Lawrence v. Texas*, *supra*, 539 U.S. at pp. 604–605, 123 S.Ct. 2472 (dis. opn. by Scalia, J.)) The majority opinion in *Lawrence*, however, expressly stated that “[t]he present case ... does not involve whether the government must give formal recognition to any relationship that homosexual persons seek to enter.” (*Lawrence*, *supra*, 539 U.S. at p. 578, 123 S.Ct. 2472). In light of this very specific disclaimer in the majority opinion in *Lawrence*, we conclude that the city cannot plausibly claim that the *Lawrence* decision clearly establishes that a state statute limiting marriage to a man and a woman is unconstitutional under the federal Constitution. (See also *Standhardt v. Super. Ct.* (Ariz.Ct.App.2003) 206 Ariz. 276, 77 P.3d 451, 454–460, 464–465 [post-*Lawrence* case rejecting claim that *Lawrence* indicates the federal Constitution guarantees the right to same-sex marriage].)
- 33 Petitioners in *Lewis* maintain that because the United States Supreme Court summarily dismissed the appeal in *Baker v. Nelson* for want of a substantial federal question and because such a summary dismissal is treated as a decision on the merits (see *Mandel v. Bradley* (1977) 432 U.S. 173, 176, 97 S.Ct. 2238, 53 L.Ed.2d 199; *Hicks v. Miranda* (1975) 422 U.S. 332, 344, 95

S.Ct. 2281, 45 L.Ed.2d 223), the summary dismissal in *Baker v. Nelson* definitively establishes that, under current federal law, a statute limiting marriage to a man and a woman does not violate the federal Constitution. The city, on the other hand, cites a number of decisions stating that when there have been subsequent doctrinal developments in the United States Supreme Court that undermine the holding in a summary dismissal, the lower courts are not bound to follow the summary dismissal as controlling authority (see, e.g., *Tenaflly Eruv Ass'n v. Borough of Tenaflly* (3d Cir.2002) 309 F.3d 144, 173, fn. 33; *Lecates v. Justice of the Peace Court No. 4 of Delaware* (3d Cir.1980) 637 F.2d 898, 904), and the city argues that there have been such doctrinal developments in subsequent high court decisions that undermine the holding in *Baker v. Nelson*. We find no need to resolve this dispute here, because whatever the current effect of the summary dismissal in *Baker v. Nelson*, the case before us clearly does not present an instance in which the invalidity of the current California marriage statutes is so patent or clearly established that no reasonable official could believe that the statutes are constitutional.

34 Our review of the decisions of our sister states and the District of Columbia reflects that of the 33 jurisdictions in which decisions have been found addressing this subject, 26 appear to have recognized and endorsed the proposition that, as a general rule, an executive official who is charged with a ministerial duty to enforce a statute has no authority to refuse to apply the statute, in the absence of a judicial determination that the statute is unconstitutional, on the ground that the official believes the statute is unconstitutional, although many of the jurisdictions, like California, also recognize an exception for bond or other public finance cases, in which an official is permitted to refuse to apply a statute as a means of obtaining a timely judicial determination of the legality of the bond or public expenditure. (See *Denver Urban Renewal Authority v. Byrne* (Colo.1980) 618 P.2d 1374, 1379–1380 [foll. *Ames v. People* (1899) 26 Colo. 83, 56 P. 656, 658]; *Levitt v. Attorney General* (1930) 111 Conn. 634, 151 A. 171, 176; *Panitz v. District of Columbia* (D.C.Cir.1940) 112 F.2d 39, 41–42 [applying District of Columbia law]; *Fuchs v. Robbins* (Fla.2002) 818 So.2d 460, 463–464 [foll. *State v. State Board of Equalizers*, *supra*, 84 Fla. 592, 94 So. 681, 682–684]; *Taylor v. State* (1931) 174 Ga. 52, 162 S.E. 504, 508–509; *Howell v. Board of Comm'rs* (1898) 6 Idaho 154, 53 P. 542, 543; *People ex rel. Atty. Gen. v. Salomon* (1870) 54 Ill. 39, 44–46; *Bd. of Sup'rs of Linn Cty. v. Dept. of Revenue* (Iowa 1978) 263 N.W.2d 227, 232–234 [foll. *Charles Hewitt & Sons Co. v. Keller* (1937) 223 Iowa 1372, 275 N.W. 94, 95–97]; *Tincher v. Commonwealth* (1925) 208 Ky. 661, 271 S.W. 1066, 1068; *Dore v. Tugwell* (1955) 228 La. 807, 84 So.2d 199, 201–202 [foll. *State v. Heard* (La.1895) 18 So. 746, 749–752]; *Smyth v. Titcomb* (1850) 31 Me. 272, 285; *Maryland Classified Emp. Ass'n v. Anderson* (1977) 281 Md. 496, 380 A.2d 1032, 1035–1037; *Assessors of Haverhill v. New England Tel. & Tel. Co.* (1955) 332 Mass. 357, 124 N.E.2d 917, 920–921; *State v. Steele County Bd. of Com'rs* (1930) 181 Minn. 427, 232 N.W. 737, 738–739; *St. Louis County v. Litzinger* (Mo.1963) 372 S.W.2d 880, 881–882 [foll. *State v. Becker* (1931) 328 Mo. 541, 41 S.W.2d 188, 190–191]; *State v. McFarlan* (1927) 78 Mont. 156, 252 P. 805, 808; *State v. Sedillo* (1929) 34 N.M. 1, 275 P. 765, 765–767; *Attorney General v. Taubenheimer* (1917) 178 A.D. 321, 321, 164 N.Y.S. 904, 904; *Dept. of State Highways v. Baker* (1940) 69 N.D. 702, 290 N.W. 257, 260–262; *State v. Griffith* (1940) 136 Ohio St. 334, 25 N.E.2d 847, 848–849; *State ex rel. Cruce v. Cease* (1911) 28 Okla. 271, 114 P. 251, 252–253; *Commonwealth v. Mathues* (1904) 210 Pa. 372, 59 A. 961, 964–969; *State v. Burley* (1908) 80 S.C. 127, 61 S.E. 255, 257; *Thoreson v. State Board of Examiners* (1899) 19 Utah 18, 57 P. 175, 177–179; *City of Montpelier v. Gates* (1934) 106 Vt. 116, 170 A. 473, 476–477; *Capito v. Topping* (1909) 65 W.Va. 587, 64 S.E. 845, 846; *Riverton Valley D. Dist. v. Board of County Com'rs* (1937) 52 Wyo. 336, 74 P.2d 871, 873.)

Of the seven states that may be viewed as adopting the minority position, most have addressed the issue only in the context of actions either relating to matters affecting the expenditure of public funds or where the rights or interests of the public officer or public entity were directly at stake. (See *State v. Steinwedel* (1932) 203 Ind. 457, 180 N.E. 865, 866–868 [public expenditure]; *Toombs v. Sharkey* (1925) 140 Miss. 676, 106 So. 273, 277 [public expenditure]; *Van Horn v. State* (1895) 46 Neb. 62, 64 N.W. 365, 371–372 [county reorganization]; *State v. Slusher* (1926) 119 Or. 141, 248 P. 358, 359–360 [tax collection]; *Holman v. Pabst* (Tex.Civ.App.1930) 27 S.W.2d 340, 342–343 [local election procedure]; *Hindman v. Boyd* (1906) 42 Wash. 17, 84 P. 609, 612 [local election procedure]; *State v. Tappan* (1872) 29 Wis. 664, 9 Am. Rep. 622, 635 [tax collection].)

A number of the out-of-state cases discuss a separate line of cases that address the issue whether a public official or public entity has “standing” to bring a court action—for example, a declaratory judgment action—challenging the constitutionality of a statute the official or entity is obligated to comply with or enforce. (See, e.g., *Fuchs v. Robbins*, *supra*, 818 So.2d 460, 463–464; *Bd. of Sup'rs of Linn Cty. v. Dept. of Revenue*, *supra*, 263 N.W.2d 227, 233–234; see also *City of Kenosha v. State* (1967) 35 Wis.2d 317, 151 N.W.2d 36, 42–43.) Although the standing issue involves some of the same considerations that are applicable to the issue we face here, from a separation of powers perspective, conduct by an executive official that simply asks a court to determine the constitutionality of a statute would appear to raise much less concern than an executive official's unilateral refusal to enforce a statute based on the official's opinion that the statute is unconstitutional.

35 Several amici curiae point out that nonattorney public officials are able to seek legal advice from a county counsel or city attorney (see *Gov.Code*, §§ 27640, 41801) and assert that such nonattorney officials presumably will do so before disobeying

a statute on the ground it is unconstitutional. County counsel and city attorneys, however, also are executive officers who, like a nonattorney public official, have not been granted judicial power and thus also lack the authority to determine that a statute is unconstitutional and that it should not be followed. A nonattorney public official generally will be in no position to critically evaluate legal advice obtained from such counsel regarding the question of a statute's constitutionality. Outside the very narrow category of instances in which legal counsel can advise that the invalidity of the statute is so patent or clearly established that *any* reasonable public official would conclude that the statute in question is unconstitutional (see, *ante*, 17 Cal.Rptr.3d pp. 258–260, 95 P.3d pp. 486–488), whenever a nonattorney official defies a statutory mandate on the basis of a county counsel's or city attorney's legal advice, the official's refusal to apply the statute actually will rest upon legal counsel's judgment on a debatable constitutional question, rather than upon the judgment of the official on whom the statute imposes a ministerial duty. Furthermore, a nonattorney official is under no obligation to act in accordance with a legal opinion (often given confidentially) provided by a county counsel or city attorney.

36 Despite the suggestion in Justice Werdegar's concurring and dissenting opinion (*post*, 17 Cal.Rptr.3d at pp. 286–289, 95 P.3d at pp. 509–513), this established rule does not represent any sort of broad claim of *judicial* power over the *executive* branch, but on the contrary reflects the general duty of an *executive* official, in carrying out a ministerial function authorized by statute, not to assume the authority to supersede or contravene the directions of the *legislative* branch or to exercise the traditional function of the *judicial* branch.

37 As explained above (*ante*, 17 Cal.Rptr.3d pp. 254–255, 95 P.3d pp. 483–484), under the circumstances in this case there is no plausible basis for suggesting that the city officials would have subjected themselves to personal liability had they acted in conformity with the terms of the current California marriage statutes.

38 The court in *Smith* explained in this regard: “It is evident that the auditor had no personal interest in the litigation. He had certain duties as a public officer to perform. The performance of those duties was of no personal benefit to him. Their non-performance was equally so.... He was testing the constitutionality of the law purely in the interest of third persons, viz., the taxpayers....” (*Smith v. Indiana*, *supra*, 191 U.S. at pp. 148–149, 24 S.Ct. 51.)

39 Contrary to the assertion of Justice Werdegar's concurring and dissenting opinion (*post*, 17 Cal.Rptr.3d at p. 286, 95 P.3d at p. 509), the validity or invalidity of the existing same-sex marriages is material to this case not simply because the Attorney General has requested this court to decide that issue, but because resolution of the issue is necessary in determining the scope of the remedy that properly should be ordered in this mandate action to correct, and undo the potentially disruptive consequences of, the unauthorized actions of the city officials.

40 Whether or not any same-sex couple “has filed a lawsuit seeking the legal benefits of their purported marriage” (conc. & dis. opn. of Werdegar, J., *post*, 17 Cal.Rptr.3d at p. 284, 95 P.3d at p. 508), there can be no question that the legal status of such couples has and will continue to generate numerous questions for such couples and third parties that must be resolved on an ongoing basis.

41 Contrary to the contention of Justice Werdegar's concurring and dissenting opinion (*post*, 17 Cal.Rptr.3d at p. 284, 95 P.3d at p. 508), should the existing marriage statutes ultimately be held unconstitutional, we do not believe that the principle of “basic fairness” or a claim for “full relief” justifies placing the same-sex couples who took advantage of the unauthorized actions of San Francisco officials in a different or better position than other same-sex couples who were denied marriage licenses in other counties throughout the state by public officials who properly fulfilled their duties in compliance with the governing state statutes.

42 The pronouncement of Sir Thomas More in the well-known passage from Robert Bolt's *A Man For All Seasons* comes to mind:

“Roper: So now you'd give the Devil benefit of law!

“More: Yes. What would you do? Cut a great road through the law to get to the Devil?”

“Roper: I'd cut down every law in England to do that!

“More: Oh? And when the last law was down, and the Devil turned round on you—where would you hide, Roper, the laws all being flat? This country's planted thick with laws from coast to coast—man's laws, not God's—and if you cut them down—and you're just the man to do it—d'you really think you could stand upright in the winds that would blow then? Yes, I'd give the Devil benefit of law, for my own safety's sake.” (Bolt, *A Man For All Seasons* (1962) p. 66.)

1 The above dictum does not apply when the Legislature has required that a governmental entity challenge an assertedly unconstitutional statute by means of declaratory relief. (See, e.g., *Rev. & Tax.Code*, § 538 [county assessor to challenge constitutionality of state revenue statute by requesting declaratory relief under *Code Civ. Proc.*, § 1060].)

1 As the majority explains, the license application was altered “by eliminating the terms ‘bride,’ ‘groom,’ and ‘unmarried man and unmarried woman,’ and by replacing them with the terms ‘first applicant,’ ‘second applicant,’ and ‘unmarried individuals.’” (Maj. opn., *ante*, 17 Cal.Rptr.3d at p. 232, 95 P.3d at p. 465.)

- 2 Although California law has expressly restricted matrimony to heterosexual couples, it has also extended most of the financial and other benefits of marriage to same-sex couples through domestic partner legislation. (See, e.g., [Fam.Code, § 297 et seq.](#), Stats.2003, ch. 421, operative Jan. 1, 2005.)
- 1 The majority does note that “officials of the federal Social Security Administration had raised questions regarding that agency's processing of name-change applications resulting from California marriages” (maj. opn., *ante*, 17 Cal.Rptr.3d at p. 233, 95 P.3d at p. 465), but this is unlikely to be a serious problem because San Francisco used a nonstandard, easily recognizable form for licensing same-sex marriages (*id.*, at pp. 232–233, 239–240, 95 P.3d at pp. 464–465, 470–472).
- 2 Compare [Code of Civil Procedure section 389, subdivision \(a\)](#): “A person who is subject to service of process and whose joinder will not deprive the court of jurisdiction over the subject matter of the action shall be joined as a party in the action if ... (2) he claims an interest relating to the subject of the action and is so situated that the disposition of the action in his absence may (i) as a practical matter impair or impede his ability to protect that interest....”
- 3 For example, [Estate of Elliott \(1913\) 165 Cal. 339, 343, 132 P. 439](#) (decendent's daughter may challenge purported marriage of decedent to person seeking appointment as administrator); [Estate of Stark \(1941\) 48 Cal.App.2d 209, 215–216, 119 P.2d 961](#) (heirs may challenge marriage of decedent's parents to show that other purported heirs were illegitimate and, thus, lack standing to contest the will); [People v. Little \(1940\) 41 Cal.App.2d 797, 800–801, 107 P.2d 634](#) (the People in a criminal case may challenge defendant's marriage to an alleged coconspirator in order to avoid the rule that spouses cannot commit the crime of conspiracy); [People v. MacDonald \(1938\) 24 Cal.App.2d 702, 704–705, 76 P.2d 121](#) (the People in a criminal case may challenge defendant's marriage to a witness in order to defeat a claim of spousal privilege); [People v. Glab \(1936\) 13 Cal.App.2d 528, 535, 57 P.2d 588](#) (same).
- 4 In [Smith v. Indiana, supra](#), 191 U.S. 138, 24 S.Ct. 51, 48 L.Ed. 125, the high court held only that it would not necessarily recognize a state official's *standing* to challenge a state law on federal grounds. (See *id.*, at pp. 148–150, 24 S.Ct. 51.) Even on this narrow point, *Smith* has not been consistently followed. (See [Board of Education v. Allen \(1968\) 392 U.S. 236, 241, fn. 5, 88 S.Ct. 1923, 20 L.Ed.2d 1060](#) [local school officials permitted to challenge under the federal Constitution a state statute requiring them to purchase and loan textbooks to parochial school pupils]; [Coleman v. Miller \(1939\) 307 U.S. 433, 438 & fn. 3, 59 S.Ct. 972, 83 L.Ed. 1385](#) [state legislators permitted to challenge under the federal Constitution state's procedures for recording votes on constitutional amendments]; cf. *id.*, at p. 466, 59 S.Ct. 972 (separate opn. of Frankfurter, J., citing *Smith*); [Akron Board of Ed. v. State Board of Ed. of Ohio \(6th Cir.1974\) 490 F.2d 1285, 1290–1291, cert. den. sub nom. State Board of Education of Ohio v. Akron Board of Education \(1974\) 417 U.S. 932, 94 S.Ct. 2644, 41 L.Ed.2d 236](#) [local school officials permitted to challenge under the federal Constitution state officials' decision to transfer White students from desegregated schools to all-White schools]; cf. [Akron Board of Ed. v. State Board of Ed. of Ohio, supra](#), 490 F.2d at p. 1296 (conc. & dis. opn. of Pratt, J., citing *Smith*).)

ATTACHMENT D-6

124 Cal.App.4th 866

Court of Appeal, Fourth District, Division 1, California.

BUILDING INDUSTRY ASSOCIATION OF SAN DIEGO COUNTY et al., Plaintiffs and Appellants,

v.

STATE WATER RESOURCES CONTROL BOARD et al., Defendants and Respondents,

[San Diego Baykeeper](#) et al.,
[Interveners](#) and Respondents.

No. D042385.

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Dec. 7, 2004.

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Certified for Partial Publication.¹

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As Modified on Denial of Rehearing Jan. 4, 2005.

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Review Denied March 30, 2005.*

Synopsis

Background: Building industry association filed petition for writ of mandate against regional and state water control boards, challenging issuance of comprehensive municipal stormwater sewer permit, as including water quality standard provisions which allegedly were too stringent and impossible to satisfy, and so violative of federal Clean Water Act standard. Environmental groups intervened as defendants. The Superior Court, San Diego County, Wayne L. Peterson, J., denied petition. Association appealed.

[Holding:] The Court of Appeal, [Haller](#), J., held that water boards were not prohibited by Clean Water Act "maximum extent practicable" standard of stormwater pollutant abatement from including provisions in permit which required that municipalities comply with state water quality standards.

Affirmed.

West Headnotes (12)

[1] Administrative Law and Procedure

 Presumptions

Administrative Law and Procedure

 Burden of showing error

In exercising its independent judgment when reviewing an administrative proceeding, a trial court must afford a strong presumption of correctness concerning the administrative findings, and the party challenging the administrative decision bears the burden of convincing the court that the administrative findings are contrary to the weight of the evidence.

[2 Cases that cite this headnote](#)

[2] Administrative Law and Procedure

 Scope

On review of a trial court's determination of a challenge to an administrative ruling, the Court of Appeal applies a substantial evidence standard when reviewing the trial court's factual determinations on the administrative record.

[1 Cases that cite this headnote](#)

[3] Administrative Law and Procedure

 Scope

On review of a trial court's determination of a challenge to an administrative ruling, an appellate court conducts a de novo review of the trial court's legal determinations, and is also not bound by the legal determinations made by the agency.

[1 Cases that cite this headnote](#)

[4] Administrative Law and Procedure

 Deference to agency in general

Court of Appeal gives appropriate consideration to an administrative agency's

expertise underlying its interpretation of an applicable statute.

[4 Cases that cite this headnote](#)

[5] Administrative Law and Procedure

🔑 Environment and health

Environmental Law

🔑 Water pollution

In determining the meaning of the Clean Water Act and its amendments, federal courts generally defer to the construction of a statutory provision by the Environmental Protection Agency (EPA) if the disputed portion of the statute is ambiguous. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

[2 Cases that cite this headnote](#)

[6] Administrative Law and Procedure

🔑 Environment and health

Environmental Law

🔑 Water pollution

Court of Appeal considers and gives due deference to statutory interpretations of Clean Water Act by regional and state water control boards. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., 33 U.S.C.A. § 1251 et seq.

[8 Cases that cite this headnote](#)

[7] Environmental Law

🔑 Conditions and limitations

Regional and state water control boards, in issuing comprehensive municipal stormwater sewer permit, were not prohibited by Clean Water Act “maximum extent practicable” standard of stormwater pollutant abatement from including provisions in permit which required that municipalities comply with state water quality standards; language of pertinent statute communicated basic principle that boards, which had been federally approved to issue permit, retained discretion to impose appropriate water pollution controls in addition to those that came within

definition of “maximum extent practicable,” this principle was consistent with legislative history and purpose of Act, and there was no showing that applicable water quality standards were unattainable. Federal Water Pollution Control Act Amendments of 1972, § 402(p)(3)(B)(iii), 33 U.S.C.A. § 1342(p)(3)(B)(iii).

See 4 Witkin, Summary of Cal. Law (9th ed. 1987) Real Property, §§ 66-69; Cal. Jur. 3d, Pollution and Conservation Laws, § 113 et seq.

[14 Cases that cite this headnote](#)

[8] Statutes

🔑 Grammar, spelling, and punctuation

While punctuation and grammar should be considered in interpreting a statute, neither is controlling unless the result is in harmony with the clearly expressed intent of the Legislature.

[Cases that cite this headnote](#)

[9] Administrative Law and Procedure

🔑 Plain, literal, or clear meaning; ambiguity

Statutes

🔑 Extrinsic Aids to Construction

If the statutory language is susceptible to more than one reasonable interpretation, a court must look to a variety of extrinsic aids to interpreting the statute, including the ostensible objects to be achieved, the evils to be remedied, the legislative history, public policy, contemporaneous administrative construction, and the statutory scheme of which the statute is a part.

[2 Cases that cite this headnote](#)

[10] Appeal and Error

🔑 Motions, hearings, and orders in general

Appeal and Error

🔑 Judgment in General

All lower court judgments and orders are presumed correct, and persons challenging

them on appeal must affirmatively show reversible error.

[Cases that cite this headnote](#)

[11] Appeal and Error

 [Statement of evidence](#)

A party challenging the sufficiency of evidence to support a judgment on appeal must summarize, and cite to, all of the material evidence, not just the evidence favorable to his or her appellate positions.

[1 Cases that cite this headnote](#)

[12] Administrative Law and Procedure

 [Burden of showing error](#)

The party challenging the scope of an administrative permit has the burden of showing the agency abused its discretion or its findings were unsupported by the facts.

[Cases that cite this headnote](#)

Attorneys and Law Firms

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Habitats League, and Sierra Club, Amici Curiae on behalf of Defendants and Respondents, and Interveners and Respondents.

Opinion

HALLER, J.

***871** This case concerns the environmental regulation of municipal storm sewers that carry excess water runoff to lakes, lagoons, rivers, bays, and the ocean. The waters flowing through these sewer systems have accumulated numerous harmful pollutants that are then discharged into the water body without receiving any treatment. To protect against the resulting water quality impairment, federal and state laws impose regulatory controls on storm sewer discharges. In particular, municipalities and other public entities are required to obtain, and comply with, a regulatory permit limiting the quantity and quality of water runoff that can be discharged from these storm sewer systems.

In this case, the California Regional Water Control Board, San Diego Region, (Regional Water Board) conducted numerous public hearings and then issued a comprehensive municipal storm sewer permit governing 19 local public entities. Although these entities did not bring an administrative challenge to the permit, one business organization, the Building Industry Association of San Diego County (Building Industry), filed an administrative appeal with the State Water Resources Control Board (State Water Board). After making some modifications to the permit, the State Water Board denied the appeal. Building Industry then petitioned for a writ of mandate in the superior court, asserting numerous claims, including that the permit violates state and federal law because the permit provisions are too stringent and impossible to satisfy. Three environmental groups intervened as defendants in the action. After a hearing, the trial court found Building Industry failed to prove its claims and entered judgment in favor of the administrative agencies (the Water Boards) and the intervener environmental groups.

On appeal, Building Industry's main contention is that the regulatory permit violates federal law because it allows the Water Boards to impose municipal storm sewer control measures more stringent than a federal standard known as "maximum extent practicable." (****131 33 U.S.C. § 1342(p)(3)(B)(iii).**)² In the published portion

of this opinion, we reject this contention, and conclude the Water Boards had the authority to include a permit provision requiring compliance with state water quality standards. In the unpublished portion of the opinion, we find Building Industry's additional contentions to be without merit. We affirm the judgment.

*872 RELEVANT BACKGROUND INFORMATION

I. Summary of Relevant Clean Water Act Provisions

Before setting forth the factual background of this particular case, it is helpful to summarize the federal and state statutory schemes for regulating municipal storm sewer discharges.³

A. Federal Statutory Scheme

When the United States Congress first enacted the Federal Water Pollution Control Act in 1948, the Congress relied primarily on state and local enforcement efforts to remedy water pollution problems. (*Middlesex Cty. Sewerage Auth. v. Sea Clammers* (1981) 453 U.S. 1, 11, 101 S.Ct. 2615, 69 L.Ed.2d 435; *Tahoe-Sierra Preservation Council v. State Water Resources Control Bd.* (1989) 210 Cal.App.3d 1421, 1433, 259 Cal.Rptr. 132.) However, by the early 1970's, it became apparent that this reliance on local enforcement was ineffective and had resulted in the "accelerating environmental degradation of rivers, lakes, and streams...." (*Natural Resources Defense Council, Inc. v. Costle* (D.C.Cir.1977) 568 F.2d 1369, 1371 (*Costle*)); see *EPA v. State Water Resources Control Board* (1976) 426 U.S. 200, 203, 96 S.Ct. 2022, 48 L.Ed.2d 578.) In response, in 1972 Congress substantially amended this law by mandating compliance with various minimum technological effluent standards established by the federal government and creating a comprehensive regulatory scheme to implement these laws. (See *EPA v. State Water Resources Control Board, supra*, 426 U.S. at pp. 204–205, 96 S.Ct. 2022.) The objective of this law, now commonly known as the Clean Water Act, was to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (§ 1251(a).)

The Clean Water Act employs the basic strategy of prohibiting pollutant emissions from "point sources"⁴ unless the party discharging the pollutants obtains a permit, known as an NPDES⁵ permit. (See *EPA v. State Water Resources Control Board, supra*, 426 U.S. at p. 205, 96 S.Ct. 2022.) It is "unlawful *873 for any person to discharge a pollutant without obtaining a permit and complying with its terms." (*Ibid.*; § 1311(a); see **132 *Costle, supra*, 568 F.2d at p. 1375.) An NPDES permit is issued by the United States Environmental Protection Agency (EPA) or by a state that has a federally approved water quality program. (§ 1342(a), (b); *EPA v. State Water Resources Control Board, supra*, 426 U.S. at p. 209, 96 S.Ct. 2022.) Before an NPDES is issued, the federal or state regulatory agency must follow an extensive administrative hearing procedure. (See 40 C.F.R. §§ 124.3, 124.6, 124.8, 124.10; see generally Wardzinski et al., *National Pollutant Discharge Elimination System Permit Application and Issuance Procedures*, in *The Clean Water Act Handbook* (Evans edit., 1994) pp. 72–74 (*Clean Water Act Handbook*)). NPDES permits are valid for five years. (§ 1342(b)(1)(B).)

Under the Clean Water Act, the proper scope of the controls in an NPDES permit depends on the applicable state water quality standards for the affected water bodies. (See *Communities for a Better Environment v. State Water Resources Control Bd.* (2003) 109 Cal.App.4th 1089, 1092, 1 Cal.Rptr.3d 76.) Each state is required to develop water quality standards that establish " 'the desired condition of a waterway.' " (*Ibid.*) A water quality standard for any given water segment has two components: (1) the designated beneficial uses of the water body; and (2) the water quality criteria sufficient to protect those uses. (*Ibid.*) As enacted in 1972, the Clean Water Act mandated that an NPDES permit require compliance with state water quality standards and that this goal be met by setting forth a specific "effluent limitation," which is a restriction on the amount of pollutants that may be discharged at the point source. (§§ 1311, 1362(11).)

Shortly after the 1972 legislation, the EPA promulgated regulations exempting most municipal storm sewers from the NPDES permit requirements. (*Costle, supra*, 568 F.2d at p. 1372; see *Defenders of Wildlife v. Browner* (9th Cir.1999) 191 F.3d 1159, 1163 (*Defenders of Wildlife*).) When environmental groups challenged this exemption in federal court, the Ninth Circuit held a storm sewer is a point source and the EPA did not have the authority

to exempt categories of point sources from the Clean Water Act's NPDES permit requirements. (*Costle, supra*, 568 F.2d at pp. 1374–1383.) The *Costle* court rejected the EPA's argument that effluent-based storm sewer regulation was administratively infeasible because of the variable nature of storm water pollution and the number of affected storm sewers throughout the country. (*Id.* at pp. 1377–1382.) Although the court acknowledged the practical problems relating to storm sewer regulation, the court found the EPA had the flexibility under the Clean Water Act to design regulations that would overcome these problems. (*Id.* at pp. 1379–1383.)

*874 During the next 15 years, the EPA made numerous attempts to reconcile the statutory requirement of point source regulation with the practical problem of regulating possibly millions of diverse point source discharges of storm water. (*Defenders of Wildlife, supra*, 191 F.3d at p. 1163; see Gallagher, *Clean Water Act in Environmental Law Handbook* (Sullivan edit., 2003) p. 300 (Environmental Law Handbook); Eisen, *Toward a Sustainable Urbanism: Lessons from Federal Regulation of Urban Stormwater Runoff* (1995) 48 Wash. U.J. Urb. & Contemp. L. 1, 40–41 (*Regulation of Urban Stormwater Runoff*).)

Eventually, in 1987, Congress amended the Clean Water Act to add provisions that specifically concerned NPDES permit requirements for storm sewer discharges. (§ 1342(p); see *Defenders of Wildlife, supra*, **133 191 F.3d at p. 1163; *Natural Resources Defense Council v. U.S. E.P.A.* (1992) 966 F.2d 1292, 1296.) In these amendments, enacted as part of the Water Quality Act of 1987, Congress distinguished between industrial and municipal storm water discharges. With respect to *industrial* storm water discharges, Congress provided that NPDES permits “shall meet all applicable provisions of this section and section 1311 [requiring the EPA to establish effluent limitations under specific timetables]” (§ 1342(p)(3)(A).) With respect to *municipal* storm water discharges, Congress clarified that the EPA had the authority to fashion NPDES permit requirements to meet water quality standards without specific numerical effluent limits and instead to impose “controls to reduce the discharge of pollutants to the maximum extent practicable” (§ 1342(p)(3)(B)(iii); see *Defenders of Wildlife, supra*, 191 F.3d at p. 1163.) Because the statutory language pertaining to municipal storm sewers is at the center of this appeal, we quote the relevant portion of the statute in full:

“(B) Permits for discharges from municipal storm sewers—

“(i) may be issued on a system- or jurisdiction-wide basis;

“(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

“(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” (§ 1342(p)(3)(B).)

To ensure this scheme would be administratively workable, Congress placed a moratorium on many new types of required stormwater permits until 1994 (§ 1342(p)(1)), and created a phased approach to necessary municipal *875 stormwater permitting depending on the size of the municipality (§ 1342(p)(2)(D)). (See *Environmental Defense Center, Inc. v. U.S. E.P.A.* (9th Cir.2003) 344 F.3d 832, 841–842.)

B. State Statutory Scheme

Three years before the 1972 Clean Water Act, the California Legislature enacted its own water quality protection legislation, the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), seeking to “attain the highest water quality which is reasonable....” (*Wat.Code*, § 13000.) The Porter–Cologne Act created the State Water Board to formulate statewide water quality policy and established nine regional boards to prepare water quality plans (known as basin plans) and issue permits governing the discharge of waste. (*Wat.Code*, §§ 13100, 13140, 13200, 13201, 13240, 13241, 13243.) The Porter–Cologne Act identified these permits as “waste discharge requirements,” and provided that the waste discharge requirements must mandate compliance with the applicable regional water quality control plan. (*Wat.Code*, §§ 13263, subd. (a), 13377, 13374.)

Shortly after Congress enacted the Clean Water Act in 1972, the California Legislature added chapter 5.5 to the Porter–Cologne Act, for the purpose of

adopting the necessary federal requirements to ensure it would obtain EPA approval to issue NPDES permits. ([Wat.Code, § 13370, subd. \(c\).](#)) As part of these amendments, the Legislature provided that the state and regional water boards “shall, as required or authorized by the [Clean Water Act], issue waste discharge requirements ... which apply and ensure compliance with all applicable provisions ****134** [of the Clean Water Act], together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” ([Wat.Code, § 13377.](#)) [Water Code section 13374](#) provides that “[t]he term ‘waste discharge requirements’ as referred to in this division is the equivalent of the term ‘permits’ as used in the [Clean Water Act].”

California subsequently obtained the required approval to issue NPDES permits. ([WaterKeepers Northern California v. State Water Resources Control Bd. \(2002\) 102 Cal.App.4th 1448, 1453, 126 Cal.Rptr.2d 389.](#)) Thus, the waste discharge requirements issued by the regional water boards ordinarily also serve as NPDES permits under federal law. ([Wat.Code, § 13374.](#))

II. The NPDES Permit at Issue in this Case

Under its delegated authority and after numerous public hearings, in February 2001 the Regional Water Board issued a 52–page NPDES permit ***876** and Waste Discharge Requirements (the Permit) governing municipal storm sewers owned by San Diego County, the San Diego Unified Port District, and 18 San Diego-area cities (collectively, “Municipalities”).⁶ The first 10 pages of the Permit contain the Regional Water Board’s detailed factual findings. These findings describe the manner in which San Diego-area water runoff absorbs numerous harmful pollutants and then is conveyed by municipal storm sewers into local waters without any treatment. The findings state that these storm sewer discharges are a leading cause of water quality impairment in the San Diego region, endangering aquatic life and human health. The findings further state that to achieve applicable state water quality objectives, it is necessary not only to require municipalities to comply with existing pollution-control technologies, but also to require compliance with applicable “receiving water limits” (state water quality standards) and to employ an “iterative

process” of “development, implementation, monitoring, and assessment” to improve existing technologies.

Based on these factual findings, the Regional Water Board included in the Permit several overall prohibitions applicable to municipal storm sewer discharges. Of critical importance to this appeal, these prohibitions concern two categories of restrictions. First, the Municipalities are prohibited from discharging those pollutants “which have not been reduced to the *maximum extent practicable*...”⁷ (Italics added). Second, the Municipalities are ****135** prohibited from discharging pollutants “which cause or contribute to exceedances of receiving water quality objectives ...” and/or that “cause or contribute to the violation of water quality standards....” This second category of restrictions (referred to in this opinion as the “Water Quality Standards provisions”) essentially provide that a Municipality may not discharge pollutants if those pollutants would cause the receiving water body to exceed the applicable water quality standard. It is these latter restrictions that are challenged by Building Industry in this appeal.

***877** Part C of the Permit (as amended) qualifies the Water Quality Standards provisions by detailing a procedure for enforcing violations of those standards through a step-by-step process of “timely implementation of control measures ...,” known as an “iterative” process. Under this procedure, when a municipality “caus[es] or contribute[s] to an exceedance of an applicable water quality standard,” the municipality must prepare a report documenting the violation and describing a process for improvement and prevention of further violations. The municipality and the regional water board must then work together at improving methods and monitoring progress to achieve compliance. But the final provision of Part C states that “Nothing in this section shall prevent the [Regional Water Board] from enforcing any provision of this Order while the [municipality] prepares and implements the above report.”

In addition to these broad prohibitions and enforcement provisions, the Permit requires the Municipalities to implement, or to require businesses and residents to implement, various pollution control measures referred to as “best management practices,” which reflect techniques for preventing, slowing, retaining or absorbing pollutants produced by stormwater runoff. These best management practices include structural controls that minimize

contact between pollutants and flows, and non-structural controls such as educational and public outreach programs. The Permit also requires the Municipalities to regulate discharges associated with new development and redevelopment and to ensure a completed project will not result in significantly increased discharges of pollution from storm water runoff.

III. Administrative and Trial Court Challenges

After the Regional Water Board issued the Permit, the Building Industry, an organization representing the interests of numerous construction-related businesses, filed an administrative challenge with the State Water Board. Although none of the Municipalities joined in the administrative appeal, Building Industry claimed its own independent standing based on its assertion that the Permit would impose indirect obligations on the regional building community. (See [Wat.Code, § 13320](#) [permitting any “aggrieved person” to challenge regional water board action].) Among its numerous contentions, Building Industry argued that the Water Quality Standards provisions in the Permit require strict compliance with state water quality standards beyond what is “practicable” and therefore violate federal law.

In November 2001, the State Water Board issued a written decision rejecting Building Industry's appeal after making certain modifications to the Permit. (Cal. Wat. Resources Control Bd. Order WQ2001–15 (Nov. 15, 2001).) Of particular relevance here, the State Water Board modified the Permit to make clear that the iterative enforcement process applied to the Water Quality Standards provisions in the Permit. But ***878** the State Water Board did not delete the Permit's provision stating ****136** that the Regional Water Board retains the authority to enforce the Water Quality Standards provisions even if a Municipality is engaged in this iterative process.

Building Industry then brought a superior court action against the Water Boards, challenging the Regional Board's issuance of the Permit and the State Water Board's denial of Building Industry's administrative challenge.⁸ Building Industry asserted numerous legal claims, including that the Water Boards: (1) violated the Clean Water Act by imposing a standard greater than the “maximum extent practicable” standard; (2) violated state law by failing to consider various statutory factors

before issuing the Permit; (3) violated the California Environmental Quality Act (CEQA) by failing to prepare an environmental impact report (EIR); and (4) made findings that were factually unsupported.

Three environmental organizations, San Diego BayKeeper, Natural Resources Defense Council, and California CoastKeeper (collectively, Environmental Organizations), requested permission to file a complaint in intervention, seeking to uphold the Permit and asserting a direct and substantial independent interest in the subject of the action. Over Building Industry's objections, the trial court permitted these organizations to file the complaint and enter the action as parties-intervenors.

After reviewing the lengthy administrative record and the parties' briefs, and conducting an oral hearing, the superior court ruled in favor of the Water Boards and Environmental Organizations (collectively, respondents). Applying the independent judgment test, the court found Building Industry failed to meet its burden to establish the State Water Board abused its discretion in approving the Permit or that the administrative findings are contrary to the weight of the evidence. In particular, the court found Building Industry failed to establish the Permit requirements were “impracticable under federal law or unreasonable under state law,” and noted that there was evidence showing the Regional Water Board considered many practical aspects of the regulatory ***879** controls before issuing the Permit. Rejecting Building Industry's legal arguments, the court also stated that under federal law the Water Boards had the discretion “to require strict compliance with water quality standards” or “to require less than strict compliance with water quality standards.” The court also sustained several of respondents' evidentiary objections, including to documents relating to the legislative history of the Clean Water Act.

Building Industry appeals, challenging the superior court's determination that the Permit did not violate the federal Clean Water Act. In its appeal, Building Industry does not reassert its claim that the Permit violates state law, except for its contentions pertaining to CEQA.

DISCUSSION

I. Standard of Review

[1] A party aggrieved by a final decision of the State Water Board may obtain review of the decision by filing a timely ****137** petition for writ of mandate in the superior court. (Wat.Code, § 13330, subd. (a).) Code of Civil Procedure section 1094.5 governs the proceedings, and the superior court must exercise its independent judgment in examining the evidence and resolving factual disputes. (Wat.Code, § 13330, subd. (d).) “In exercising its independent judgment, a trial court must afford a strong presumption of correctness concerning the administrative findings, and the party challenging the administrative decision bears the burden of convincing the court that the administrative findings are contrary to the weight of the evidence.” (*Fukuda v. City of Angels* (1999) 20 Cal.4th 805, 817, 85 Cal.Rptr.2d 696, 977 P.2d 693.)

[2] [3] [4] [5] [6] In reviewing the trial court's factual determinations on the administrative record, a Court of Appeal applies a substantial evidence standard. (*Fukuda v. City of Angels*, *supra*, 20 Cal.4th at p. 824, 85 Cal.Rptr.2d 696, 977 P.2d 693.) However, in reviewing the trial court's legal determinations, an appellate court conducts a de novo review. (See *Alliance for a Better Downtown Millbrae v. Wade* (2003) 108 Cal.App.4th 123, 129, 133 Cal.Rptr.2d 249.) Thus, we are not bound by the legal determinations made by the state or regional agencies or by the trial court. (See *Yamaha Corp. of America v. State Bd. of Equalization* (1998) 19 Cal.4th 1, 7–8, 78 Cal.Rptr.2d 1, 960 P.2d 1031.) But we must give appropriate consideration to an administrative agency's expertise underlying its interpretation of an applicable statute.⁹ (*Ibid.*)

***880** II. Water Boards' Authority to Enforce Water Quality Standards in NPDES Permit

Building Industry's main appellate contention is very narrow. Building Industry argues that two provisions in the Permit (the Water Quality Standards provisions) violate federal law because they prohibit the Municipalities from discharging runoff from storm sewers if the discharge would cause a water body to exceed the applicable water quality standard established under state law.¹⁰ Building Industry contends that under federal

law the “maximum extent practicable” standard is the “exclusive” measure that may be applied to municipal storm sewer discharges and a regulatory agency may not require a Municipality to comply with a state water quality standard if the required controls exceed a “maximum extent practicable” standard.

In the following discussion, we first reject respondents' contentions that Building Industry waived these arguments by failing to raise a substantial evidence challenge to the court's factual findings and/or ****138** to reassert its state law challenges on appeal. We then focus on the portion of the Clean Water Act (§ 1342(p)(3)(B) (iii)) that Building Industry contends is violated by the challenged Permit provisions. On our de novo review of this legal issue, we conclude the Permit's Water Quality Standards provisions are proper under federal law, and Building Industry's legal challenges are unsupported by the applicable statutory language, legislative purpose, and legislative history.

A. Building Industry Did Not Waive the Legal Argument

Respondents (the Water Boards and Environmental Organizations) initially argue that Building Industry waived its right to challenge the Permit's consistency with the maximum extent practicable standard because Building Industry did not challenge the trial court's *factual* findings that Building Industry failed to prove any of the Permit requirements were “impracticable” or “unreasonable.”

In taking this position, respondents misconstrue the nature of Building Industry's appellate contention challenging the Water Quality Standards provisions. Building Industry's contention concerns the scope of the authority given to the Regional Water Board under the Permit terms. Specifically, ***881** Building Industry argues that the Regional Water Board does not have the authority to require the Municipalities to adhere to the applicable water quality standards because federal law provides that the “maximum extent practicable” standard is the exclusive standard that may be applied to storm sewer regulation. This argument—concerning the proper scope of a regulatory agency's authority—presents a purely legal issue, and is not dependent on the court's factual findings regarding the practicality of the specific regulatory controls identified in the Permit.

Respondents alternatively contend that Building Industry waived its right to challenge the propriety of the Water Quality Standards provisions under federal law because the trial court found the provisions were valid under state law and Building Industry failed to reassert its state law challenges on appeal. Under the particular circumstances of this case, we conclude Building Industry did not waive its rights to challenge the Permit under federal law.

Although it is well settled that the Clean Water Act authorizes states to impose water quality controls that are more stringent than are required under federal law (§ 1370; see *PUD No. 1 of Jefferson Cty. v. Washington Dept. of Ecology* (1994) 511 U.S. 700, 705, 114 S.Ct. 1900, 128 L.Ed.2d 716; *Northwest Environmental Advocates v. Portland* (9th Cir.1995) 56 F.3d 979, 989), and California law specifically allows the imposition of controls more stringent than federal law (*Wat.Code, § 13377*), the Water Boards made a tactical decision in the superior court to assert the Permit's validity based solely on federal law, and repeatedly made clear they were not seeking to justify the Permit requirements based on the Boards' independent authority to act under state law. On appeal, the Water Boards continue to rely primarily on federal law to uphold the Permit requirements, and their assertions that we may decide the matter based solely on state law are in the nature of asides rather than direct arguments. On this record, it would be improper to rely solely on state law to uphold the challenged Permit provisions.

B. The Water Quality Standards Requirement Does Not Violate Federal Law

[7] We now turn to Building Industry's main substantive contention on appeal— ****139** that the Permit's Water Quality Standards provisions (fn.10, *ante*) violate federal law. Building Industry's contention rests on its interpretation of the 1987 Water Quality Act amendments containing NPDES requirements for municipal storm sewers. The portion of the relevant statute reads: “(B) Permits for discharges from municipal storm sewers ... [¶] ... [¶] (iii) shall require controls to reduce the discharge of pollutants to the *maximum extent practicable*, including management practices, control techniques and ***882** system, design and engineering methods, and such other provisions as the [EPA] Administrator or

the State determines appropriate for the control of such pollutants.” (§ 1342(p)(3)(B)(iii), italics added.)

1. Statutory Language

Focusing on the first 14 words of subdivision (iii), Building Industry contends the statute means that the maximum extent practicable standard sets the upper limit on the type of control that can be used in an NPDES permit, and that each of the phrases following the word “*including*” identify examples of “maximum extent practicable” controls. (§ 1342(p)(3)(B)(iii), italics added.) Building Industry thus reads the final “and such other provisions” clause as providing the EPA with the authority only to include *other* types of “maximum extent practicable” controls in an NPDES storm sewer permit.

Respondents counter that the term “including” refers only to the three identified types of pollution control procedures—(1) “management practices”; (2) “control techniques”; and (3) “system, design and engineering methods”—and that the last phrase, “*and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants,*” provides the EPA (or the approved state regulatory agency) the specific authority to go beyond the maximum extent practicable standard to impose effluent limitations or water-quality based standards in an NPDES permit. In support, respondents argue that because the word “system” in section 1342(p)(3)(B)(iii) is singular, it necessarily follows from parallel-construction grammar principles that the word “system” is part of the phrase “system, design and engineering methods” rather than the phrase “control techniques and system.” Under this view and given the absence of a comma after the word “techniques,” respondents argue that the “and such other provisions” clause cannot be fairly read as restricted by the “maximum extent practicable” phrase, and instead the “and such other provisions” clause is a separate and distinct clause that acts as a second direct object to the verb “require” in the sentence. (§ 1342(p)(3)(B)(iii).)

Building Industry responds that respondents' proposed statutory interpretation is “not logical” because if the “and such other provisions” phrase is the direct object of the verb “require,” the sentence would not make sense. Building Industry states that “permits” do not generally “require” provisions; they “include” or “contain” them.

As a matter of grammar and word choice, respondents have the stronger position. The second part of Building Industry's proposed interpretation—"control techniques and system, design, and engineering methods"—without a comma after the word "techniques" does not logically serve as a *883 parallel construct with the "and such other provisions" clause. Moreover, we disagree that the "and such other provisions" clause cannot be a direct object to the word "require." (§ 1342(p)(3)(B)(iii).) Although it is not the clearest way of articulating the concept, the language of section 1342(p)(3)(B)(iii) does communicate the basic **140 principle that the EPA (and/or a state approved to issue the NPDES permit) retains the discretion to impose "appropriate" water pollution controls in addition to those that come within the definition of "maximum extent practicable." (*Defenders of Wildlife, supra*, 191 F.3d at pp. 1165–1167.) We find unpersuasive Building Industry's reliance on several statutory interpretation concepts, *ejusdem generis*, *noscitur a sociis*, and *expressio unius est exclusion alterius*, to support its narrower statutory construction.

2. Purpose and History of Section 1342(p)(3)(B)(iii)

[8] [9] Further, "[w]hile punctuation and grammar should be considered in interpreting a statute, neither is controlling unless the result is in harmony with the clearly expressed intent of the Legislature." (*In re John S.* (2001) 88 Cal.App.4th 1140, 1144, fn. 1, 106 Cal.Rptr.2d 476; see *Estate of Coffee* (1941) 19 Cal.2d 248, 251, 120 P.2d 661.) If the statutory language is susceptible to more than one reasonable interpretation, a court must also "look to a variety of extrinsic aids, including the ostensible objects to be achieved, the evils to be remedied, the legislative history, public policy, contemporaneous administrative construction, and the statutory scheme of which the statute is a part." (*Nolan v. City of Anaheim* (2004) 33 Cal.4th 335, 340, 14 Cal.Rptr.3d 857, 92 P.3d 350.)

The legislative purpose underlying the Water Quality Act of 1987, and section 1342(p) in particular, supports that Congress intended to provide the EPA (or the regulatory agency of an approved state) the discretion to require compliance with water quality standards in a municipal storm sewer NPDES permit, particularly where, as here, that compliance will be achieved primarily through an iterative process.

Before section 1342(p) was enacted, the courts had long recognized that the EPA had the authority to require a party to comply with a state water quality standard even if that standard had not been translated into an effluent limitation. (See *EPA v. State Water Resources Control Board, supra*, 426 U.S. at p. 205, fn. 12, 96 S.Ct. 2022; *PUD No. 1 of Jefferson Cty. v. Washington Dept. of Ecology, supra*, 511 U.S. at p. 715, 114 S.Ct. 1900; *Northwest Environmental Advocates v. Portland* (9th Cir.1995) 56 F.3d 979, 987; *Natural Resources Defense Council v. U.S.E.P.A.* (9th Cir.1990) 915 F.2d 1314, 1316.) Specifically, section 1311(b)(1)(C) gave the regulatory agency the authority to impose "any more stringent limitation including those necessary to meet water quality standards," and section 1342(a)(2) provided that "[t]he [EPA] Administrator shall *884 prescribe conditions for [NPDES] permits to assure compliance" with requirements identified in section 1342(a)(1), which encompass state water quality standards. The United States Supreme Court explained that when Congress enacted the 1972 Clean Water Act, it retained "[w]ater quality standards ... as a supplementary basis for effluent limitations, ... so that numerous point sources despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels..." (*EPA v. State Water Resources Control Board, supra*, 426 U.S. at p. 205, fn. 12, 96 S.Ct. 2022; see also *Arkansas v. Oklahoma* (1992) 503 U.S. 91, 101, 112 S.Ct. 1046, 117 L.Ed.2d 239.)

There is nothing in section 1342(p)(3)(B)(iii)'s statutory language or legislative history showing that Congress intended to eliminate this discretion when it amended the Clean Water Act in 1987. **141 To the contrary, Congress added the NPDES storm sewer requirements to strengthen the Clean Water Act by making its mandate correspond to the practical realities of municipal storm sewer regulation. As numerous commentators have pointed out, although Congress was reacting to the physical differences between municipal storm water runoff and other pollutant discharges that made the 1972 legislation's blanket effluent limitations approach impractical and administratively burdensome, the primary point of the legislation was to address these administrative problems while giving the administrative bodies the tools to meet the fundamental goals of the Clean Water Act in the context of stormwater pollution. (See *Regulation of Urban Stormwater Runoff, supra*, 48 Wash.U.J. Urb. & Contemp. L. at pp. 44–46;

Environmental Law Handbook, *supra*, at p. 300; Clean Water Act Handbook, *supra*, at pp. 62–63.) In the 1987 congressional debates, the Senators and Representatives emphasized the need to prevent the widespread and escalating problems resulting from untreated storm water toxic discharges that were threatening aquatic life and creating conditions dangerous to human health. (See Remarks of Sen. Durenberger, 133 Cong. Rec. 1279 (Jan. 14, 1987); Remarks of Sen. Chaffee, 133 Cong. Rec. S738 (daily ed. Jan 14, 1987); Remarks of Rep. Hammerschmidt, 133 Cong. Rec. 986 (Jan. 8, 1987); Remarks of Rep. Roe, 133 Cong. Rec. 1006, 1007 (Jan. 8, 1987); Remarks of Sen. Stafford, 132 Cong. Rec. 32381, 32400 (Oct. 16, 1986).) This legislative history supports that in identifying a maximum extent practicable standard Congress did not intend to substantively bar the EPA/state agency from imposing a more stringent water quality standard if the agency, based on its expertise and technical factual information and after the required administrative hearing procedure, found this standard to be a necessary and workable enforcement mechanism to achieving the goals of the Clean Water Act.

To support a contrary view, Building Industry relies on comments by Minnesota Senator David Durenberger during the lengthy congressional *885 debates on the 1987 Water Quality Act amendments.¹¹ (132 Cong. Rec. 32400 (Oct. 16, 1986); 133 Cong. Rec. S752 (daily ed. Jan. 14, 1987).) In the cited portions of the Congressional Record, Senator Durenberger states that NPDES permits “shall require controls to reduce the discharge of pollutants to the maximum extent practicable. Such controls include management practices, control techniques and systems, design and engineering methods, and such other provisions, as the Administrator determines appropriate for the control of pollutants in the stormwater discharge.” (*Ibid.*) When viewing these statements in context, it is apparent that the Senator was merely paraphrasing the words of the proposed statute and was not intending to address the issue of whether the maximum extent practicable standard was a regulatory ceiling or whether he believed the proposed amendments limited the EPA's existing discretion.¹²

****142** Building Industry's reliance on comments made by Georgia Representative James Rowland, who participated in drafting the 1987 Water Quality Act amendments, is similarly unhelpful. During a floor debate on the proposed amendments, Representative Rowland

noted that cities have “millions of” stormwater discharge points and emphasized the devastating financial burden on cities if they were required to obtain a permit for each of these points. (133 Cong. Rec. 522 (daily ed. Feb. 3, 1987).) Representative Rowland then explained that the amendments would address this problem by “allow[ing] communities to obtain far less costly single jurisdictionwide permits.” (*Ibid.*) Viewed in context, these comments were directed at the need for statutory provisions permitting the EPA to issue jurisdiction-wide permits thereby preventing unnecessary administrative costs to the cities, and do not reflect a desire to protect cities from the cost of complying with strict water quality standards when deemed necessary by the regulatory agency.

3. Interpretations by the EPA and Other Courts

Our conclusion that Congress intended [section 1342\(p\)\(3\)\(B\)\(iii\)](#) to provide the regulatory agency with authority to impose standards stricter than a “maximum extent practicable” standard is consistent with interpretations by *886 the EPA and the Ninth Circuit. In its final rule promulgated in the Federal Register, the EPA construed [section 1342\(p\)\(3\)\(B\)\(iii\)](#) as providing the administrative agency with the authority to impose water-quality standard controls in an NPDES permit if appropriate under the circumstances. Specifically, the EPA stated this statutory provision requires “controls to reduce the discharge of pollutants to the maximum extent practicable, *and where necessary water quality-based controls*” (55 Fed.Reg. 47990, 47994 (Nov. 16, 1990), italics added.) We are required to give substantial deference to this administrative interpretation, which occurred after an extensive notice and comment period. (See *ibid.*; *Chevron, supra*, 467 U.S. at pp. 842–844, 104 S.Ct. 2778.)

The only other court that has interpreted the “such other provisions” language of [section 1342\(p\)\(3\)\(B\)\(iii\)](#) has reached a similar conclusion. (*Defenders of Wildlife, supra*, 191 F.3d at pp. 1166–1167.) In *Defenders of Wildlife*, environmental organizations brought an action against the EPA, challenging provisions in an NPDES permit requiring several Arizona localities to adhere to various best management practice controls without requiring numeric effluent limitations. (*Id.* at p. 1161.) The environmental organizations argued that [section 1342\(p\)](#) did not allow the EPA to issue NPDES permits without requiring strict compliance with effluent limitations.

(*Defenders of Wildlife, supra*, at p. 1161.) Rejecting this argument, the Ninth Circuit found section 1342(p)(3)(B)(iii)'s statutory language “unambiguously demonstrates that Congress did not require municipal storm-sewer discharges to comply strictly” with effluent limitations. (*Defenders of Wildlife, supra*, at p. 1164.)

But in a separate part of the opinion, the *Defenders of Wildlife* court additionally rejected the reverse argument made by the affected municipalities (who were the interveners in the action) that “the EPA may not, under the [Clean Water Act], require strict compliance with state water-quality standards, through numerical limits or otherwise.” (*Defenders of Wildlife, supra*, 191 F.3d at p. 1166.) The court stated: “Although Congress did not require ****143** municipal storm-sewer discharges to comply strictly with [numerical effluent limitations], § 1342(p)(3)(B)(iii) states that ‘[p]ermits for discharges from municipal storm sewers ... shall require ... *such other provisions as the Administrator ... determines appropriate for the control of such pollutants.*’ (Emphasis added.) That provision gives the EPA discretion to determine what pollution controls are appropriate.... [¶] *Under that discretionary provision, the EPA has the authority to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants.* The EPA also has the authority to require less than strict compliance with state water-quality standards.... Under 33 U.S.C. § 1342(p)(3)(B)(iii), the EPA's choice to include either management practices or numeric limitations in the permits was within its discretion. [Citations.]” (*Defenders of Wildlife, supra*, 191 F.3d at pp. 1166–1167, second italics added.) Although dicta, this ***887** conclusion reached by a federal court interpreting federal law is persuasive and is consistent with our independent analysis of the statutory language.¹³

To support its interpretation of section 1342(p)(3)(B)(iii), Building Industry additionally relies on the statutory provisions addressing nonpoint source runoff (a diffuse runoff not channeled through a particular source), which were also part of the 1987 amendments to the Clean Water Act. (§ 1329.) In particular, Building Industry cites to section 1329(a)(1)(C), which states, “The Governor of each State shall ... prepare and submit to the [EPA] Administrator for approval, a report which ... [¶] ... [¶] describes the process ... for identifying best management practices and measures to control each [identified] category ... of nonpoint sources and ... to reduce, to

the *maximum extent practicable*, the level of pollution resulting from such category....” (Italics added.) Building Industry argues that because this “nonpoint source” statutory language expressly identifies only the maximum extent practicable standard, we must necessarily conclude that Congress meant to similarly limit the storm sewer point source pollution regulations to the maximum extent practicable standard.

The logic underlying this analogy is flawed because the critical language in the two statutory provisions is different. In the nonpoint source statute, Congress chose to include only the maximum extent practicable standard (§ 1329(a)(1)(C)); whereas in the municipal storm sewer provisions, Congress elected to include the “and such other provisions” clause (§ 1342(p)(3)(B)(iii)). This difference leads to the reasonable inference that Congress had a different intent when it enacted the two statutory provisions. Moreover, because of a fundamental difference between point and nonpoint source pollution, Congress has historically treated the two types of pollution differently and has subjected each type to entirely different requirements. (See *Pronsolino v. Nastri* (9th Cir.2002) 291 F.3d 1123, 1126–1127.) Given this different treatment, it would be improper to presume Congress intended to apply the same standard in both statutes. Building Industry's citation to comments during the 1987 congressional debates regarding nonpoint source regulation does ****144** not support Building Industry's contentions.

***888** 4. *Contention that it is “Impossible” for Municipalities to Meet Water Quality Standards*

We also reject Building Industry's arguments woven throughout its appellate briefs, and emphasized during oral arguments, that the Water Quality Standards provisions violate federal law because compliance with those standards is “impossible.” The argument is not factually or legally supported.

[10] [11] First, there is no showing on the record before us that the applicable water quality standards are unattainable. The trial court specifically concluded that Building Industry failed to make a factual showing to support this contention, and Building Industry does not present a proper appellate challenge to this finding sufficient to warrant our reexamining the evidence. All judgments and orders are presumed correct, and persons challenging them must affirmatively show reversible error.

(*Walling v. Kimball* (1941) 17 Cal.2d 364, 373, 110 P.2d 58.) A party challenging the sufficiency of evidence to support a judgment must summarize (and cite to) *all* of the material evidence, not just the evidence favorable to his or her appellate positions. (*In re Marriage of Fink* (1979) 25 Cal.3d 877, 887–888, 160 Cal.Rptr. 516, 603 P.2d 881; *People v. Dougherty* (1982) 138 Cal.App.3d 278, 282, 188 Cal.Rptr. 123.) Building Industry has made no attempt to comply with this well established appellate rule in its briefs.

In a supplemental brief, Building Industry attempted to overcome this deficiency by asserting that “[t]he record clearly establishes that [the Water Quality Standards provisions] are unattainable during the period the permit is in effect.” This statement, however, is not supported by the proffered citation or by the evidence viewed in the light most favorable to the respondents. Further, the fact that many of the Municipalities' storm sewer discharges currently violate water quality standards does not mean that the Municipalities cannot comply with the standards during the five-year term of the Permit. Additionally, Building Industry's assertions at oral argument that the trial court never reached the “impossibility” issue and/or that respondents' counsel conceded the issue below are belied by the record, including the trial court's rejection of Building Industry's specific challenge to the proposed statement of decision on this very point.¹⁴

[12] We reject Building Industry's related argument that it was respondents' burden to affirmatively show it is feasible to satisfy each of the applicable Water Quality Standards provisions. The party challenging the scope of an administrative permit, such as an NPDES, has the burden of *889 showing the agency abused its discretion or its findings were unsupported by the facts. (See *Fukuda v. City of Angels*, *supra*, 20 Cal.4th at p. 817, 85 Cal.Rptr.2d 696, 977 P.2d 693; *Huntington Park Redevelopment Agency v. Duncan* (1983) 142 Cal.App.3d 17, 25, 190 Cal.Rptr. 744.) Thus, it was not respondents' burden to affirmatively demonstrate it was possible for the Municipalities to meet the Permit's requirements.

Building Industry alternatively contends it was not required to challenge the facts underlying the trial court's determination that the Permit requirements were feasible **145 because the court's determination was wrong as a matter of law. Specifically, Building Industry asserts that a Permit requirement that is

more stringent than a “maximum extent practicable” standard is, by definition, “not practicable” and therefore “technologically impossible” to achieve under any circumstances. Building Industry relies on a dictionary definition of “practicable,” which provides that the word means “ ‘something that can be done; feasible,’ ” citing the 1996 version of “Webster's Encyclopedic Unabridged Dictionary.”

This argument is unpersuasive. The federal maximum extent practicable standard it is not defined in the Clean Water Act or applicable regulations, and thus the Regional Water Board properly included a detailed description of the term in the Permit's definitions section. (See *ante*, fn. 7.) As broadly defined in the Permit, the maximum extent practicable standard is a highly flexible concept that depends on balancing numerous factors, including the particular control's technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness. This definition conveys that the Permit's maximum extent practicable standard is a term of art, and is not a phrase that can be interpreted solely by reference to its everyday or dictionary meaning. Further, the Permit's definitional section states that the maximum extent practicable standard “considers economics and is generally, but not necessarily, *less* stringent than BAT.” (Italics added.) BAT is an acronym for “best available technology economically achievable,” which is a technology-based standard for industrial storm water dischargers that focuses on reducing pollutants by treatment or by a combination of treatment and best management practices. (See *Texas Oil & Gas Ass'n v. U.S. E.P.A.* (5th Cir.1998) 161 F.3d 923, 928.) If the maximum extent practicable standard is generally “less stringent” than another Clean Water Act standard that relies on available technologies, it would be unreasonable to conclude that anything more stringent than the maximum extent practicable standard is necessarily impossible. In other contexts, courts have similarly recognized that the word “practicable” does not necessarily mean the most that can possibly be done. (See *Nat. Wildlife Federation v. Norton* (E.D.Cal.2004) 306 F.Supp.2d 920, 928, fn. 12 [“[w]hile the meaning of the term ‘practicable’ in the [Endangered Species Act] is not entirely clear, the term does not simply equate to ‘possible’ ”]; *890 *Primavera Familienstiftung v. Askin* (S.D.N.Y.1998) 178 F.R.D. 405, 409 [noting that “impracticability does not mean impossibility, but rather difficulty or inconvenience”].)

We additionally question whether many of Building Industry's "impossibility" arguments are premature on the record before us. As we have explained, the record does not support that any required control is, or will be, impossible to implement. Further, the Permit allows the Regional Water Board to enforce water quality standards during the iterative process, but does not impose any obligation that the Board do so. Thus, we cannot determine with any degree of certainty whether this obligation would ever be imposed, particularly if it later turns out that it is not possible for a Municipality to achieve that standard.

Finally, we comment on Building Industry's repeated warnings that if we affirm the judgment, all affected Municipalities will be in immediate violation of the Permit because they are not now complying with applicable water quality standards, subjecting them to immediate and substantial civil penalties, and leading to a potential "shut down" of public operations. These doomsday arguments are unsupported. The Permit makes clear that Municipalities ****146** are required to adhere to numerous specific controls (none of which are challenged in this case) and to comply with water quality standards through "timely implementation of control measures" by engaging in a cooperative iterative process where the Regional Water Board and Municipality work together to identify violations of water quality standards in a written report and then incorporate approved modified best management practices. Although the Permit allows the regulatory agencies to enforce the water quality standards during this process, the Water Boards have made clear in this litigation that they envision the ongoing iterative process as the centerpiece to achieving water quality standards. Moreover, the regulations provide an affected party reasonable time to comply with new permit requirements under certain circumstances. (See [40 C.F.R. § 122.47](#).) There is nothing in this record to show the

Municipalities will be subject to immediate penalties for violation of water quality standards.

We likewise find speculative Building Industry's predictions that immediately after we affirm the judgment, citizens groups will race to the courthouse to file lawsuits against the Municipalities and seek penalties for violation of the Water Quality Standards provisions.¹⁵ As noted, the applicable laws provide time for an affected entity to comply with new standards. Moreover, although we do not reach the enforcement issue in this case, we note the ***891** Permit makes clear that the iterative process is to be used for violations of water quality standards, and gives the Regional Water Board the discretionary authority to enforce water quality standards during that process. Thus, it is not at all clear that a citizen would have standing to compel a municipality to comply with a water quality standard despite an ongoing iterative process. (See § 1365(a)(1)(2).)

III.–VII. *

DISPOSITION

Judgment affirmed. Appellants to pay respondents' costs on appeal.

WE CONCUR: [BENKE](#), Acting P.J., and [AARON](#), J.

All Citations

124 Cal.App.4th 866, 22 Cal.Rptr.3d 128, 34 Env'tl. L. Rep. 20,149, 04 Cal. Daily Op. Serv. 10,694, 2004 Daily Journal D.A.R. 14,492

Footnotes

- 1 Pursuant to [California Rules of Court, rule 976.1](#), this opinion is certified for publication with the exception of Discussion parts III, IV, V, VI and VII.
- * Baxter, J., and Brown, J., dissented.
- 2 Further statutory references are to title 33 of the United States Code, unless otherwise specified.
- 3 The systems that carry untreated urban water runoff to receiving water bodies are known as "[m]unicipal separate storm sewer" systems ([40 C.F.R. § 122.26\(b\)\(8\)](#)), and are often referred to as "MS4s" ([40 C.F.R. § 122.30](#)). For readability, we will identify these systems as municipal storm sewers. To avoid confusion in this case, we will generally use descriptive names, rather than initials or acronyms, when referring to parties and concepts.

- 4 The Clean Water Act defines a “point source” to be “any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.” (§ 1362(14).)
- 5 NPDES stands for National Pollution Discharge Elimination System.
- 6 Under the Clean Water Act, entities responsible for NPDES permit conditions pertaining to their own discharges are referred to as “copermitees.” (40 C.F.R. § 122.26(b)(1).) For clarity and readability, we shall refer to these entities as Municipalities.
- 7 The Permit does not precisely define this phrase, and instead, in its definition section, contains a lengthy discussion of the variable nature of the maximum extent practicable concept, referred to as MEP. A portion of this discussion is as follows: “[T]he definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their [local storm sewer plan]. Their total collective and individual activities conducted pursuant to the [plan] becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for municipal separate storm sewer maintenance). In the absence of a proposal acceptable to the [Regional Water Board], the [Regional Water Board] defines MEP.” The definition also identifies several factors that are “useful” in determining whether an entity has achieved the maximum extent practicable standard, including “Effectiveness,” “Regulatory Compliance,” “Public Acceptance,” “Cost,” and “Technical Feasibility.”
- 8 Several other parties were also named as petitioners: Building Industry Legal Defense Foundation, California Business Properties Association, Construction Industry Coalition for Water Quality, San Diego County Fire Districts Association, and the City of San Marcos. However, because these entities were not parties in the administrative challenge, the superior court properly found they were precluded by the administrative exhaustion doctrine from challenging the administrative agencies' compliance with the federal and state water quality laws. Although these entities were named as appellants in the notice of appeal, they are barred by the exhaustion doctrine from asserting appellate contentions concerning compliance with federal and state water quality laws. However, as to any other claims (such as CEQA), these entities are proper appellants. For ease of reference and where appropriate, we refer to the appellants collectively as Building Industry.
- 9 We note that in determining the meaning of the Clean Water Act and its amendments, federal courts generally defer to the EPA's statutory construction if the disputed portion of the statute is ambiguous. (See *Chevron U.S.A. v. Natural Res. Def. Council, Inc.* (1984) 467 U.S. 837, 842–844, 104 S.Ct. 2778, 81 L.Ed.2d 694 (*Chevron*).) However, the parties do not argue this same principle applies to a *state agency's* interpretation of the Clean Water Act. Nonetheless, under governing state law principles, we do consider and give due deference to the Water Boards' statutory interpretations in this case. (See *Yamaha Corp. of America v. State Bd. of Equalization, supra*, 19 Cal.4th at pp. 7–8, 78 Cal.Rptr.2d 1, 960 P.2d 1031.)
- 10 These challenged Permit provisions state “Discharges from [storm sewers] which cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited” (Permit, § A.2), and “Discharges from [storm sewers] that cause or contribute to the violation of water quality standards ... are prohibited” (Permit, § C.1).
- 11 We agree with Building Industry that the trial court's refusal to consider this legislative history on the basis that it was not presented to the administrative agencies was improper. However, this error was not prejudicial because we apply a *de novo* review standard in interpreting the relevant statutes.
- 12 In the cited remarks, Senator Durenberger in fact expressed his dissatisfaction with the EPA's prior attempts to regulate municipal storm sewers. He pointed out, for example, that “[r]unoff from municipal separate storm sewers and industrial sites contain significant values of both toxic and conventional pollutants,” and that despite the Clean Water Act's “clear directive,” the EPA “has failed to require most stormwater point sources to apply for permits which would control the pollutants in their discharge.” (133 Cong. Rec. 1274, 1279–1280 (daily ed. Jan. 14, 1987).)
- 13 Building Industry's reliance on two other Ninth Circuit decisions to support a contrary statutory interpretation is misplaced. (See *Natural Res. Def. Council, Inc. v. U.S.E.P.A., supra*, 966 F.2d at p. 1308; *Environmental Defense Center, Inc. v. U.S. E.P.A.* (9th Cir.2003) 344 F.3d 832.) Neither of these decisions addressed the issue of the scope of a regulatory agency's authority to exceed the maximum extent practicable standard in issuing NPDES permits for municipal storm sewers.
- 14 Because we are not presented with a proper appellate challenge, we do not address the trial court's factual determinations in this case concerning whether it is possible or practical for a Municipality to achieve any specific Permit requirement.
- 15 The Clean Water Act allows a citizen to sue a discharger to enforce limits contained in NPDES permits, but requires the citizen to notify the alleged violator, the state, and the EPA of its intention to sue at least 60 days before filing suit, and limits the enforcement to nondiscretionary agency acts. (See § 1365(a)(1)(2).)
- * See footnote 1, *ante*.

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ATTACHMENT D-7



KeyCite Yellow Flag - Negative Treatment

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35 Cal.4th 613

Supreme Court of California

CITY OF BURBANK, Plaintiff and Appellant,

v.

STATE WATER RESOURCES CONTROL BOARD et al., Defendants and Appellants.
City of Los Angeles, Plaintiff and Respondent,

v.

State Water Resources Control Board et al., Defendants and Appellants.

Nos. S119248, B151175, B152562.

|
April 4, 2005.

|
Rehearing Denied June 29, 2005.*

Synopsis

Background: Cities filed petitions for writs of mandate challenging pollutant limitations in wastewater discharge permits issued by regional water quality control boards. The Superior Court, Los Angeles County, Nos. BS060957 and BS060960, [Dzintra I. Janavs, J.](#), set aside permits. Regional board and state water resources control board appealed. The Court of Appeal consolidated the cases and reversed. The Supreme Court granted review, superseding the opinion of the Court of Appeal.

Holdings: The Supreme Court, [Kennard, J.](#), held that:

[1] regional board may not consider economic factors as justification for imposing pollutant restrictions in wastewater discharge permit which are less stringent than applicable federal standards, and

[2] when imposing more stringent pollutant restrictions that those required by federal law, regional board may take economic factors into account.

Judgment of Court of Appeal affirmed, and matter remanded.

[Brown, J.](#), filed concurring opinion.

Opinion, [4 Cal.Rptr.3d 27](#), superseded.

West Headnotes (5)

[1] Environmental Law

🔑 Purpose

Clean Water Act is a comprehensive water quality statute designed to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Federal Water Pollution Control Act Amendments of 1972, § 101 et seq., as amended, [33 U.S.C.A. § 1251 et seq.](#)

[12 Cases that cite this headnote](#)

[2] Environmental Law

🔑 Conditions and limitations

States

🔑 Environment;nuclear projects

Regional water quality control board may not consider economic factors as justification for imposing pollutant restrictions in wastewater discharge permit which are less stringent than applicable federal standards, despite statute directing board to take such factors into consideration, because the federal constitutional supremacy clause requires state law to yield to federal law. [U.S.C.A. Const. Art. 6, cl. 2](#); Federal Water Pollution Control Act Amendments of 1972, §§ 101 et seq., 301(a), (b)(1)(B, C), 402(a)(1, 3), as amended, [33 U.S.C.A. §§ 1251 et seq.](#), [1311\(a\)](#), [\(b\)\(1\)\(B, C\)](#), [1342\(a\)\(1, 3\)](#); [West's Ann.Cal.Water Code §§ 13000 et seq.](#), [13241\(d\)](#), [13263](#), [13377](#).

See 4 Witkin, Summary of Cal. Law (9th ed. 1987) Real Property, §§ 68, 69; 8 Miller & Starr, Cal. Real Estate (3d ed. 2001) § 23:54; Cal. Jur. 3d, Pollution and Conservation Laws, § 126.

[16 Cases that cite this headnote](#)

[3] Statutes**🔑 Purpose and intent**

When construing any statute, the court's task is to determine the Legislature's intent when it enacted the statute so as to adopt the construction that best effectuates the purpose of the law.

[13 Cases that cite this headnote](#)

[4] States**🔑 Conflicting or conforming laws or regulations**

Under the federal Constitution's supremacy clause, a state law that conflicts with federal law is without effect. [U.S.C.A. Const. Art. 6, cl. 2.](#)

[Cases that cite this headnote](#)

[5] Environmental Law**🔑 Conditions and limitations**

When imposing more stringent pollutant restrictions in a wastewater discharge permit than those required by federal law, a regional water quality control board may take into account the economic effects of doing so. Federal Water Pollution Control Act Amendments of 1972, §§ 101 et seq., 101(b), 510, as amended, [33 U.S.C.A. §§ 1251 et seq., 1251\(b\), 1370; West's Ann.Cal.Water Code §§ 13000 et seq., 13241\(d\), 13263, 13377.](#)

[19 Cases that cite this headnote](#)

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Opinion

[KENNARD](#), J.

618** *864** Federal law establishes national water quality standards but allows the states to enforce their own water quality laws so long as they comply with federal standards. Operating within this federal-state framework, California's nine Regional Water Quality Control Boards establish water quality policy. They also issue permits for the discharge of treated wastewater; these permits specify the maximum allowable concentration of chemical pollutants in the discharged wastewater.

The question here is this: When a regional board issues a permit to a wastewater treatment facility, must the board take into account the facility's costs of complying with the board's restrictions on pollutants in the wastewater to be discharged? The trial court ruled that California law required a regional board to weigh the economic burden on the facility against the expected environmental benefits of reducing pollutants in the wastewater discharge. The Court of Appeal disagreed. On petitions by the municipal operators of three wastewater treatment facilities, we granted review.

We reach the following conclusions: Because both California law and federal law require regional boards to comply with federal clean water standards, and because the supremacy clause of the United States Constitution requires state law to yield to federal law, a regional board, when issuing a wastewater discharge permit, may not consider economic factors to justify imposing pollutant restrictions that are *less stringent* than the applicable federal standards require. When, however, a regional board is considering whether to make the pollutant restrictions in a wastewater discharge permit

more stringent than federal law requires, California law allows the board to take into account economic ****865** factors, including the wastewater discharger's cost of compliance. We remand this case for further proceedings to determine whether the pollutant limitations in the permits challenged here meet or exceed federal standards.

***619 I. STATUTORY BACKGROUND**

The quality of our nation's waters is governed by a “complex statutory and regulatory scheme ... that implicates both federal and state administrative responsibilities.” (*PUD No. 1 of Jefferson County v. Washington Department of Ecology* (1994) 511 U.S. 700, 704, 114 S.Ct. 1900, 128 L.Ed.2d 716.) We first discuss California law, then federal law.

A. California Law

In California, the controlling law is the Porter–Cologne Water Quality Control Act (Porter–Cologne Act), which was enacted in 1969. (*Wat.Code*, § 13000 *et seq.*, added by Stats.1969, ch. 482, § 18, p. 1051.)¹ Its goal is “to attain the highest water *****307** quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.” (§ 13000.) The task of accomplishing this belongs to the State Water Resources Control Board (State Board) and the nine Regional Water Quality Control Boards; together the State Board and the regional boards comprise “the principal state agencies with primary responsibility for the coordination and control of water quality.” (§ 13001.) As relevant here, one of those regional boards oversees the Los Angeles region (the Los Angeles Regional Board).²

Whereas the State Board establishes statewide policy for water quality control (§ 13140), the regional boards “formulate and adopt water quality control plans for all areas within [a] region” (§ 13240). The regional boards' water quality plans, called “basin plans,” must address the beneficial uses to be protected as well as water quality objectives, and they must establish a program of implementation. (§ 13050, subd. (j).) Basin plans must be consistent with “state policy for water quality control.” (§ 13240.)

B. Federal Law

[1] In 1972, Congress enacted amendments (Pub.L. No. 92–500 (Oct. 18, 1972) 86 Stat. 816) to the Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), which, as amended in 1977, is commonly known as the Clean *620 Water Act. The Clean Water Act is a “comprehensive water quality statute designed ‘to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.’ ” (*PUD No. 1 of Jefferson County v. Washington Dept. of Ecology, supra*, 511 U.S. at p. 704, 114 S.Ct. 1900, quoting 33 U.S.C. § 1251(a).) The Act’s national goal was to eliminate by the year 1985 “the discharge of pollutants into the navigable waters” of the United States. (33 U.S.C. § 1251(a)(1).) To accomplish this goal, the Act established “effluent limitations,” which are restrictions on the “quantities, rates, and concentrations of chemical, physical, biological, and other constituents”; these effluent limitations allow the discharge of pollutants only when the water has been satisfactorily treated to conform with federal water quality standards. (33 U.S.C. §§ 1311, 1362(11).)

Under the federal Clean Water Act, each state is free to enforce its own water quality laws so long as its effluent limitations are not “less stringent” than those set out in the Clean Water Act. (33 U.S.C. § 1370.) This led the California Legislature in 1972 to amend the state’s Porter–Cologne Act “to ensure consistency with the requirements for state programs implementing the Federal Water Pollution Control Act.” (§ 13372.)

866 Roughly a dozen years ago, the United States Supreme Court, in *Arkansas v. Oklahoma* (1992) 503 U.S. 91, 112 S.Ct. 1046, 117 L.Ed.2d 239, described the distinct roles of the state and federal agencies in enforcing water quality: “The Clean Water Act anticipates a partnership between the States and the Federal Government, animated by a shared objective: ‘to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.’ 33 U.S.C. § 1251(a). Toward *308 this end, [the Clean Water Act] provides for two sets of water quality measures. ‘Effluent limitations’ are promulgated by the [Environmental Protection Agency (EPA)] and restrict the quantities, rates, and concentrations of specified substances which are discharged from point sources.³ See §§ 1311, 1314. ‘[W]ater quality standards’ are, in general, promulgated by the States and establish the desired condition of

a waterway. See § 1313. These standards supplement effluent limitations ‘so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels.’ *EPA v. California ex rel. State Water Resources Control Bd.*, 426 U.S. 200, 205, n. 12, 96 S.Ct. 2022, 2025, n. 12, 48 L.Ed.2d 578 (1976).

*621 “The EPA provides States with substantial guidance in the drafting of water quality standards. See generally 40 CFR pt. 131 (1991) (setting forth model water quality standards). Moreover, [the Clean Water Act] requires, *inter alia*, that state authorities periodically review water quality standards and secure the EPA’s approval of any revisions in the standards. If the EPA recommends changes to the standards and the State fails to comply with that recommendation, the Act authorizes the EPA to promulgate water quality standards for the State. 33 U.S.C. § 1313(c).” (*Arkansas v. Oklahoma, supra*, 503 U.S. at p. 101, 112 S.Ct. 1046.)

Part of the federal Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), “[t]he primary means” for enforcing effluent limitations and standards under the Clean Water Act. (*Arkansas v. Oklahoma, supra*, 503 U.S. at p. 101, 112 S.Ct. 1046.) The NPDES sets out the conditions under which the federal EPA or a state with an approved water quality control program can issue permits for the discharge of pollutants in wastewater. (33 U.S.C. § 1342(a) & (b).) In California, wastewater discharge requirements established by the regional boards are the equivalent of the NPDES permits required by federal law. (§ 13374.)

With this federal and state statutory framework in mind, we now turn to the facts of this case.

II. FACTUAL BACKGROUND

This case involves three publicly owned treatment plants that discharge wastewater under NPDES permits issued by the Los Angeles Regional Board.

The City of Los Angeles owns and operates the Donald C. Tillman Water Reclamation Plant (Tillman Plant), which serves the San Fernando Valley. The City of Los Angeles also owns and operates the Los Angeles–Glendale Water Reclamation Plant (Los Angeles–Glendale Plant),

which processes wastewater from areas within the City of Los Angeles and the independent cities of Glendale and Burbank. Both the Tillman Plant and the Los Angeles–Glendale Plant discharge wastewater directly into the Los Angeles River, now a concrete-lined flood control channel that runs through the City of Los Angeles, ending at the Pacific Ocean. The State Board and the Los Angeles Regional Board consider the Los Angeles River to be a navigable water of the United States for purposes of the federal Clean Water Act.

The third plant, the Burbank Water Reclamation Plant (Burbank Plant), is owned and operated by the City of Burbank, ***309 serving residents and businesses within that city. The Burbank Plant discharges wastewater into the Burbank Western Wash, which drains into the Los Angeles River.

*622 All three plants, which together process hundreds of millions of gallons of sewage **867 each day, are tertiary treatment facilities; that is, the treated wastewater they release is processed sufficiently to be safe not only for use in watering food crops, parks, and playgrounds, but also for human body contact during recreational water activities such as swimming.

In 1998, the Los Angeles Regional Board issued renewed NPDES permits to the three wastewater treatment facilities under a basin plan it had adopted four years earlier for the Los Angeles River and its estuary. That 1994 basin plan contained general narrative criteria pertaining to the existing and potential future beneficial uses and water quality objectives for the river and estuary.⁴ The narrative criteria included municipal and domestic water supply, swimming and other recreational water uses, and fresh water habitat. The plan further provided: “All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.” The 1998 permits sought to reduce these narrative criteria to specific numeric requirements setting daily maximum limitations for more than 30 pollutants present in the treated wastewater, measured in milligrams or micrograms per liter of effluent.⁵

The Cities of Los Angeles and Burbank (Cities) filed appeals with the State Board, contending that achievement of the numeric requirements would be too costly when considered in light of the potential benefit to

water quality, and that the pollutant restrictions in the NPDES permits were unnecessary to meet the narrative criteria described in the basin plan. The State Board summarily denied the Cities' appeals.

Thereafter, the Cities filed petitions for writs of administrative mandate in the superior court. They alleged, among other things, that the Los Angeles Regional Board failed to comply with [sections 13241](#) and [13263](#), part of California's Porter–Cologne Act, because it did not consider the economic burden on the Cities in having to reduce substantially the pollutant content of their discharged wastewater. They also alleged that compliance with the pollutant restrictions set out in the NPDES permits issued by the regional *623 board would greatly increase their costs of treating the wastewater to be discharged into the Los Angeles River. According to the City of Los Angeles, its compliance costs would exceed \$50 million annually, representing more than 40 percent of its entire budget for operating its four wastewater treatment plants and its sewer system; the City of Burbank estimated its added costs at over \$9 million annually, a nearly 100 percent increase above its \$9.7 million annual budget for wastewater treatment.

***310 The State Board and the Los Angeles Regional Board responded that [sections 13241](#) and [13263](#) do not require consideration of costs of compliance when a regional board issues a NPDES permit that restricts the pollutant content of discharged wastewater.

The trial court stayed the contested pollutant restrictions for each of the three wastewater treatment plants. It then ruled that [sections 13241](#) and [13263](#) of California's Porter–Cologne Act required a regional board to consider costs of compliance not only when it adopts a basin or water quality plan but also when, as here, it issues an NPDES permit setting the allowable pollutant content of a treatment plant's discharged wastewater. The court found no evidence that the Los Angeles Regional Board had considered economic factors at either stage. Accordingly, the trial court granted the Cities' petitions for writs of mandate, and it ordered the Los Angeles Regional Board to vacate the contested restrictions on pollutants in the wastewater discharge permits issued to the three municipal plants here and to conduct hearings **868 to consider the Cities' costs of compliance before the board's issuance of new permits. The Los Angeles Regional Board and the

State Board filed appeals in both the Los Angeles and Burbank cases.⁶

The Court of Appeal, after consolidating the cases, reversed the trial court. It concluded that sections 13241 and 13263 require a regional board to take into account “economic considerations” when it adopts water quality standards in a basin plan but not when, as here, the regional board sets specific pollutant restrictions in wastewater discharge permits intended to satisfy those standards. We granted the Cities' petition for review.

*624 III. DISCUSSION

A. Relevant State Statutes

The California statute governing the issuance of *wastewater permits* by a regional board is section 13263, which was enacted in 1969 as part of the Porter–Cologne Act. (See 26 Cal.Rptr.3d pp. 306–307, 108 P.3d p. 865, *ante.*) Section 13263 provides in relevant part: “*The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge [of wastewater]. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241.*” (§ 13263, subd. (a), italics added.)

Section 13241 states: “Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following:

***311 “(a) Past, present, and probable future beneficial uses of water.

“(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

“(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.

“(d) *Economic considerations.*

“(e) The need for developing housing within the region.

“(f) The need to develop and use recycled water.” (Italics added.)

The Cities here argue that section 13263's express reference to section 13241 requires the Los Angeles Regional Board to consider section 13241's listed factors, notably “[e]conomic considerations,” before issuing NPDES permits requiring specific pollutant reductions in discharged effluent or treated wastewater.

[2] *625 Thus, at issue is language in section 13263 stating that when a regional board “prescribe[s] requirements as to the nature of any proposed discharge” of treated wastewater it must “take into consideration” certain factors including “the provisions of Section 13241.” According to the Cities, this statutory language requires that a regional board make an independent evaluation of the section 13241 factors, including “economic considerations,” before restricting the pollutant content in an NPDES permit. This was the view expressed in the trial court's ruling. The Court of Appeal rejected that view. It held that a regional board need consider the section 13241 factors only when it adopts a basin or water quality plan, but not when, as in this case, it issues a wastewater discharge **869 permit that sets specific numeric limitations on the various chemical pollutants in the wastewater to be discharged. As explained below, the Court of Appeal was partly correct.

B. Statutory Construction

[3] When construing any statute, our task is to determine the Legislature's intent when it enacted the statute “so that we may adopt the construction that best effectuates the purpose of the law.” (*Hassan v. Mercy American River Hospital* (2003) 31 Cal.4th 709, 715, 3 Cal.Rptr.3d 623, 74 P.3d 726; *Esberg v. Union Oil Co.* (2002) 28 Cal.4th 262, 268, 121 Cal.Rptr.2d 203, 47 P.3d 1069.) In doing this, we look to the statutory language, which ordinarily is “the most reliable indicator of legislative intent.” (*Hassan, supra*, at p. 715, 3 Cal.Rptr.3d 623, 74 P.3d 726.)

As mentioned earlier, our Legislature's 1969 enactment of the Porter–Cologne Act, which sought to ensure the high quality of water in this state, predated the 1972 enactment by Congress of the precursor to the federal Clean Water Act. Included in California's original Porter–Cologne Act were [sections 13263](#) and [13241](#). [Section 13263](#) directs regional boards, when issuing wastewater discharge permits, to take into account various factors, including those set out in [section 13241](#). Listed among the [section 13241](#) factors is “[e]conomic considerations.” (§ [13241](#), subd. (d).) The plain language of [sections 13263](#) and [13241](#) indicates the Legislature's intent in 1969, when these statutes were enacted, that a regional board consider the cost of compliance when setting effluent limitations in a wastewater discharge permit.

Our construction of [sections 13263](#) and [13241](#) does not end with their plain statutory language, however. We must also analyze them in the context of the statutory scheme of which they are a part. ***[312](#) (*State Farm Mutual Automobile Ins. Co. v. Garamendi* (2004) 32 Cal.4th 1029, 1043, 12 Cal.Rptr.3d 343, 88 P.3d 71.) Like [sections 13263](#) and [13241](#), [section 13377](#) is part of the Porter–Cologne Act. But unlike the former two statutes, [section 13377](#) was *[626](#) not enacted until 1972, shortly after Congress, through adoption of the Federal Water Pollution Control Act Amendments, established a comprehensive water quality policy for the nation.

[4] [Section 13377](#) specifies that wastewater discharge permits issued by California's regional boards must meet the federal standards set by federal law. In effect, [section 13377](#) forbids a regional board's consideration of any economic hardship on the part of the permit holder if doing so would result in the dilution of the requirements set by Congress in the Clean Water Act. That act prohibits the discharge of pollutants into the navigable waters of the United States unless there is compliance with federal law (33 U.S.C. § [1311\(a\)](#)), and publicly operated wastewater treatment plants such as those before us here must comply with the act's clean water standards, regardless of cost (see *id.*, §§ [1311\(a\)](#), [\(b\)\(1\)\(B\)](#) & [\(C\)](#), [1342\(a\)\(1\)](#) & [\(3\)](#)). Because [section 13263](#) cannot authorize what federal law forbids, it cannot authorize a regional board, when issuing a wastewater discharge permit, to use compliance costs to justify pollutant restrictions that do not comply with federal clean water standards.⁷ Such a construction of [section 13263](#) would not only be inconsistent with federal

law, it would also be inconsistent with the Legislature's **[870](#) declaration in [section 13377](#) that all discharged wastewater must satisfy federal standards.⁸ This was also the conclusion of the Court of Appeal. Moreover, under the federal Constitution's supremacy clause (art. VI), a state law that conflicts with federal law is “without effect.” (*Cipollone v. Liggett Group, Inc.* (1992) 505 U.S. 504, 516, 112 S.Ct. 2608, 120 L.Ed.2d 407; *Dowhal v. SmithKline Beecham Consumer Healthcare* (2004) 32 Cal.4th 910, 923, 12 Cal.Rptr.3d 262, 88 P.3d 1.) To comport with the principles of federal supremacy, California law cannot authorize this *[627](#) state's regional boards to allow the discharge of pollutants into the navigable waters of the United States in concentrations ***[313](#) that would exceed the mandates of federal law.

Thus, in this case, whether the Los Angeles Regional Board should have complied with [sections 13263](#) and [13241](#) of California's Porter–Cologne Act by taking into account “economic considerations,” such as the costs the permit holder will incur to comply with the numeric pollutant restrictions set out in the permits, depends on whether those restrictions meet or exceed the requirements of the federal Clean Water Act. We therefore remand this matter for the trial court to resolve that issue.

C. Other Contentions

The Cities argue that requiring a regional board at the wastewater discharge permit stage to consider the permit holder's cost of complying with the board's restrictions on pollutant content in the water is consistent with federal law. In support, the Cities point to certain provisions of the federal Clean Water Act. They cite [section 1251\(a\)\(2\)](#) of title 33 United States Code, which sets, as a national goal “wherever attainable,” an interim goal for water quality that protects fish and wildlife, and [section 1313\(c\)\(2\)\(A\)](#) of the same title, which requires consideration, among other things, of waters' “use and value for navigation” when revising or adopting a “water quality standard.” (Italics added.) These two federal statutes, however, pertain not to permits for wastewater discharge, at issue here, but to establishing water quality standards, not at issue here. Nothing in the federal Clean Water Act suggests that a state is free to disregard or to weaken the federal requirements for clean water when an NPDES permit holder alleges that compliance with those requirements will be too costly.

[5] At oral argument, counsel for amicus curiae National Resources Defense Council, which argued on behalf of California's State Board and regional water boards, asserted that the federal Clean Water Act incorporates state water policy into federal law, and that therefore a regional board's consideration of economic factors to justify greater pollutant concentration in discharged wastewater would conflict with the federal act even if the specified pollutant restrictions were not less stringent than those required under federal law. We are not persuaded. The federal Clean Water Act reserves to the states significant aspects of water quality policy (33 U.S.C. § 1251(b)), and it specifically grants the states authority to “enforce any effluent limitation” that is not “*less stringent*” than the federal standard (*id.* § 1370, italics added). It does not prescribe or restrict the factors that a state may consider when exercising this reserved authority, and thus it does not prohibit *628 a state—when imposing effluent limitations that are *more stringent* than required by federal law—from taking into account the economic effects of doing so.

Also at oral argument, counsel for the Cities asserted that if the three municipal wastewater treatment facilities ceased releasing their treated wastewater into the concrete channel that makes up the Los Angeles River, it would (other than during the rainy season) contain no water at all, and thus would not be a “navigable water” of the **871 United States subject to the Clean Water Act. (See *Solid Waste Agency v. United States Army Corps of Engineers* (2001) 531 U.S. 159, 172, 121 S.Ct. 675, 148 L.Ed.2d 576 [“The term ‘navigable’ has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made.”].) It is unclear when the Cities first raised this issue. The Court of Appeal did not discuss it in its opinion, and the Cities did not seek rehearing on this ground. (See ***314 Cal. Rules of Court, rule 28(c)(2).) Concluding that the issue is outside our grant of review, we do not address it.

CONCLUSION

Through the federal Clean Water Act, Congress has regulated the release of pollutants into our national waterways. The states are free to manage their own water quality programs so long as they do not compromise

the federal clean water standards. When enacted in 1972, the goal of the Federal Water Pollution Control Act Amendments was to *eliminate* by the year 1985 the discharge of pollutants into the nation's navigable waters. In furtherance of that goal, the Los Angeles Regional Board indicated in its 1994 basin plan on water quality the intent, insofar as possible, to remove from the water in the Los Angeles River toxic substances in amounts harmful to humans, plants, and aquatic life. What is not clear from the record before us is whether, in limiting the chemical pollutant content of wastewater to be discharged by the Tillman, Los Angeles–Glendale, and Burbank wastewater treatment facilities, the Los Angeles Regional Board acted only to implement requirements of the federal Clean Water Act or instead imposed pollutant limitations that exceeded the federal requirements. This is an issue of fact to be resolved by the trial court.

DISPOSITION

We affirm the judgment of the Court of Appeal reinstating the wastewater discharge permits to the extent that the specified numeric limitations on chemical pollutants are necessary to satisfy federal Clean Water Act requirements for treated wastewater. The Court of Appeal is directed to remand this *629 matter to the trial court to decide whether any numeric limitations, as described in the permits, are “more stringent” than required under federal law and thus should have been subject to “economic considerations” by the Los Angeles Regional Board before inclusion in the permits.

WE CONCUR: [GEORGE](#), C.J., [BAXTER](#), [WERDEGAR](#), [CHIN](#), and [MORENO](#), JJ.

Concurring Opinion by [BROWN](#), J.

I write separately to express my frustration with the apparent inability of the government officials involved here to answer a simple question: How do the federal clean water standards (which, as near as I can determine, are the state standards) prevent the state from considering economic factors? The majority concludes that because “the supremacy clause of the United States Constitution requires state law to yield to federal law, a regional board, when issuing a wastewater discharge permit, may not consider economic factors to justify imposing pollutant

restrictions that are *less stringent* than applicable federal standards require.” (Maj. opn., *ante*, 26 Cal.Rptr.3d at p. 306, 108 P.3d at p. 864.) That seems a pretty self-evident proposition, but not a useful one. The real question, in my view, is whether the Clean Water Act prevents or prohibits the regional water board from considering economic factors to justify pollutant restrictions that *meet* the clean water standards in more cost-effective and economically efficient ways. I can see no reason why a federal law—which purports to be an example of cooperative federalism—would decree such a result. I do not think the majority’s reasoning is at fault here. Rather, the agencies involved seemed to have worked hard to make this simple question impenetrably obscure.

A brief review of the statutory framework at issue is necessary to understand my concerns.

***315 **872 I. Federal Law

“In 1972, Congress enacted the Federal Water Pollution Control Act (33 U.S.C. § 1251 *et seq.*), commonly known as the Clean Water Act (CWA) [Citation.] ... [¶] Generally, the CWA ‘prohibits the discharge of any pollutant except in compliance with one of several statutory exceptions. [Citation.]’ ... The most important of those exceptions is pollution discharge under a valid NPDES [National Pollution Discharge Elimination System] permit, which can be issued either by the Environmental Protection Agency (EPA), or by an EPA-approved state permit program such as California’s. [Citations.] NPDES permits are valid for five years. [Citation.] [¶] Under the CWA’s NPDES permit program, the states are required to develop *water quality standards*. [Citations.] A water quality standard ‘establish[es] the desired condition of a waterway.’ [Citation.] A water quality standard for any *630 given waterway, or ‘water body,’ has two components: (1) the designated beneficial uses of the water body and (2) the *water quality criteria* sufficient to protect those uses. [Citations.] [¶] Water quality criteria can be either *narrative* or *numeric*. [Citation.]” (*Communities for a Better Environment v. State Water Resources Control Bd.* (2003) 109 Cal.App.4th 1089, 1092–1093, 1 Cal.Rptr.3d 76.)

With respect to satisfying water quality standards, “a polluter must comply with *effluent limitations*. The CWA defines an effluent limitation as ‘any restriction

established by a State or the [EPA] Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.’ [Citation.] ‘Effluent limitations are a means of *achieving* water quality standards.’ [Citation.] [¶] NPDES permits establish effluent limitations for the polluter. [Citations.] CWA’s NPDES permit system provides for a two-step process for the establishing of effluent limitations. First, the polluter must comply with *technology-based effluent limitations*, which are limitations based on the best available or practical technology for the reduction of water pollution. [Citations.] [¶] Second, the polluter must also comply with more stringent *water quality-based effluent limitations* (WQBEL’s) where applicable. In the CWA, Congress ‘supplemented the “technology-based” effluent limitations with “water quality-based” limitations “so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels.’ ” [Citation.] [¶] The CWA makes WQBEL’s applicable to a given polluter whenever WQBEL’s are ‘necessary to meet water quality standards, treatment standards, or schedules of compliance, established pursuant to any State law or regulations....’ [Citations.] Generally, NPDES permits must conform to state water quality laws insofar as the state laws impose more stringent pollution controls than the CWA. [Citations.] Simply put, WQBEL’s implement water quality standards.” (*Communities for a Better Environment v. State Water Resources Control Bd.*, *supra*, 109 Cal.App.4th at pp. 1093–1094, 1 Cal.Rptr.3d 76, fns. omitted.)

This case involves water quality-based effluent limitations. As set forth above, “[u]nder the CWA, states have the primary role in promulgating water quality standards.” (*Piney Run Preservation Ass’n v. Commrs. of Carroll Co.* (4th Cir.2001) 268 F.3d 255, 265, fn. 9.) “Under the CWA, the water quality standards referred to in section 301 [see 33 U.S.C. § 1311] are primarily the states’ handiwork.” ***316 (*American Paper Institute, Inc. v. U.S. Envtl. Protection Agency* (D.C.Cir.1993) 996 F.2d 346, 349 (*American Paper*).) In fact, upon the 1972 passage of the CWA, “[s]tate water quality standards in effect at the time ... were deemed to be the initial water quality benchmarks for CWA purposes.... The states were to revisit and, if *631 necessary, revise

those initial standards at least once every three years.” (*American Paper*, at p. 349.) Therefore, “once a water quality standard has been promulgated, section 301 of the CWA requires all NPDES permits for point sources to incorporate discharge limitations necessary to satisfy that standard.” (*American Paper*, at p. 350.) Accordingly, it appears that in most instances, ****873** state water quality standards are identical to the federal requirements for NPDES permits.

II. State Law

In California, pursuant to the Porter–Cologne Water Quality Control Act (*Wat.Code*, § 13000 et seq.; Stats.1969, ch. 482, § 18, p. 1051; hereafter Porter–Cologne Act), the regional water quality control boards establish water quality standards—and therefore federal requirements for NPDES permits—through the adoption of water quality control plans (basin plans). The basin plans establish water quality objectives using enumerated factors—including economic factors—set forth in *Water Code* section 13241.

In addition, as one court observed: “The Porter–Cologne Act ... established nine regional boards to prepare water quality plans (known as basin plans) and issue permits governing the discharge of waste. (*Wat.Code*, §§ 13100, 13140, 13200, 13201, 13240, 13241, 13243.) The Porter–Cologne Act identified these permits as ‘waste discharge requirements,’ and provided that the waste discharge requirements must mandate compliance with the applicable regional water quality control plan. (*Wat.Code*, §§ 13263, subd. (a), 13377, 13374.)^[¶] Shortly after Congress enacted the Clean Water Act in 1972, the California Legislature added Chapter 5.5 to the Porter–Cologne Act, for the purpose of adopting the necessary federal requirements to ensure it would obtain EPA approval to issue NPDES permits. (*Wat.Code*, § 13370, subd. (c).) As part of these amendments, the Legislature provided that the state and regional water boards ‘shall, as required or authorized by the [Clean Water Act], issue waste discharge requirements ... which apply and ensure compliance with all applicable provisions [of the Clean Water Act], together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.’ (*Wat.Code*, § 13377.) *Water Code* section 13374 provides that ‘[t]he

term “waste discharge requirements” as referred to in this division is the equivalent of the term “permits” as used in the [Clean Water Act].’ ^[¶] California subsequently obtained the required approval to issue NPDES permits. [Citation.] Thus, the waste discharge requirements issued by the regional water boards ordinarily also serve as NPDES permits under federal law. (*Wat.Code*, § 13374.)” (*Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 875, 22 Cal.Rptr.3d 128.)

***632** Applying this federal-state statutory scheme, it appears that throughout this entire process, the Cities of Burbank and Los Angeles (Cities) were unable to have economic factors considered because the Los Angeles Regional Water Quality Control Board (Board)—the body responsible to enforce the statutory framework—failed to comply with its statutory mandate.

*****317** For example, as the trial court found, the Board did not consider costs of compliance when it initially established its basin plan, and hence the water quality standards. The Board thus failed to abide by the statutory requirement set forth in *Water Code* section 13241 in establishing its basin plan. Moreover, the Cities claim that the initial narrative standards were so vague as to make a serious economic analysis impracticable. Because the Board does not allow the Cities to raise their economic factors in the permit approval stage, they are effectively precluded from doing so. As a result, the Board appears to be playing a game of “gotcha” by allowing the Cities to raise economic considerations when it is not practical, but precluding them when they have the ability to do so.

Moreover, the Board acknowledges that it has neglected other statutory provisions that might have provided an additional opportunity to air these concerns. As set forth above, pursuant to the CWA, “[t]he states were to revisit and, if necessary, revise those initial standards at least once every three years—a process commonly known as triennial review. [Citation.] Triennial reviews consist of public hearings in which current water quality standards are examined to assure that they ‘protect the public health or welfare, enhance the quality of water and serve the purposes’ of the Act. [Citation.] Additionally, the CWA ****874** directs states to consider a variety of competing policy concerns during these reviews, including a waterway’s ‘use and value for public water supplies, propagation of fish and wildlife, recreational purposes,

and agricultural, industrial, and other purposes.’ ”
(*American Paper*, *supra*, 996 F.2d at p. 349.)

According to the Cities, “[t]he last time that the narrative water quality objective for toxicity contained in the Basin Plan was reviewed and modified was 1994.” The Board does not deny this claim. Accordingly, the Board has failed its duty to allow public discussion—including economic considerations—at the required intervals when making its determination of proper water quality standards.

What is unclear is why this process should be viewed as a contest. State and local agencies are presumably on the same side. The costs will be paid by taxpayers and the Board should have as much interest as any other agency in fiscally responsible environmental solutions.

*633 Our decision today arguably allows the Board to continue to shirk its statutory duties. The majority holds that when read together, [Water Code sections 13241](#), [13263](#), and [13377](#) do not allow the Board to consider economic factors when issuing NPDES permits to satisfy federal CWA requirements. (Maj. opn., *ante*, 26 Cal.Rptr.3d at pp. 311–312, 108 P.3d at pp. 869–870.) The majority then bifurcates the issue when it orders the Court of Appeal “to remand this matter to the trial court to decide whether any numeric limitations, as described in the permits, are ‘more stringent’ than required under federal law and thus should have been subject to ‘economic considerations’ by the Los Angeles Regional Board before inclusion in the permits.” (*Id.* at p. 314, 108 P.3d at p. 871.)

The majority overlooks the feedback loop established by the CWA, under which federal standards are linked to state-established water quality standards, including narrative water quality criteria. (See [33 U.S.C. § 1311\(b\)\(1\)\(C\)](#); [40 C.F.R. § 122.44\(d\)\(1\) \(2004\)](#).) Under the CWA, NPDES permit requirements include the state narrative criteria, which are incorporated into the Board's basin plan under the description “no toxins in toxic amounts.”

As far as I can determine, NPDES permits ***318 designed to achieve this narrative criteria (as well as designated beneficial uses) will usually implement the state's basin plan, while satisfying federal requirements as well.

If federal water quality standards are typically identical to state standards, it will be a rare instance that a state exceeds its own requirements and economic factors are taken into consideration.¹ In light of the Board's initial failure to consider costs of compliance and its repeated failure to conduct required triennial reviews, the result here is an unseemly bureaucratic bait-and-switch that we should not endorse. The likely outcome of the majority's decision is that the Cities will be economically burdened to meet standards imposed on them in a highly questionable manner.² In these times of tight fiscal budgets, it is difficult to imagine imposing additional financial burdens on municipalities without at least allowing them to present alternative views.

Based on the facts of this case, our opinion today appears to largely retain the status quo for the Board. If the Board can actually demonstrate that only the precise limitations at issue here, implemented in only one way, will achieve the desired water standards, perhaps its obduracy is justified. That case has yet to be made.

*634 Accordingly, I cannot conclude that the majority's decision is wrong. The analysis **875 may provide a reasonable accommodation of conflicting provisions. However, since the Board's actions “make me wanna holler and throw up both my hands,”³ I write separately to set forth my concerns and concur in the judgment —*dubitante*.⁴

All Citations

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Footnotes

* [Brown](#), J., did not participate therein.

1 Further undesignated statutory references are to the Water Code.

2 The Los Angeles water region “comprises all basins draining into the Pacific Ocean between the southeasterly boundary, located in the westerly part of Ventura County, of the watershed of Rincon Creek and a line which coincides with the

southeasterly boundary of Los Angeles County from the ocean to San Antonio Peak and follows thence the divide between San Gabriel River and Lytle Creek drainages to the divide between Sheep Creek and San Gabriel River drainages.” (§ 13200, subd. (d).)

- 3 A “point source” is “any discernable, confined and discrete conveyance” and includes “any pipe, ditch, channel ... from which pollutants ... may be discharged.” (33 U.S.C. § 1362(14).)
- 4 This opinion uses the terms “narrative criteria” or descriptions, and “numeric criteria” or effluent limitations. Narrative criteria are broad statements of desirable water quality goals in a water quality plan. For example, “no toxic pollutants in toxic amounts” would be a narrative description. This contrasts with numeric criteria, which detail specific pollutant concentrations, such as parts per million of a particular substance.
- 5 For example, the permits for the Tillman and Los Angeles–Glendale Plants limited the amount of fluoride in the discharged wastewater to 2 milligrams per liter and the amount of mercury to 2.1 micrograms per liter.
- 6 Unchallenged on appeal and thus not affected by our decision are the trial court’s rulings that (1) the Los Angeles Regional Board failed to show how it derived from the narrative criteria in the governing basin plan the specific numeric pollutant limitations included in the permits; (2) the administrative record failed to support the specific effluent limitations; (3) the permits improperly imposed daily maximum limits rather than weekly or monthly averages; and (4) the permits improperly specified the manner of compliance.
- 7 The concurring opinion misconstrues both state and federal clean water law when it describes the issue here as “whether the Clean Water Act prevents or prohibits the regional water board from considering economic factors to justify pollutant restrictions *that meet the clean water standards in more cost-effective and economically efficient ways.*” (Conc. Opn. of Brown, J., *post*, 26 Cal.Rptr.3d p. 314, 108 P.3d at p. 871, some italics added.) This case has nothing to do with meeting federal standards in more cost effective and economically efficient ways. State law, as we have said, allows a regional board to consider a permit holder’s compliance cost to *relax* pollutant concentrations, as measured by numeric standards, for pollutants in a wastewater discharge permit. (§§ 13241 & 13263.) Federal law, by contrast, as stated above in the text, “prohibits the discharge of pollutants into the navigable waters of the United States unless there is compliance with federal law (33 U.S.C. § 1311(a)), and publicly operated wastewater treatment plants such as those before us here must comply with the [federal] act’s *clean water standards, regardless of cost* (see *id.*, §§ 1311(a), (b)(1)(B) & (C), 1342(a)(1) & (3)).” (Italics added.)
- 8 As amended in 1978, section 13377 provides for the issuance of waste discharge permits that comply with federal clean water law “together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.” We do not here decide how this provision would affect the cost-consideration requirements of sections 13241 and 13263 when more stringent effluent standards or limitations in a permit are justified for some reason independent of compliance with federal law.
- 1 (But see *In the Matter of the Petition of City and County of San Francisco, San Francisco Baykeeper et al.* (Order No. WQ 95–4, Sept. 21, 1995) 1995 WL 576920.)
- 2 Indeed, given the fact that “water quality standards” in this case are composed of broadly worded components (i.e., a narrative criteria and “designated beneficial uses of the water body”), the Board possessed a high degree of discretion in setting NPDES permit requirements. Based on the Board’s past performance, a proper exercise of this discretion is uncertain.
- 3 Marvin Gaye (1971) “Inner City Blues.”
- 4 I am indebted to Judge Berzon for this useful term. (See *Credit Suisse First Boston Corp. v. Grunwald* (9th Cir.2005) 400 F.3d 1119 (conc. opn. of Berzon, J.).)

ATTACHMENT D-8

188 Cal.App.4th 794
Court of Appeal, Third District, California.

CLOVIS UNIFIED SCHOOL DISTRICT et al., Plaintiffs and Appellants,
v.
John CHIANG, as State Controller, etc., Defendant and Appellant.

No. Co61696.

Sept. 21, 2010.

As Modified on Denial of Rehearing Oct. 14, 2010.

Synopsis

Background: School districts and community college districts brought action against State Controller's Office for declaratory and writ relief challenging auditing rules used in reducing state-mandated reimbursement claims for employee salary and benefit costs. The Superior Court, Sacramento County, No. 06CS00748 and 07CS00263, [Lloyd G. Connelly, J.](#), invalidated the Contemporaneous Source Document Rule (CSDR) as applied to Intradistrict Attendance Program and Collective Bargaining Program, granted no relief as to CSDR as applied to the School District of Choice Program (SDC) and the Emergency Procedures, Earthquake Procedures and Disasters Program (EPEPD), and upheld the Health Fee Rule. Plaintiffs appealed.

Holdings: The Court of Appeal, [Butz, J.](#), held that:

[1] CSDR implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims;

[2] declaratory and traditional mandate relief was appropriate form of relief for use of CSDR as underground regulation; and

[3] amount of optional student fee was deducted from amount reimbursed to community college districts for state-mandated costs.

Reversed in part with directions and affirmed in part.

West Headnotes (14)

- [1] **Declaratory Judgment** 🔑 Limitations and laches
- Mandamus** 🔑 Time to Sue, Limitations, and Laches
- States** 🔑 State expenses and charges and statutory liabilities

School districts' and community college districts' action against State Controller's Office, for declaratory and writ relief challenging audits that reduced state-mandated reimbursement claims for employee salary and benefit costs based on an auditing rule which was an invalid underground regulation in violation of the state

Administrative Procedure Act (APA), was subject to the three-year statute of limitations for lawsuits based on statutory liability, since state-mandated reimbursement was a statutory liability. [West's Ann.Cal.C.C.P. § 338\(a\)](#); [West's Ann.Cal.Gov.Code §§ 11340 et seq., 17500 et seq.](#)

[1 Cases that cite this headnote](#)

[2] Administrative Law and Procedure 🔑 [Nature and Scope](#)

An Administrative Procedure Act (APA) regulation has two principal characteristics: it must apply generally; and it must implement, interpret, or make specific the law enforced or administered by the agency, or govern the agency's procedure. [West's Ann.Cal.Gov.Code § 11342.600](#).

[1 Cases that cite this headnote](#)

[3] Administrative Law and Procedure 🔑 [Nature and Scope](#)

For a regulation to “apply generally,” as required to be subject to the Administrative Procedure Act (APA), the rule need not apply universally; a rule applies generally so long as it declares how a certain class of cases will be decided. [West's Ann.Cal.Gov.Code § 11342.600](#).

[Cases that cite this headnote](#)

[4] States 🔑 [Administration of finances in general](#)

State Controller's Office's Contemporaneous Source Document Rule (CSDR) applied generally, as required to be a regulation subject to the Administrative Procedure Act (APA), where the CSDR was applied generally to the auditing of reimbursement claims, and the Controller's auditors had no discretion to judge on a case-by-case basis whether to apply the CSDR. [West's Ann.Cal.Gov.Code § 11342.600](#).

[Cases that cite this headnote](#)

[5] States 🔑 [State expenses and charges and statutory liabilities](#)

State Controller's Office's Contemporaneous Source Document Rule (CSDR) implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims for the School District of Choice (SDC) Program in effect before May 27, 2004, and thus was a regulation subject to the Administrative Procedure Act (APA), since there were substantive differences between the CSDR and the P&Gs then in effect; the CSDR barred the use of employee time declarations and certifications as source documents or equivalents even though the P&Gs had nothing to say on that subject, and the CSDR did not countenance the use of documented estimates even though such estimates were allowable under the P&Gs. [West's Ann.Cal.Gov.Code §§ 11342.600, 17557, 17558.5\(a\)](#); [West's Ann.Cal.Educ.Code § 48209.9](#) (Repealed).

[Cases that cite this headnote](#)

[6] States 🔑 [State expenses and charges and statutory liabilities](#)

State Controller's Office's Contemporaneous Source Document Rule (CSDR) implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims for the Emergency Procedures, Earthquake Procedures and Disasters Program (EPEPD), and thus was a regulation subject to the Administrative Procedure Act (APA), since there were substantive differences between the CSDR and the P&Gs then in effect; unlike the P&Gs, the CSDR barred the use of employee time declarations and certifications as source documents, and the CSDR did not countenance the use of documented

estimates. [West's Ann.Cal.Gov.Code §§ 11342.600, 17557, 17558.5\(a\)](#); [West's Ann.Cal.Educ.Code §§ 35925–35927, 40041.5, 40042](#) (Repealed).

[Cases that cite this headnote](#)

[7] [States](#)  [State expenses and charges and statutory liabilities](#)

State Controller's Office's Contemporaneous Source Document Rule (CSDR) implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims for the Intradistrict Attendance Program, and thus was a regulation subject to the Administrative Procedure Act (APA), since there were substantive differences between the CSDR and the P&Gs then in effect; unlike the P&Gs, the CSDR barred the use of time studies or employee time declarations and certifications as source documents. [West's Ann.Cal.Gov.Code §§ 11342.600, 17557, 17558.5\(a\)](#); [West's Ann.Cal.Educ.Code § 35160.5](#).

[Cases that cite this headnote](#)

[8] [States](#)  [State expenses and charges and statutory liabilities](#)

State Controller's Office's Contemporaneous Source Document Rule (CSDR) implemented, interpreted, or made specific the regulatory Parameters and Guidelines (P&Gs) applied to state-mandated reimbursement claims for the school district Collective Bargaining Program, and thus was a regulation subject to the Administrative Procedure Act (APA), since there were substantive differences between the CSDR and the P&Gs then in effect; unlike the P&Gs, the CSDR required source documents. [West's Ann.Cal.Gov.Code §§ 3540 et seq., 11342.600, 17557, 17558.5\(a\)](#).

[1 Cases that cite this headnote](#)

[9] [Declaratory Judgment](#)  [State officers and boards](#)

[Declaratory Judgment](#)  [Education](#)

[Mandamus](#)  [Establishment, maintenance, and management of schools](#)

Declaratory and accompanying traditional mandate relief was an appropriate form of relief, for school districts' challenge to State Controller's Office's policy of using an underground regulation to conduct audits in violation of the Administrative Procedure Act (APA), even though the underground regulation was later incorporated into valid regulations, where the dispute related to audit determinations under the invalid regulation which did not become final prior to the applicable statute of limitations, and there was no adequate administrative remedy because the Commission on State Mandates consistently refused to rule on underground regulation claims. [West's Ann.Cal.Gov.Code § 11350](#).

[2 Cases that cite this headnote](#)

[10] [Evidence](#)  [Administrative rules and regulations](#)

In appeal from trial court's partial grant of declaratory and writ relief against underground regulations used by State Controller's Office in reducing state-mandated reimbursement claims for employee salary and benefit costs, Court of Appeal would not take judicial notice of a subsequent amendment of the regulatory Parameters and Guidelines (P&Gs) applied to the reimbursement claims, which brought the underground regulations into compliance with the Administrative Procedure Act (APA) after the time period at issue in the lawsuit. [West's Ann.Cal.Gov.Code §§ 11340 et seq., 17500 et seq.](#)

[Cases that cite this headnote](#)

[11] Evidence  [Official proceedings and acts](#)

In appeal from trial court's partial grant of declaratory and writ relief against underground regulations used by State Controller's Office in reducing school districts' and community college districts' state-mandated reimbursement claims for employee salary and benefit costs, Court of Appeal would not take judicial notice of the Commission on State Mandates Incorrect Reduction Claim caseload summary or the Controller's list of final audit reports for California school districts and community college districts. [West's Ann.Cal.Gov.Code § 17558.7\(a\)](#).

[1 Cases that cite this headnote](#)

[12] States  [State expenses and charges and statutory liabilities](#)

Under the statutes requiring reimbursement to local government for state-mandated costs, the amount of an optional student health fee was deducted from the amount reimbursed to community college districts for the state-mandated cost of the Health Fee Elimination Program, even when districts chose not to charge their students those fees. [West's Ann.Cal.Gov.Code §§ 17514, 17556\(d\)](#); [West's Ann.Cal.Educ.Code § 76355\(a\)\(1\)](#); [§ 72246 \(Repealed\)](#).

See Cal. Jur. 3d, State of California, § 104; 9 Witkin, Summary of Cal. Law (10th ed. 2005) Taxation, § 121.

[Cases that cite this headnote](#)

[13] States  [State expenses and charges and statutory liabilities](#)

To the extent a local agency or school district has the authority to charge for a state-mandated program or increased level of service, that charge cannot be recovered as a state-mandated cost. [West's Ann.Cal. Const. Art. 13B, § 6](#); [West's Ann.Cal.Gov.Code §§ 17514, 17556\(d\)](#).

[Cases that cite this headnote](#)

[14] States  [State expenses and charges and statutory liabilities](#)

State Controller's Office had the authority to rely on the Government Code, rather than only on the Parameters and Guidelines (P&Gs) adopted by the Commission on State Mandates, to uphold an audit rule excluding the amount of optional fees from the amount recoverable as state-mandated costs. [West's Ann.Cal.Gov.Code §§ 17514, 17556\(d\)](#).

[Cases that cite this headnote](#)

Attorneys and Law Firms

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Opinion

[BUTZ, J.](#)

***797** This declaratory relief and writ of mandate action concerns the validity of two auditing rules used by defendant State Controller's Office (Controller). The Controller used these rules in reducing state-mandated reimbursement claims for employee salary and benefit costs submitted from plaintiff school districts and community college districts (hereafter plaintiffs).

Contemporaneous Source Document Rule (CSDR)

The first auditing rule is referred to by plaintiffs as the Contemporaneous Source Document Rule (CSDR). The Controller used this rule to reduce reimbursement claims for the following four state-mandated school district programs during the challenged period straddling fiscal years 1998 to 2003: (1) the School District of Choice Program (SDC); (2) the Emergency Procedures, Earthquake Procedures and Disasters Program (EPEPD); (3) the ***798** Intradistrict Attendance Program; and (4) the Collective Bargaining Program. We conclude this rule was an invalid underground regulation under the state Administrative Procedure Act (APA) during this period. ([Gov.Code, § 11340 et seq.](#))¹ Consequently, we overturn the Controller's audits for these four programs during this period to the extent they were based on this rule.

Health Fee Elimination Program: Health Fee Rule

The second auditing rule is the Health Fee Rule, which the Controller used to reduce reimbursement claims for state-****37** mandated health services provided by the plaintiff community college districts pursuant to the Health Fee Elimination Program. We uphold the validity of this rule.

The trial court: (1) invalidated the CSDR as applied to the Intradistrict Attendance and Collective Bargaining Programs (from which the Controller appeals); (2) hinted at the CSDR's invalidity as applied to the SDC and EPEPD Programs but did not grant relief thereon, apparently deeming the administrative remedy sufficient (from which the school districts appeal); and (3) upheld the validity of the Health Fee Rule (from which the community college districts appeal). We shall affirm the judgment regarding the Intradistrict Attendance Program, the Collective Bargaining Program, and the Health Fee Rule, but reverse the judgment, with directions, regarding the SDC and EPEPD Programs.

Because the issues raised in this appeal are almost entirely legal ones subject to our independent review (see [Grier v. Kizer](#) (1990) 219 Cal.App.3d 422, 434, 268 Cal.Rptr. 244, disapproved on a different ground in [Tidewater Marine Western, Inc. v. Bradshaw](#) (1996) 14 Cal.4th 557, 577, 59 Cal.Rptr.2d 186, 927 P.2d 296 (*Tidewater*) [whether an auditing rule is an APA regulation is a question of law]), it is unnecessary to set forth a factual background at this stage. Instead, we will proceed straight to our discussion. First, we will briefly summarize the process of state-mandated reimbursement and the concept of underground regulation. Then we will turn our attention to the programs and remedies at issue, weaving in the pertinent facts as we go.

DISCUSSION

I. State-mandated Reimbursement Process

In 1979, California's voters adopted [article XIII B, section 6 of the state Constitution](#), which specifies that if the state imposes any “new program *799 or higher level of service” on any local government (including a school district), the state must reimburse the locality for the costs of the program or increased level of service.

In 1984, the Legislature enacted statutes to govern the state mandate process. (§ 17500 et seq.) Under these statutes, the Commission on State Mandates (the Commission) determines, pursuant to a “test claim” process, whether a state program constitutes a reimbursable state mandate. (§§ 17551, subd. (c), 17553.)

Once the Commission determines that a state mandate exists, it adopts regulatory “[P]arameters and [G]uidelines” (P & G's) to govern the state-mandated reimbursement. (§ 17557.) The Controller, in turn, then issues nonregulatory “[C]laiming [I]nstructions” for each Commission-determined mandate; these instructions must derive from the Commission's test claim decision and its adopted P & G's. (§ 17558.) Claiming Instructions may be specific to a particular mandated program, or general to all such programs.

The Controller may audit a reimbursement claim filed by a local agency or school district within three years of the claim's filing or last amendment. (§ 17558.5, subd. (a).)

If the Controller reduces a specific reimbursement claim via an audit, the claimant may file an “[I]ncorrect [R]eduction [C]laim” with the Commission. (§ 17558.7, subd. (a).)

II. The Concept of Invalid Underground Regulation

[1] In their petitions for writ of mandate and complaints for declaratory relief, the school districts (comprising Clovis, **38 Fremont, Newport–Mesa, Norwalk–La Mirada, Riverside, Sweetwater, and San Juan; hereafter collectively, School Districts) allege that the CSDR constitutes an invalid, unenforceable underground regulation under the APA as applied by the Controller in auditing salary and benefit costs in reimbursement claims for the SDC, EPEPD, Intradistrict Attendance, and Collective Bargaining Programs during the applicable periods roughly encompassing the fiscal years 1998 to 2003.²

*800 In their petition for writ of mandate and complaint for declaratory relief (actually appended to the School Districts' petition and complaint), the community college districts (comprising San Mateo, Santa Monica, State Center, and El Camino; hereafter collectively, College Districts) allege that the Health Fee Rule constitutes an invalid, unenforceable underground regulation under the APA as applied by the Controller in auditing reimbursement claims for the Health Fee Elimination Program or, alternatively, that the Controller's auditing actions in this respect were beyond its lawful authority.

The basic legal principles that apply to these allegations are as follows:

“‘If a rule constitutes a “regulation” within the meaning of the APA (other than an “emergency regulation” ...) it may not be adopted, amended, or repealed except in conformity with “basic minimum procedural requirements” ’” which include public notice, opportunity for comment, agency response to comment, and review by the state Office of Administrative Law. (*Morning Star Co. v. State Bd. of Equalization* (2006) 38 Cal.4th 324, 333, 42 Cal.Rptr.3d 47, 132 P.3d 249 (*Morning Star*).) “These requirements promote the APA's goals of bureaucratic responsiveness and public engagement in agency rulemaking.” (*Ibid.*)

Any regulation “ ‘that substantially fails to comply with these requirements may be judicially declared invalid’ ” and is deemed unenforceable. (*Morning Star, supra*, 38 Cal.4th at p. 333, 42 Cal.Rptr.3d 47, 132 P.3d 249; § 11350, subd. (a).)

[2] A “regulation” under the APA “means every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure.” (§ 11342.600.) As we will later explain more fully, an APA regulation has two principal characteristics: It must apply generally; and it must implement, interpret, or make specific the law enforced or administered by the agency, or govern the agency's procedure. (*Morning Star, supra*, 38 Cal.4th at pp. 333–334, 42 Cal.Rptr.3d 47, 132 P.3d 249; *Tidewater, **39 supra*, 14 Cal.4th at p. 571, 59 Cal.Rptr.2d 186, 927 P.2d 296.)

***801 III. The CSDR as Applied to the SDC, EPEPD, Intradistrict Attendance, and Collective Bargaining Programs**

We will start with the SDC Program. We do so because, of these four programs, the Commission's APA-valid, pre-May 27, 2004 P & G's for the SDC Program most closely resemble the Controller's CSDR.³ If we conclude, nevertheless, that the CSDR is an underground regulation that violates the APA in this context, we will have to conclude similarly for these three other programs. It is undisputed that the Controller's CSDR was not enacted in compliance with APA procedure.

As we shall explain, we conclude that the CSDR, as applied to the (pre-May 27, 2004) SDC Program, is an underground, unenforceable regulation under the APA. Accordingly, the CSDR is invalid as applied to the School Districts' SDC Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003 (see fn. 2, *ante*), and invalid in parallel fashion to the three other programs as well.

The Commission determined, in the mid–1990's, that the SDC Program imposed a reimbursable state-mandated program on school districts by establishing the right of parents/guardians of students, who were prohibited from transferring to another school district, to appeal to the county board of education. (See former [Ed.Code, § 48209.9](#), inoperative July 1, 2003.)

From August 24, 1995, until May 27, 2004, the Commission's P & G's for the SDC Program set forth the following two requirements for school districts seeking SDC state-mandated reimbursement for employee salary and benefit costs: (1) “Identify the employee(s) and their job classification, describe the mandated functions performed and specify the actual number of hours devoted to each function, the productive hourly rate and the related benefits. The average number of hours devoted to each function may be claimed if supported by a documented time study”; and (2) “For auditing purposes, all costs claimed must be traceable to source documents (e.g., employee time records, invoices, receipts, purchase orders, contracts, etc.) and/or worksheets that show evidence of and the validity of such claimed costs.”

The Commission's SDC Program P & G's divide the subject of reimbursable costs into three categories: employee salaries and benefits; materials and supplies; and contracted services. The examples set forth in these P & G's for *802 “source documents” align with these three categories: “employee time records” for employee salaries and benefits; “invoices,” “receipts” and “purchase orders” for materials and supplies; and “contracts” for contracted services. At issue in this appeal for the SDC, EPEPD, Intradistrict Attendance, and Collective Bargaining Programs are just the cost category of employee salaries and benefits.

From the initial issuance of the Commission's SDC Program P & G's in 1995 until May 27, 2004, the Controller's SDC-specific Claiming Instructions substantively aligned with the SDC Program P & G's.

However, in September 2003, the Controller revised its general Claiming Instructions (that apply to state-mandated reimbursement claims in general) to set **40 forth, for the first time, what has become known as the CSDR. The CSDR states:

“To be eligible for mandated cost reimbursement for any fiscal year, only actual costs may be claimed. Actual costs are those costs actually incurred to implement the mandated activities. Actual costs must be traceable and supported by source documents that show the validity of such costs, when they were incurred, and their relationship to the reimbursable activities. A source document is a document created at or near the same time the actual cost was incurred for the event or activity in question. Source documents may include, but are not limited to, employee time records or time logs, sign-in sheets, invoices, and receipts.

“Evidence corroborating the source documents may include, but is not limited to, worksheets, cost allocation reports (system generated), purchase orders, contracts, agendas, training packets, and declarations. Declarations must include a certification or declaration stating, ‘I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct based upon personal knowledge.’ Evidence corroborating the source documents may include data relevant to the reimbursable activities otherwise in compliance with local, state, and federal government requirements. However, corroborating documents cannot be substituted for source documents.”

Substantial evidence showed that prior to the use of the CSDR in Controller audits, school districts obtained SDC state-mandated reimbursement for employee salary and benefit costs based on (1) declarations and certifications from the employees that set forth, after the fact, the time they had spent on SDC-mandated tasks; or (2) an annual accounting of time determined by the number of mandated activities and the average time for each activity. After the Controller began using the CSDR in its auditing of SDC reimbursement claims, the Controller deemed these declarations, certifications, and accounting methods insufficient, and reduced the ***803** reimbursement claims accordingly. (Substantial evidence also showed that the Controller, in 2000, began applying a CSDR requirement in field audits of SDC reimbursement claims, before the CSDR was expressed in the Controller's general Claiming Instructions in September 2003 or adopted in the Commission's SDC Program P & G's on May 27, 2004.)

The question is whether the Controller's CSDR constituted an underground, unenforceable regulation that the Controller used in auditing the School Districts' SDC Program for the fiscal years 1998 to 2003, because the CSDR constituted a state agency regulation that was not adopted in conformance with the APA prior to its valid adoption in the Commission's SDC Program P & G's on May 27, 2004. We answer this question “yes.”

[3] “ ‘A regulation subject to the APA ... has two principal identifying characteristics. [Citation.] First, the agency must intend its rule to apply generally, rather than in a specific case. The rule need not, however, apply universally; a rule applies generally so long as it declares how a certain class of cases will be decided. [Citation.] Second, the rule must “implement, interpret, or make specific the law enforced or administered by [the agency], or ... govern [the agency's] procedure.” ’ ” (*Morning Star, supra*, 38 Cal.4th at pp. 333–334, 42 Cal.Rptr.3d 47, 132 P.3d 249, quoting *Tidewater, supra*, 14 Cal.4th at p. 571, 59 Cal.Rptr.2d 186, 927 P.2d 296, italics added.)

[4] As to the first criterion—whether the rule is intended to apply generally—substantial evidence supports the trial ****41** court's finding that the CSDR was “applie[d] generally to the auditing of reimbursement claims ...; the Controller's auditors ha[d] no discretion to judge on a case[-]by[-]case basis whether to apply the rule.” (The trial court made this finding in the context of ruling on the Intradistrict Attendance and Collective Bargaining Programs, but this finding is a general one that applies equally to the SDC Program. The trial court did not apply this general finding to the SDC Program only because the court reasoned that the CSDR was not an APA-violative underground regulation in the SDC context, as the Commission later adopted the CSDR into its SDC Program P & G's (see fn. 3, *ante*). As we shall explain later, we reject this reasoning involving subsequent adoption.)

[5] The CSDR also meets the second criterion of being a regulation: It implements, interprets, or makes specific the law enforced or administered by the Controller. The Controller argues, to the contrary, that the CSDR “merely restates” the source document requirement found in the pre-May 27, 2004 Commission P & G's for the SDC Program, and that “source documents” are, by their sourceful nature, contemporaneous. As we explain, we reject this argument.

Admittedly, the pre-May 27, 2004 SDC Program P & G's stated that, "[f]or auditing purposes, all costs claimed must be traceable to source documents *804 (e.g., employee time records, invoices, receipts, purchase orders, contracts, etc.) and/or worksheets that show evidence of and the validity of such claimed costs." However, the Controller's CSDR, in contrast to these P & G's, did not equate "source documents" with "worksheets," but relegated "worksheets" to the second-class status of "corroborating documents" that can only serve as evidence that corroborates "source documents." This is no small matter either. This is because, prior to the Controller using the CSDR to audit reimbursement claims, the School Districts, in making these claims, had used employee declarations and certifications and average time accountings to document the employee time spent on SDC-mandated activities; and such methods can be deemed akin to worksheets.

More significantly, the CSDR expressly states that employee declarations and certifications are only corroborating documents, *not* source documents; the pre-May 27, 2004 SDC Program P & G's had nothing to say on this subject. In effect, then, the CSDR bars the use of employee time declarations and certifications as source documents or source document-equivalent worksheets, in contrast to the pre-May 27, 2004 P & G's.

Along similar lines, the pre-May 27, 2004 SDC Program P & G's also stated that the "average number of [employee] hours devoted to each [mandated] function may be claimed if supported by a documented time study"; the record showed that such a time study is a documented estimate. The CSDR, which recognizes only actual costs traceable and supported by contemporaneous source documents, does not countenance such estimation.

Nor may the Controller point to the examples of the source documents listed in the pre-May 27, 2004 SDC Program P & G's and argue they show the contemporaneous nature of source documents: "employee time records, invoices, receipts, purchase orders, contracts, etc." First, this argument ignores the source document-equivalent of "worksheets" set forth in these P & G's, as discussed above. And, second, while the CSDR lists "employee time records," "invoices," and "receipts" as source documents, it specifies that "purchase orders," "contracts" (and "worksheets") **42 are only corroborating documents, not source documents.

Finally, the School Districts that had used employee declarations and certifications and average time accountings to document time for reimbursement claims also note that it is *now* physically impossible to comply with the CSDR's requirement of contemporaneousness that "[a] source document is a *805 document *created at or near the same time the actual cost was incurred* for the event or activity in question."⁴ (Italics added.)

Given these substantive differences between the Commission's pre-May 27, 2004 SDC Program P & G's and the Controller's CSDR, we conclude that the CSDR implemented, interpreted or made specific the following laws enforced or administered by the Controller: the Commission's pre-May 27, 2004 P & G's for the SDC Program (§ 17558) [the Commission submits regulatory P & G's to the Controller, who in turn issues nonregulatory Claiming Instructions based thereon]; and the Controller's statutory authority to audit state-mandated reimbursement claims (§ 17561, subd. (d)(2)).

Consequently, the CSDR meets the two criteria for being an APA regulation. And because the CSDR, as applied to the SDC Program, was not adopted as a regulation in compliance with the APA rule-making procedures until its May 27, 2004 incorporation into the SDC Program P & G's, this CSDR is an underground and unenforceable regulation as applied to the audits of the School Districts' SDC Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003. (See fn. 2, *ante*.) These audits are invalidated to the extent they used this CSDR.

[6] [7] [8] As we noted at the outset of this part of the opinion, if we were to conclude (as we now have done) that the CSDR is an underground regulation that violates the APA in the SDC Program context presented here, we would have to conclude similarly for the EPEPD, Intradistrict Attendance, and Collective Bargaining Programs too. This is because the Commission's P & G's for these latter three programs less resembled the Controller's CSDR than did the

Commission's pre-May 27, 2004 P & G's for the SDC Program. We now turn to the EPEPD, Intradistrict Attendance, and Collective Bargaining Programs, which we will describe briefly in order.

The EPEPD Program was found to be a reimbursable state-mandated program in 1987. This program requires school districts to establish earthquake procedures for each of its school buildings, and to allow use of its buildings, grounds and equipment for mass care and welfare shelters during public disasters or emergencies. (Former Ed.Code, §§ 35925–35927, [40041.5](#), [40042](#).)

806** From 1991 until June 2, 2003, the Commission's P & G's for the EPEPD Program required school districts seeking state-mandated reimbursement for employee salary and benefit costs: (1) to “provide a listing of each employee ... and the number of hours devoted to their [mandated] function”; and (2) “[f]or auditing purposes, all costs claimed may be *43** traceable to source documents and/or worksheets that show evidence of the validity of such costs.” The Controller's EPEPD-specific Claiming Instructions, since 1996, have stated that “Source documents required to be maintained by the [reimbursement] claimant may include, but are not limited to, employee time cards and/or cost allocation reports.” (The Commission, in like fashion to what it did with the SDC Program, incorporated the CSDR into its P & G's for the EPEPD Program, effective June 2, 2003.)

These pre-June 2, 2003 P & G's for the EPEPD Program parallel the pre-May 27, 2004 P & G's for the SDC Program, but even less resemble the Controller's CSDR than did those SDC Program P & G's. For the reasons set forth above involving the SDC Program, then, we conclude that the Controller's CSDR is an underground, unenforceable regulation as applied to the audits of the School Districts' EPEPD Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003. (See fn. 2, *ante*.) These audits are invalidated to the extent they used this CSDR.

The Intradistrict Attendance Program, in 1995, was found to be a reimbursable state-mandated program. This program establishes a policy of open enrollment within a school district for district residents. (Former [Ed.Code, § 35160.5](#).)

Since 1995, the Commission's P & G's for the Intradistrict Attendance Program have required school districts seeking state-mandated reimbursement for employee salary and benefit costs (1) to “[i]dentify the employee(s) and their job classification ... and specify the actual number of hours devoted to each [mandated] function.... The average number of hours devoted to each function may be claimed if supported by a documented time study”; and (2) “[f]or auditing purposes, all costs claimed must be traceable to source documents and/or worksheets that show evidence of the validity of such costs.” For the 1998 to 2003 period of fiscal years at issue, the Controller's Intradistrict Attendance Program-specific Claiming Instructions substantively mirrored P & G's for (1) above (except for the “average number of hours” provision), and stated as to source documents: “Source documents required to be maintained by the claimant may include, but are not limited to, employee time records that show the employee's actual time spent on this mandate.” (In early 2010, the Commission incorporated the Controller's CSDR into the Intradistrict Attendance Program P & G's; see fn. 5, *post*.)

***807** Applying the same reasoning we have applied above with respect to the SDC and the EPEPD Programs, we conclude that the Controller's CSDR is an underground, unenforceable regulation as applied to the audits of the School Districts' Intradistrict Attendance Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003. (See fn. 2, *ante*.) These audits are invalidated to the extent they used this CSDR.

That leaves the Collective Bargaining Program, which was found to be a reimbursable state-mandated program in 1978 (by the Commission's predecessor, the State Board of Control). This program requires school district employers to collectively bargain with represented employees, and to publicly disclose the major provisions of their agreements prior to final adoption. ([§ 3540 et seq.](#))

If the Commission's pre-May 27, 2004 P & G's for the SDC Program most closely resemble the Controller's CSDR, the P & G's for the Collective Bargaining Program bear the least resemblance. As pertinent, the Collective Bargaining

Program P & G's require school districts seeking reimbursement ****44** for employee salary and benefit costs to simply “[s]upply workload data requested ... to support the level of costs claimed” and “[s]how the classification of the employees involved, amount of time spent, and their hourly rate”; nothing is said about “source documents.” The Controller's Collective Bargaining Program-specific Claiming Instructions substantively mirror those of the Intradistrict Attendance Program, stating that source documents include employee time records that show the employee's actual time spent on the mandated function. (And as with the Intradistrict Attendance Program, the Commission, in early 2010, incorporated the Controller's CSDR into the Collective Bargaining Program P & G's; see fn. 5, *post.*)

Consequently, employing the same reasoning we have employed above, we conclude that the Controller's CSDR is an underground, unenforceable regulation as applied to the audits of the School Districts' Collective Bargaining Programs for the applicable periods roughly encompassing the fiscal years 1998 to 2003. (See fn. 2, *ante.*) These audits are invalidated to the extent they used this CSDR.

IV. Declaratory and Related Writ of Mandate Relief

The trial court declared that the Controller's CSDR, as applied to the audits of the Intradistrict Attendance and Collective Bargaining Programs for the 1998 to 2003 period of fiscal years, was an invalid and void underground regulation under the APA. Correspondingly, the trial court issued a preemptory writ of mandate (traditional mandamus) invalidating these CSDR-based audits to the extent they were not final audit determinations for more than ***808** three years before the School Districts filed their respective lawsuits on May 23, 2006 (Clovis et al.) and March 2, 2007 (San Juan). This three-year period is the applicable three-year statute of limitations under [Code of Civil Procedure section 338, subdivision \(a\)](#), for enforcing a statutory liability like state-mandated reimbursement. We are affirming this part of the trial court's judgment.

However, the trial court refused to provide, in parallel fashion, declaratory and writ of mandate relief for the CSDR-based audits involving the SDC and EPEPD Programs. The School Districts contend the trial court erred in this respect. We agree.

In refusing to provide this relief, the trial court reasoned that, since the Commission had incorporated the Controller's CSDR into the Commission's regulatory P & G's for the SDC and EPEPD Programs, there was no longer an actual and ongoing controversy upon which to grant declaratory and related mandate relief concerning the CSDR's invalidity as an underground regulation in this context; and the Commission could administratively determine, pursuant to the Incorrect Reduction Claim process, the past audits that had used the CSDR before its incorporation into the SDC and EPEPD Programs' P & G's. This is where we part company with the trial court.

Our departure is based on [section 11350](#) of the APA and the legal principles set forth in *Californians for Native Salmon etc. Assn. v. Department of Forestry* (1990) 221 Cal.App.3d 1419, 271 Cal.Rptr. 270 (*Native Salmon*) and its progeny.

[Section 11350](#) of the APA specifies that “[a]ny interested person may obtain a judicial declaration as to the validity of any regulation ... by bringing an action for declaratory relief....” (§ 11350, *subd.* (a).)

In *Native Salmon*, the plaintiffs sought declaratory relief against the state forestry department, alleging that it was department policy, with respect to timber harvest plans: (1) to delay responses to public comments, and (2) to not evaluate the cumulative ****45** impact of logging activities in the plans. The *Native Salmon* court concluded that declaratory relief was appropriate in this context, stating: “[Plaintiffs] ... challenge not a specific [administrative] order or decision [which is generally subject to review only pursuant to a writ of *administrative* mandate, rather than traditional mandate], or even a series thereof, but an overarching, quasi-legislative policy set by an administrative agency. Such a policy is subject to review in an action for declaratory relief.... [¶] ... [R]eview of specific, discretionary administrative decisions [must not be

confused] with review of a generalized agency policy. Declaratory relief directed to *policies* of administrative agencies is not an unwarranted control of discretionary, specific agency decisions.” (*Native Salmon*, *809 *supra*, 221 Cal.App.3d at p. 1429, 271 Cal.Rptr. 270, citations omitted; accord, *Venice Town Council, Inc. v. City of Los Angeles* (1996) 47 Cal.App.4th 1547, 1566, 55 Cal.Rptr.2d 465; see also *Simi Valley Adventist Hospital v. Bontá* (2000) 81 Cal.App.4th 346, 354–355, 96 Cal.Rptr.2d 633.)

[9] [10] [11] Similarly, here, the School Districts have challenged “an overarching, quasi-legislative policy set by an administrative agency” (*Native Salmon*, *supra*, 221 Cal.App.3d at p. 1429, 271 Cal.Rptr. 270) rather than a specific, discretionary administrative decision: i.e., the Controller's policy of using the (underground) CSDR to conduct audits in the SDC and EPEPD Programs for the period straddling the fiscal years 1998 to 2003. Declaratory and accompanying traditional mandate relief is appropriate in this context; this is an ongoing controversy limited by the three-year statute of limitations noted above.⁵

And there is no adequate administrative remedy. The trial court made a finding—supported by substantial evidence—that the Commission “consistently refuses to rule on underground regulation claims on the basis of an opinion that it lacks jurisdiction to decide such claims.” (The trial court made this finding in discussing the Intradistrict Attendance and Collective Bargaining Programs, but the finding applies equally to the SDC and EPEPD Programs.)

We conclude that declaratory and accompanying traditional mandate relief applies not only to the Intradistrict Attendance and Collective Bargaining Programs, but also to the SDC and EPEPD Programs for the fiscal years at issue.⁶

***810 V. Health Fee Elimination Program**

[12] In 1986, and again in 1989 (after statutory amendment), the Commission determined **46 that the Health Fee Elimination Program imposed a reimbursable state-mandated cost on those community college districts that provide health services, by requiring those districts to maintain in the future the level of service they had provided in the 1986–1987 fiscal year (termed, the “maintenance of effort” requirement); this “maintenance of effort” had to take place even if the districts, as they were and are permitted to do under the relevant statute, eliminated their nominal statutory student health fee (\$7.50 per semester maximum (former *Ed.Code*, § 72246, Stats.1984, 2d Ex.Sess., ch. 1, p. 6642)); \$10 per semester maximum (current *Ed.Code*, § 76355, subd. (a)(1)).⁷

The College Districts contend that the Controller's Claiming Instruction for the Health Fee Elimination Program is an underground regulation under the APA and beyond the Controller's authority. Specifically, the College Districts argue that the Controller's Health Fee Rule misapplies the Commission's Health Fee Elimination Program P & G's by automatically reducing reimbursement claims by the amount that districts are statutorily authorized to charge students for health fees, even when a district chooses not to charge its students those fees.

Since 1989, the Commission's Health Fee Elimination Program P & G's have stated in pertinent part:

“Any offsetting savings the claimant experiences as a direct result of this statute [i.e., the health fee statutes—formerly *Ed.Code*, § 72246; now *Ed.Code*, § 76355] must be deducted from the [reimbursement] costs claimed. In addition, reimbursement for this mandate received from any source, e.g., federal, state, etc., shall be identified and deducted from this claim. This shall include the amount of \$7.50 per full-time student per semester, \$5.00 per full-time student for summer school, or \$5.00 per full-time student per quarter, as authorized by *Education Code* section 72246[, subdivision] (a). This shall also include payments (fees) received from individuals other than students who are not covered by *Education Code* Section 72246 for health services.”

*811 The Controller's Health Fee Rule (i.e., its Health Fee Elimination Program-specific Claiming Instruction) states in pertinent part:

“Eligible claimants will be reimbursed for health service costs at the level of service provided in the 1986/87 fiscal year. The reimbursement will be reduced by the amount of student health fees authorized per the [Education Code \[section\] 76355](#).”

The College Districts maintain that the Controller's Health Fee Rule constitutes an invalid, underground regulation—i.e., one not adopted pursuant to the APA—because it meets the two-part test of a “regulation”: (1) the Controller generally applies it; and (2) the rule implements, interprets or makes specific the Commission's Health Fee Elimination Program P & G's. **47 (*Morning Star, supra*, 38 Cal.4th at pp. 333–334, 42 Cal.Rptr.3d 47, 132 P.3d 249.)

There is no quibble with part (1)—general application. The real issue is with part (2) of the test—defining a “regulation” as implementing, interpreting, or making specific the Health Fee Elimination Program P & G's. The College Districts argue that those P & G's require that the mandate claimant have actually “experience[d]” or “received” an amount of health service money for that amount to be deducted from the reimbursement claim. That is, if a college district does not charge its students a health service fee, as the district is statutorily permitted to do, then the district has not “experienced” or “received” that fee, and that amount cannot be deducted. The College Districts note that the Health Fee Rule, by contrast, states flatly that “reimbursement will be reduced by the amount of student health fees authorized per the [Education Code \[section\] 76355](#).”

The College Districts' argument carries some weight, especially when viewed solely within the prism of comparing the Health Fee Elimination Program P & G's to the Health Fee Rule semantically. But the argument falters when exposed to the broader context of the nature of state-mandated costs and common sense.

As for the nature of state-mandated costs, [section 17514](#) defines “costs mandated by the state” to mean “any *increased costs* which a local agency or school district is *required to incur* after July 1, 1980, as a result of any statute enacted on or after January 1, 1975, or any executive order implementing any statute enacted on or after January 1, 1975, which mandates a new program or higher level of service of an existing program within the meaning of [Section 6 of Article XIII B of the California Constitution](#).” (Italics added.) And [section 17556](#) reflects this definition by stating that costs are not deemed mandated by the state to the extent the “local agency or school district *has the authority* to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service.” (§ 17556, *subd. (d)*, italics added.)

[13] *812 The College Districts point out, though, in a series of overlapping arguments, that [sections 17514](#) and [17556](#) govern the *Commission's* determination of whether a program is a state-mandated program, not the *Controller's* determination as to audit reductions; and the Commission has already found the Health Fee Elimination Program to be a state-mandated program. This observation, however, does not diminish the basic principle underlying the state mandate process that [sections 17514](#) and [17566](#), subdivision (d) embody: To the extent a local agency or school district “has the authority” to charge for the mandated program or increased level of service, that charge cannot be recovered as a state-mandated cost.⁸ (See *Connell v. Superior Court* (1997) 59 Cal.App.4th 382, 401, 69 Cal.Rptr.2d 231 [“the plain language of [[section 17556, subdivision \(d\)](#)] precludes reimbursement where the local agency has the authority, i.e., the right or the power, to levy fees sufficient to cover the costs of the state-mandated program”]; see *Connell*, at pp. 397–398, 69 Cal.Rptr.2d 231.)

And this basic principle flows from common sense as well. As the Controller succinctly **48 puts it, “Claimants can choose not to require these fees, but not at the state's expense.”

[14] The College Districts also argue that the Controller lacks the authority to rely on these Government Code sections to uphold its Health Fee Rule. The argument is that, since the Health Fee Rule is a claiming instruction, its validity must be determined *solely* through the Commission's P & G's. To accept this argument, though, we would have to ignore, and so would the Controller, the fundamental legal principles underlying state-mandated costs. We conclude the Health Fee Rule is valid.

DISPOSITION

We direct the trial court to issue a peremptory writ of mandate that invalidates the Controller's audits of the School Districts' SDC and EPEPD Program reimbursement claims for the applicable periods identified in footnote 2, *ante*, encompassing the fiscal years 1998 to 2003, to the extent those audits were based on the CSDR and did not become final audit determinations prior to the applicable three-year statute of limitations. If it chooses to do so, the Controller may re-audit the relevant reimbursement claims based on the documentation requirements of the P & G's and claiming *813 instructions when the mandate costs were incurred (i.e., not using the CSDR). In all other respects, the judgment is affirmed.

The parties shall each bear their own costs on appeal. (Cal. Rules of Court, rule 8.278(a)(3).)

We concur: SCOTLAND, P.J., and NICHOLSON, J.

All Citations

188 Cal.App.4th 794, 116 Cal.Rptr.3d 33, 260 Ed. Law Rep. 877, 10 Cal. Daily Op. Serv. 12,281, 2010 Daily Journal D.A.R. 14,831

Footnotes

- 1 Undesignated statutory references are to the Government Code.
- 2 Because of the large number of school districts and program audits involved, as well as the slightly varying fiscal years at issue corresponding to these districts and program audits, we will use the general phrasing “applicable periods roughly encompassing the fiscal years 1998 to 2003” to describe the audits at issue. The parties are well aware of the particular audits being challenged for this period. Regardless, the School Districts must meet the applicable three-year statute of limitations that governs lawsuits based on statutory liability (like state-mandated reimbursement) for any audits of the four programs that have been determined on the basis of the invalidated CSDR. (Code Civ. Proc., § 338; *Union of American Physicians & Dentists v. Kizer* (1990) 223 Cal.App.3d 490, 504, fn. 5, 272 Cal.Rptr. 886.) San Juan School District filed its petition and complaint on March 2, 2007. The rest of the School Districts, together, filed their petition and complaint on May 23, 2006. The trial court consolidated these two petitions and complaints on March 27, 2007.
The School Districts made challenges to other programs as well, but these challenges are not at issue on appeal.
- 3 On May 27, 2004, the Commission validly amended its SDC Program P & G's to adopt this CSDR language.
- 4 As a related aside, it is interesting to note that the Controller's SDC-specific Claiming Instructions that were in place during the pre-2004 P & G's stated that, “[f]or audit purposes, all supporting documents must be retained [by claimant] [only] for a period of two years after the end of the calendar year in which the reimbursement claim was filed or last amended, whichever is later”; but the Controller had three years in which to conduct a reimbursement audit “after the date that the actual reimbursement claim is filed or last amended, whichever is later.” (§ 17558.5, subd. (a).)
- 5 The Controller had requested that, at a minimum, we stay this appeal in light of the Commission's pending decision to incorporate the Controller's CSDR into the Commission's P & G's for the Intradistrict Attendance and Collective Bargaining Programs, as the Commission has done for the SDC and EPEPD Programs. In a subsequent request for judicial notice, the Controller has now noted that the Commission, on January 29, 2010, amended its P & G's for the Intradistrict Attendance and Collective Bargaining Programs to adopt the CSDR for each program. We deny this request for judicial notice. This is because

the central issue in the present appeal concerns the Controller's policy of using the CSDR *during the 1998 to 2003 fiscal years*, when the CSDR was an underground regulation. This issue is not resolved by the Commission's *subsequent* incorporation of the CSDR into its Intradistrict Attendance and Collective Bargaining Programs' P & G's.

Also, we deny the School Districts' request for judicial notice of the Commission's Incorrect Reduction Claim caseload summary and the Controller's list of final audit reports for California school districts and community college districts.

6 In light of our resolution, we need not consider the School Districts' alternative claim that the Controller's CSDR constitutes an unlawful retroactive rule, or the School Districts' additional claim that regardless whether an actual controversy exists for purposes of declaratory relief, the requested writ relief is not moot.

7 As [Education Code section 76355, subdivision \(a\)\(1\)](#) states: "The governing board of a district maintaining a community college may require community college students to pay a fee in the total amount of not more than ten dollars (\$10) for each semester, seven dollars (\$7) for summer school, seven dollars (\$7) for each intersession of at least four weeks, or seven dollars (\$7) for each quarter for health supervision and services, including direct or indirect medical and hospitalization services, or the operation of a student health center or centers, or both." (An inflationary adjustment is provided for in [subdivision \(a\)\(2\) of § 76355.](#))

8 In light of [sections 17514 and 17556, subdivision \(d\)](#), the Commission found the Health Fee Elimination Program to be a reimbursable state-mandated program to the extent the cost to community college districts of maintaining their level of health services at the 1986–1987 level, as required by the Health Fee Elimination Program mandate, is not covered by the nominal health fee authorized by [section 76355, subdivision \(a\)\(1\)](#) (\$10 maximum per semester per student).

ATTACHMENT D-9

 KeyCite Yellow Flag - Negative Treatment
Declined to Extend by [Newhall County Water District v. Castaic Lake Water Agency](#), Cal.App. 2 Dist., January 19, 2016

51 Cal.4th 421

Supreme Court of California

CALIFORNIA FARM BUREAU FEDERATION
et al., Plaintiffs and Appellants,

v.

STATE WATER RESOURCES CONTROL
BOARD, Defendant and Respondent.

No. S150518.

|
Jan. 31, 2011.

|
As Modified April 20, 2011.

|
Rehearing Denied April 20, 2011.

Synopsis

Background: Farm bureau federation, water associations, and individual fee payers filed lawsuit against State Water Resources Control Board (SWRCB) for declaratory and injunctive relief, and writ of mandate, after SWRCB denied plaintiffs' requests for reconsideration and refund of new annual fees imposed by statutes on holders of water right permits and licenses. The Superior Court, Sacramento County, Nos. 03CS01776 and 04CS00473, [Raymond M. Cadei, J.](#), denied plaintiffs' petitions for writ of mandate and ruled that fees imposed under statutes and emergency regulations were valid regulatory fees. Plaintiffs appealed. The Court of Appeal reversed with directions. The Supreme Court granted review, superseding the opinion of the Court of Appeal.

Holdings: The Supreme Court, [Corrigan, J.](#), held that:

[1] statute requiring fees on appropriative water rights was not subject to supermajority vote requirement on its face;

[2] statute requiring fees on appropriative water rights was not subject to constitutional limitation on ad valorem real estate taxes;

[3] fees on appropriative rights held by federal entities may be allocated to federal water delivery contractors to the extent of contractors' beneficial interest;

[4] statute requiring fees on appropriative water rights did not improperly apply to federal entities themselves; and

[5] contractors' beneficial interest in federal water rights was not limited to the amount of water contracted for delivery.

Affirmed in part, reversed in part, and remanded.

Moreno, J., filed concurring opinion, in which [Werdegar, J.](#), joined.

Opinion, [53 Cal.Rptr.3d 445](#), superseded.

West Headnotes (30)

[1] Water Law

Nature and Elements in General

For purposes of the rule that the State Water Resources Control Board (SWRCB) regulates all appropriative water rights acquired since 1914, an "appropriative right" is the right to take water from a watercourse that does not run adjacent to a landowner's property. [West's Ann.Cal.Water Code § 1225 et seq.](#)

4 Cases that cite this headnote

[2] Water Law

Regulation and Permit Systems for Allocating Riparian Rights to Take or Use Water

Water Law

Powers and authority

The Water Rights Division of the State Water Resources Control Board (SWRCB) has no permitting or licensing authority over riparian or pueblo rights, or over appropriative rights acquired before 1914. [West's Ann.Cal.Water Code § 1225 et seq.](#)

[5 Cases that cite this headnote](#)

[3] Water Law

🔑 [Correlative Rights of Riparian Owners](#)

Water Law

🔑 [Extent of right to use water in general](#)

Water Law

🔑 [Reasonable use](#)

Under the common law riparian doctrine, a person owning land bordering a stream has the right to reasonable and beneficial use of water on his or her land, but a riparian owner must share the right to use water with other riparian owners.

[1 Cases that cite this headnote](#)

[4] Taxation

🔑 [Distinguishing “tax” and “license” or “fee”](#)

The plaintiff challenging a fee as a tax enacted in violation of the supermajority requirement for tax increases bears the burden of proof with respect to all facts essential to its claim for relief, to establish a prima facie case showing that the fee is invalid. [West's Ann.Cal. Const. Art. 13A, § 3](#); [West's Ann.Cal.Evid.Code § 500](#).

[5 Cases that cite this headnote](#)

[5] Taxation

🔑 [Weight and Sufficiency of Evidence](#)

The plaintiff challenging a fee as a tax enacted in violation of the supermajority requirement for tax increases must present evidence sufficient to establish in the mind of the trier of fact or the court a requisite degree of belief, commonly proof by a preponderance of the evidence. [West's Ann.Cal. Const. Art. 13A, § 3](#); [West's Ann.Cal.Evid.Code § 500](#).

[Cases that cite this headnote](#)

[6] Evidence

🔑 [Extent of burden in general](#)

Unlike the “burden of producing evidence,” which may shift between the parties, the burden of proof does not shift; it remains with the party who originally bears it. [West's Ann.Cal.Evid.Code § 110](#).

[1 Cases that cite this headnote](#)

[7] Evidence

🔑 [Party asserting or denying existence of facts](#)

Evidence

🔑 [Failure to sustain burden](#)

Trial

🔑 [Prima facie case](#)

The burden of producing evidence as to a particular fact rests on the party with the burden of proof as to that fact, and if that party fails to produce sufficient evidence to make a prima facie case, it risks nonsuit or other unfavorable determination.

[1 Cases that cite this headnote](#)

[8] Evidence

🔑 [Extent of burden in general](#)

Once the party with the burden of proof as to a particular fact produces evidence sufficient to make its prima facie case, the burden of producing evidence shifts to the other party to refute the prima facie case. [West's Ann.Cal.Evid.Code § 110](#).

[1 Cases that cite this headnote](#)

[9] Taxation

🔑 [Distinguishing “tax” and “license” or “fee”](#)

Once plaintiffs challenging a fee as a tax enacted in violation of the supermajority vote requirement for tax increases have made their prima facie case, the state bears the burden of production and must show (1) the estimated costs of the service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens

on or benefits from the regulatory activity.

[West's Ann.Cal. Const. Art. 13A, § 3.](#)

[5 Cases that cite this headnote](#)

[10] Taxation

[Distinguishing “tax” and “license” or “fee”](#)

Water Law

[Powers, proceedings and review](#)

Water Law

[Terms and Conditions of Permit](#)

Water Code provision enacted by simple majority of the Legislature, requiring the State Water Resources Control Board (SWRCB) to adopt a schedule of annual fees to be paid by each appropriative right permit or license holder, did not violate the supermajority vote requirement for tax increases on its face, since it did not explicitly impose a tax, even though the fees were deposited in the Water Rights Fund along with fees from other sources, where the fees were linked to activities the SWRCB's Division of Water Rights performed. [West's Ann.Cal. Const. Art. 13A, § 3](#); [West's Ann.Cal. Water Code §§ 1525, 1551, 1552.](#)

See Annot., Constitutionality of statutes affecting riparian rights (1928) 56 A.L.R. 277; Cal. Jur. 3d Property Taxes §§ 5, 12; 9 Witkin, Summary of Cal. Law (10th ed. 2005) Taxation, §§ 140, 130.

[Cases that cite this headnote](#)

[11] Taxation

[Distinguishing “tax” and “license” or “fee”](#)

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, ordinarily taxes are imposed for revenue purposes and not in return for a specific benefit conferred or privilege granted. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[3 Cases that cite this headnote](#)

[12] Taxation

[Distinguishing “tax” and “license” or “fee”](#)

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges, but compulsory fees may be deemed legitimate fees rather than taxes. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[1 Cases that cite this headnote](#)

[13] Taxation

[Distinguishing “tax” and “license” or “fee”](#)

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, a fee may be charged by a government entity so long as it does not exceed the reasonable cost of providing services necessary to regulate the activity for which the fee is charged, but a valid fee may not be imposed for unrelated revenue purposes. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[4 Cases that cite this headnote](#)

[14] Taxation

[Distinguishing “tax” and “license” or “fee”](#)

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, a regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of a regulation, such as all costs incident to the issuance of the license or permit, investigation, inspection, administration, maintenance of a system of supervision, and enforcement. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[1 Cases that cite this headnote](#)

[15] Taxation

🔑 Distinguishing “tax” and “license” or “fee”

For purposes of determining whether a provision imposes a tax subject to constitutional supermajority vote requirement, regulatory fees are valid despite the absence of any perceived “benefit” accruing to the fee payers. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[Cases that cite this headnote](#)

[16] Taxation

🔑 Distinguishing “tax” and “license” or “fee”

For a provision to impose a regulatory fee rather than a tax subject to constitutional supermajority vote requirement, legislators need only apply sound judgment and consider probabilities according to the best honest viewpoint of informed officials in determining the amount of the regulatory fee. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[1 Cases that cite this headnote](#)

[17] Taxation

🔑 Distinguishing “tax” and “license” or “fee”

Simply because a fee exceeds the reasonable cost of providing the service or regulatory activity for which it is charged does not transform it into a tax subject to constitutional supermajority vote requirement. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[1 Cases that cite this headnote](#)

[18] Taxation

🔑 Distinguishing “tax” and “license” or “fee”

A regulatory fee does not become a tax subject to constitutional supermajority vote

requirement simply because the fee may be disproportionate to the service rendered to individual payors. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[2 Cases that cite this headnote](#)

[19] Taxation

🔑 Distinguishing “tax” and “license” or “fee”

In determining whether a provision imposes a regulatory fee rather than a tax subject to constitutional supermajority vote requirement, the question of proportionality is not measured on an individual basis; rather, it is measured collectively, considering all rate payors. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[4 Cases that cite this headnote](#)

[20] Taxation

🔑 Distinguishing “tax” and “license” or “fee”

A fee cannot exceed the reasonable cost of regulation with the generated surplus used for general revenue collection, and an excessive fee that is used to generate general revenue becomes a tax subject to constitutional supermajority vote requirement. [West's Ann.Cal. Const. Art. 13A, § 3.](#)

[7 Cases that cite this headnote](#)

[21] Water Law

🔑 Powers, proceedings and review

Water Law

🔑 Terms and Conditions of Permit

The “total amount” and “total revenue” provisions of the Water Code provision requiring the State Water Resources Control Board (SWRCB) to adopt a schedule of annual fees to be paid by each appropriative right permit or license holder does not require the SWRCB to set the fees so as to collect anything more than the administrative costs incurred in carrying out the permit functions authorized by the statute. [West's Ann.Cal. Water Code § 1525.](#)

[Cases that cite this headnote](#)

[22] Appeal and Error

[Verdict, findings, and judgment](#)

Remand was necessary for trial court to make sufficient factual findings for the Supreme Court to rule on the question of whether fees imposed by State Water Resources Control Board (SWRCB) on appropriative right permit or license holders, as imposed, were reasonably proportional to the costs of the regulatory program as required to be “fees” exempt from constitutional supermajority vote requirement for taxes, in denying petitions for writ of mandate and ruling that the fees were valid regulatory fees. [West's Ann.Cal. Const. Art. 13A, § 3](#); [West's Ann.Cal.Water Code § 1525](#).

[2 Cases that cite this headnote](#)

[23] Taxation

[Distinguishing “tax” and “license” or “fee”](#)

Water Law

[Powers, proceedings and review](#)

Water Law

[Terms and Conditions of Permit](#)

Water Code provision requiring the State Water Resources Control Board (SWRCB) to adopt a schedule of annual fees to be paid by each appropriative right permit or license holder was not an unconstitutional “new ad valorem tax on real property” on its face, since it did not explicitly impose a tax, even though the fees were deposited in the Water Rights Fund along with fees from other sources, where the fees were linked to activities the SWRCB's Division of Water Rights performed. [West's Ann.Cal. Const. Art. 13A, § 3](#); [West's Ann.Cal.Water Code § 1525\(a\)](#).

[2 Cases that cite this headnote](#)

[24] Taxation

[United States entities, property, and securities](#)

Under principles of sovereign immunity, the federal government is immune from state taxation absent its consent.

[Cases that cite this headnote](#)

[25] Indians

[Water Rights and Management](#)

Water Law

[Powers, proceedings and review](#)

Water Law

[Terms and Conditions of Permit](#)

When a private contractor's use of United States property may be taxed, federal law permits the State Water Resources Control Board's (SWRCB) practice of allocating annual fees on appropriative rights held by federal or tribal obligees that claim sovereign immunity to persons or entities that have water delivery contracts with the obligees, but the allocation is limited to the extent the contractor has beneficial or possessory use of the property. [West's Ann.Cal.Water Code §§ 1525\(a\), 1540, 1560](#).

[Cases that cite this headnote](#)

[26] Water Law

[Powers, proceedings and review](#)

Water Law

[Terms and Conditions of Permit](#)

The Water Code provision requiring the State Water Resources Control Board (SWRCB) to adopt a schedule of annual fees to be paid by each appropriative right permit or license holder does not improperly impose the fees on water rights of the United States in violation of sovereign immunity, where the statute includes an exception for cases where SWRCB determines that the payer “will not pay the fee based on the fact that the fee payer has sovereign immunity under” the state statute providing that the fees apply to the United States “to the extent authorized under” federal law. [West's Ann.Cal.Water Code §§ 1525\(a\), 1540, 1560](#).

Cases that cite this headnote

[27] Taxation

🔑 Distinguishing “tax” and “license” or “fee”

When conducting a Supremacy Clause analysis, federal courts do not distinguish between fees and taxes. [U.S.C.A. Const. Art. 6, cl. 2.](#)

Cases that cite this headnote

[28] Constitutional Law

🔑 Sewer, water, and drains

Constitutional Law

🔑 Water, sewer, and irrigation

Indians

🔑 Validity

Water Law

🔑 Statutory provisions

Water Law

🔑 Terms and Conditions of Permit

The statutes providing that if a federal or tribal obligee asserts sovereign immunity against annual fees to be paid by appropriative right permit or license holders, the State Water Resources Control Board (SWRCB) may allocate the fee, or a portion of the fee, to persons or entities that have water delivery contracts with the obligee, does not facially violate state and federal rights to equal protection and due process. [U.S.C.A. Const.Amend. 14](#); [West's Ann.Cal.Const. Art. 1, §§ 7\(a\), 15](#); [West's Ann.Cal.Water Code §§ 1525\(a\), 1540, 1560.](#)

Cases that cite this headnote

[29] Taxation

🔑 United States entities, property, and securities

To successfully defend a Supremacy Clause challenge to a tax on persons or entities that contract with the federal government, the taxing authority must segregate and tax only

the beneficial or possessory interest in the property. [U.S.C.A. Const. Art. 6, cl. 2.](#)

Cases that cite this headnote

[30] Water Law

🔑 Powers and authority

Water Law

🔑 Contracts between federal government and local districts or associations

A fair determination of federal water delivery contractors' taxable beneficial interest in appropriative water rights held by the federal government would include consideration of the system that supports and ensures the delivery of the amount of water contracted, less any amounts used for hydroelectric generation, but not limited to the amount of water contracted for delivery. [West's Ann.Cal.Water Code §§ 1525\(a\), 1540, 1560.](#)

Cases that cite this headnote

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Opinion

[CORRIGAN, J.](#)

428** *117** The California Constitution provides that any act to increase taxes must be passed by a two-thirds vote of the Legislature.¹ On the other hand, statutes that create or raise regulatory fees need only *****43** the

assent of a simple majority.² In 2003, the Legislature passed amendments to the Water Code³ by a 53 percent majority. Current [section 1525](#) was enacted as part of these amendments. The threshold issue here is whether [section 1525, subdivision \(a\)](#) imposes a tax or a fee. We hold that the amendments and [section 1525](#) do not explicitly impose a tax and, therefore, are not facially unconstitutional. However, because the record is unclear as to whether the fees were reasonably apportioned in terms of the regulatory activity's costs and the fees assessed, we direct the Court of Appeal to remand the matter to the trial court to make these findings.

A second issue is whether the Water Code amendments, or their implementing regulations, violate the supremacy clause of the United States Constitution by over-assessing the beneficial interests of those who hold contractual rights to delivery of water from the federally administered Central Valley Project (hereafter, the federal contractors). We conclude that the statutes are not facially unconstitutional. We further determine that the constitutionality of the implementing regulations depends on whether they fairly assess and apportion the federal contractors' beneficial interests. However, because of conflicting factual assertions and an unclear record concerning the extent and value of those interests, we also direct remand to the trial court for findings on this issue.

I. FACTUAL AND PROCEDURAL

BACKGROUND⁴

[1] [2] [3] The State Water Resources Control Board (SWRCB or Board) is responsible for the “orderly and efficient administration of ... water resources” and exercises “adjudicatory and regulatory functions of the state.” (§ 174.) The water in California belongs to the people, but the right to *use* water may be acquired as provided by law. (§§ 102, 1201.) The SWRCB's Division of ***429** Water Rights (Water Rights Division or Division)⁵ administers ****118** the water rights program, but its authority is limited. The SWRCB regulates all appropriative water rights acquired since 1914. An appropriative right is the right to take water from a watercourse that does not run adjacent to a landowner's property. Since 1914, all appropriative rights have been acquired through a system of permits and licenses⁶ *****44** that the SWRCB or its predecessor state entities have issued. Before 1914, appropriative rights were

acquired under common law principles or earlier statutes. The Water Rights Division has no permitting or licensing authority over riparian⁷ or pueblo⁸ rights, or over appropriative rights acquired before 1914. The SWRCB does have authority to prevent illegal diversions and to prevent waste or unreasonable use of water, regardless of the basis under which the right is held. (§ 275.) Riparian, pueblo, and pre-1914 appropriative rights account for 38 percent of currently held water rights.

Rights regulated under SWRCB licenses and permits include about 40 percent of state water subject to water rights. The federal government holds the remaining 22 percent of water rights. The United States Bureau of Reclamation (Bureau of Reclamation or Bureau) holds the permits and licenses to, and operates, the Central Valley Project (CVP or Project.) The ***430** Project diverts and stores water from numerous sources.⁹ The Bureau contracts out the responsibility to control, distribute, and use water under the permits it holds. However, these federal contracts involve use of less than 6 percent of the water over which the Bureau holds rights. The remaining water is diverted and stored by the Bureau for hydroelectric, wildlife and other purposes.

Historically, the operation of the Water Rights Division was supported by the state's general fund (General Fund), with only 0.5 percent of costs covered by fees. In 2003, the Legislative Analyst recommended that the Division's operating costs be shifted from the General Fund and covered instead by user fees imposed on permit and license holders.¹⁰ The SWRCB strongly opposed the recommendation. The SWRCB pointed out that its authority to impose fees did not extend to those holding water rights that were not based on its permits and licenses. While riparian, pueblo, and pre-1914 rights (collectively, RPP rights) are protected by conditions in new (post-1914) permits and through the Water Rights Division's enforcement *****45** of activity, the Division did not have authority to impose fees on those RPP rights holders. As noted, the RPP holders comprise 38 percent of water rights holders in California. The SWRCB argued that while ****119** permit and license holders should pay their share, proportional fees on them could not cover the total cost of the Division's operation. Additionally, as explained in greater detail below, the federal Bureau of Reclamation and Indian tribes resist paying fees, relying on the principle of sovereign immunity.

These difficulties notwithstanding, the Legislature adopted the Legislative Analyst's recommendation and passed Senate Bill No. 1049 (2003–2004 Reg. Sess.), repealing certain sections of the Water Code and enacting [sections 1525–1560](#). Together, these statutes are designed to make the Water Rights Division entirely fee supported.

A. The Fee Legislation

We begin with a summary of the relevant statutes.

***431 Section 1525**

[Section 1525](#) sets forth the parties and entities subject to the new fees.¹¹ *****46 Section 1525, subdivision (a)** requires the SWRCB to adopt a schedule of *annual fees* to be paid by each permit or license holder. This group does not include riparian, pueblo, or pre-1914 rights holders. [Subdivision \(b\) of section 1525](#) requires the SWRCB to establish the schedule for a *one-time *432 application fee* for permits to appropriate water, for approval of leases, and for petitions relating to those applications.

[Section 1525, subdivision \(c\)](#) provides that the SWRCB “shall set the fee schedule authorized by this section so that the total amount of fees collected pursuant to this section equals that amount necessary to recover costs” of the Division's activities. Subdivision ****120 (c)** sets out “recoverable costs” in substantial detail but the costs recoverable are “not limited to” those activities identified. ([§ 1525, subd. \(c\)](#).) Subdivision (d)(3) similarly requires the SWRCB to “set the amount of total revenue collected each year through the fees authorized by this section at an amount equal to the revenue levels set forth in the annual Budget Act for this activity.” ([§ 1525, subd. \(d\)\(3\)](#).)

In other words, the statute requires that the total budgeted cost of the Division's operations be recovered from the fees. The SWRCB is to review and revise the fees each year as necessary, to ensure they conform with the revenue levels set in the annual budget act (Budget Act). If the revenue collected during the preceding year is either greater or less than the revenue levels set forth in the Budget Act, the SWRCB may adjust the annual fees to compensate for the disparity. ([§ 1525, subd. \(d\)\(3\)](#).) The SWRCB is also authorized to adopt “emergency regulations” to implement the fee schedule. ([§ 1525, subd. \(d\)\(1\)](#).)

Section 1537

Section 1537 generally covers collection. While the Board sets the fees, the money is actually collected by the Board of Equalization (BOE). The BOE collects and refunds annual fees collected under the Fee Collection Procedures Law, part of the Revenue and Taxation Code, as limited by subdivision (b)(2) through (4) of section 1537. The BOE has no role in reviewing refund claims under section 1537 or the emergency regulations.

Sections 1540 and 1560

Section 1540 concerns the allocation of annual fees to federal contractors. **Section 1560** sets out the options that may be pursued when the federal Bureau of Reclamation or an Indian tribe declines to pay a fee by relying on sovereign immunity.¹² ***47 As relevant here, the federal government and Indian tribes are the entities eligible to assert sovereign immunity.

***433 Sections 1550, 1551, and 1552**

Sections 1550 and **1551** establish the Water Rights Fund, into which the BOE must deposit fees collected on behalf of the SWRCB. The Water Rights Fund is separate from the General Fund. Money in the Water Rights Fund may be used only for purposes set out in **section 1552**, which includes SWRCB expenditures necessary to carry out the work of the Water Rights Division, BOE expenditures in connection with collecting the SWRCB fees, and the payment of refunds. (§ 1552.)

B. The Emergency Regulations

To implement **section 1525's** fee requirement, the SWRCB adopted **121 **California Code of Regulations, title 23, sections 1066** and **1073** (regulation 1066 and regulation 1073). These regulations set formulas to calculate annual fees for permit and license holders, and for the federal contractors. Fees for issuance, supervision, and modification of permits and licenses, i.e., the revenue-producing activities now required to cover the entire cost of the Division's operations, were to be paid by the permit and license holders regulated by the SWRCB. No money would come from the General Fund. The Court of Appeal explained the difficulty the SWRCB had in setting the fees: "First, the SWRCB had to raise \$4.4 million immediately to cover the cost of the water rights program in the second half of the 2003–2004 fiscal year. Second, the funding

source had to be 'relatively stable.' Third, because of time constraints, SWRCB had to rely on its existing data base in *434 calculating the amount of fees to be assessed. Fourth, although it cost SWRCB between \$17,000 and \$20,000 to process an application to appropriate water, SWRCB expected people would not seek SWRCB services if the one-time service fees were too high. Fifth, because most persons and entities subject to the annual fee held permits or licenses for less than 10 acre-feet of water, [13] a minimum fee was necessary to cover the cost of sending out the fee bills. Sixth, SWRCB anticipated that 40 percent of the water right permit and license holders would refuse to pay annual fees. Seventh, the SWRCB did not have permitting authority over certain holders of water rights (specifically the holders of riparian, pueblo and pre–1914 appropriative rights) amounting to approximately 38 percent of the water diverted in the state."

*****48 C. Annual Fee Formula for Post–1914 Permit and License Holders**

Regulation 1066 applies to post–1914 permit and license holders. Regulation 1066, subdivision (a)¹⁴ set the minimum annual fee as the greater of \$100, or \$.03 for each acre-foot based on the total annual amount of diversion authorized by the permit or license.

To determine the annual fees, the Board started with the \$4.4 million budget amount and assumed it would be unable to collect 40 percent of billings from water right holders who claimed sovereign immunity or who refused to pay their bills. It divided the \$4.4 million mandated by the Legislature by 0.6 to account for the estimated 40 percent non-collection rate. This increased its targeted revenue to approximately \$7 million.

D. Annual Fee Formula for Federal Contractors

Regulation 1073, which implemented the provisions of **Water Code sections 1540** and **1560**, addressed rights held by the Bureau of Reclamation, but contracted out to federal contractors. Regulation 1073, subdivision (b)(2) applied a formula to calculate the annual fee imposed on those contractors "[i]f the [Bureau of Reclamation] decline[d] or [was] likely to decline to pay the fee or expense ... for the [Central Valley Project]." In general, regulation 1073 assessed annual fees against contractors based on a prorated portion of the total amount of annual fees associated with all Bureau permits and licenses,

rather than the portion available under the terms of their contracts.

*435 E. Proceedings Below

In January 2004, the BOE sent fee notices to the [section 1525](#) permit and license holders and to the federal contractors. The Budget Act set a target of \$4.4 million in fee revenue because the balance for the first half of 2003–2004 was paid from General Fund revenue. \$7.4 million in water rights fees was collected for fiscal year 2003–2004. The imposition of water rights fees was challenged **122 by several groups of plaintiffs representing various water rights holders.¹⁵

Plaintiffs sought declaratory and injunctive relief and a writ of mandate. They alleged that the statutory scheme adopted by the Legislature and the emergency regulations adopted to implement the scheme were unconstitutional both on their face and as applied. The trial court denied the writ of mandate, ruling that the money collected constituted valid regulatory fees, ***49 rather than taxes. It also rejected plaintiffs' other constitutional claims.

The Court of Appeal reversed in part, holding that [section 1525](#) was constitutional on its face, but that “as applied” under the emergency regulations, it imposed illegal levies. It remanded the matter to the trial court with instructions that it “(1) stay further proceedings before the SWRCB and/or BOE until the SWRCB adopts new fee schedule formulas and a procedure for calculating refunds if any; (2) order the SWRCB to adopt valid fee schedule formulas within 180 days of the finality of this opinion; (3) order the SWRCB to determine the amount of annual fees improperly assessed under regulations 1066 and 1073 for the 2003–2004 fiscal year and establish a procedure for calculating refunds, if any, due within 180 days of the finality of this opinion; and (4) order the Board of Equalization, through the SWRCB, to refund any annual fees unlawfully collected to fee payers who filed timely petitions for reconsideration with the SWRCB....”¹⁶

*436 II. DISCUSSION

A. Standard of Review

Whether [section 1525](#) imposes a tax or a fee is a question of law decided upon an independent review of the record. (*Sinclair Paint Co. v. State Bd. of Equalization* (1997)

[15 Cal.4th 866, 874, 64 Cal.Rptr.2d 447, 937 P.2d 1350 \(Sinclair Paint \).](#))

[4] [5] [6] The plaintiff challenging a fee bears the burden of proof to establish a prima facie case showing that the fee is invalid. (See *Sea & Sage Audubon Society, Inc. v. Planning Com.* (1983) 34 Cal.3d 412, 421, 194 Cal.Rptr. 357, 668 P.2d 664; *Sargent Fletcher, Inc. v. Able Corp.* (2003) 110 Cal.App.4th 1658, 1668, 3 Cal.Rptr.3d 279 (*Sargent Fletcher*).) In other words, the plaintiff bears the burden of proof¹⁷ “with respect to all facts essential to its claim for relief.” (*Homebuilders Assn. of Tulare/Kings Counties, Inc. v. City of Lemoore* (2010) 185 Cal.App.4th 554, 562, 112 Cal.Rptr.3d 7; see *Evid.Code*, § 500.) The plaintiff “must present evidence sufficient to establish in the mind of the trier of fact or the court a requisite degree of belief (commonly proof by a preponderance of the evidence). [Citation.] The burden of proof *does not shift* ... it remains with the party who originally bears it.” (*Sargent Fletcher, supra*, 110 Cal.App.4th at p. 1667, 3 Cal.Rptr.3d 279, original italics.)

[7] [8] This burden of persuasion is different from the “burden of producing evidence” (see *Evid.Code*, § 110), which may shift between the parties.¹⁸ “[T]he burden of producing **123 evidence as to a particular fact rests on the party with the burden of proof as to that fact. [Citations.] If that party fails to produce sufficient evidence to make a prima facie case, it risks nonsuit or other unfavorable determination. [Citations.] But once that party produces evidence sufficient to make its prima facie case, the burden of producing evidence *shifts* to the other party to refute the prima facie case.” (*Sargent Fletcher, supra*, 110 Cal.App.4th at pp. 1667–1668, 3 Cal.Rptr.3d 279, original italics.)

***50 [9] Thus, once plaintiffs have made their prima facie case, the state bears the burden of production and must show “ ‘(1) the estimated costs of the *437 service or regulatory activity, and (2) the basis for determining the manner in which the costs are apportioned, so that charges allocated to a payor bear a fair or reasonable relationship to the payor's burdens on or benefits from the regulatory activity.’ ” (*Sinclair Paint, supra*, 15 Cal.4th at p. 878, 64 Cal.Rptr.2d 447, 937 P.2d 1350; see *California Assn. of Prof. Scientists v. Department of Fish & Game* (2000) 79 Cal.App.4th 935, 945, 94 Cal.Rptr.2d 535 (*Prof. Scientists*).)

B. Valid Fee or Invalid Tax?

Facial challenge

[10] Plaintiff Farm Bureau contends that [section 1525](#)'s annual fee requirement is unconstitutional on its face because it imposes a tax, not a valid regulatory fee.¹⁹ We reject this contention.

[California Constitution, article XIII A, section 3](#) requires that “any changes in state taxes enacted for the purpose of increasing revenues” be approved by a two-thirds majority of the Legislature. Senate Bill No. 1049 (2003–2004 Reg. Sess.) passed the Legislature with only a 53 percent majority. Thus, if the amount charged under [section 1525](#) is a tax, it is invalid. If it is a regulatory fee, it is not subject to the supermajority requirement.

[11] [12] We have recognized that “ ‘tax’ has no fixed meaning, and that the distinction between taxes and fees is frequently ‘blurred,’ taking on different meanings in different contexts. [Citations.]” (*Sinclair Paint, supra*, 15 Cal.4th at p. 874, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Ordinarily taxes are imposed for revenue purposes and not “in return for a specific benefit conferred or privilege granted. [Citations.] Most taxes are compulsory rather than imposed in response to a voluntary decision to develop or to seek other government benefits or privileges. [Citations.] But compulsory fees may be deemed legitimate fees rather than taxes. [Citation.]” (*Ibid.*)

[13] In contrast, a fee may be charged by a government entity so long as it does not exceed the reasonable cost of providing services necessary to regulate the activity for which the fee is charged. A valid fee may not be imposed for unrelated revenue purposes. (*Sinclair Paint, supra*, 15 Cal.4th at p. 876, 64 Cal.Rptr.2d 447, 937 P.2d 1350; *Pennell v. City of San Jose* (1986) 42 Cal.3d 365, 375, 228 Cal.Rptr. 726, 721 P.2d 1111.)²⁰

[14] [15] [16] [17] [18] [19] *438 The scope of a regulatory fee is somewhat flexible and is related to the overall purposes of the regulatory governmental action. “ ‘A regulatory fee may be imposed under the police power when the fee constitutes an amount necessary to carry out the purposes and provisions of the regulation.’ [Citation.] ‘Such costs ... include all those incident to the issuance of the license or permit, investigation, inspection, administration, maintenance of

a system of supervision and enforcement.’ [Citation.] Regulatory fees are valid despite the absence of any perceived ‘benefit’ accruing to the fee payers. [Citation.] Legislators ‘need only apply sound judgment and consider “probabilities according to the best honest viewpoint of informed officials” in determining the amount of the ***51 regulatory fee.’ [Citation.]” (*Prof. Scientists, supra*, 79 Cal.App.4th at p. 945, 94 Cal.Rptr.2d 535.) “Simply because a fee exceeds **124 the reasonable cost of providing the service or regulatory activity for which it is charged does not transform it into a tax.” (*Barratt American, Inc. v. City of Rancho Cucamonga* (2005) 37 Cal.4th 685, 700, 37 Cal.Rptr.3d 149, 124 P.3d 719.) A regulatory fee does not become a tax simply because the fee may be disproportionate to the service rendered to individual payors. (*Brydon v. East Bay Mun. Utility Dist.* (1994) 24 Cal.App.4th 178, 194, 29 Cal.Rptr.2d 128.) The question of proportionality is not measured on an individual basis. Rather, it is measured collectively, considering all rate payors. (*Prof. Scientists, supra*, 79 Cal.App.4th at p. 948, 94 Cal.Rptr.2d 535.)

[20] Thus, permissible fees must be related to the overall cost of the governmental regulation. They need not be finely calibrated to the precise benefit each individual fee payor might derive. What a fee cannot do is exceed the reasonable cost of regulation with the generated surplus used for general revenue collection. An excessive fee that is used to generate general revenue becomes a tax.

Reference to the statutory language reveals a specific intention to avoid imposition of a tax. By its terms, [section 1525](#) permits the imposition of fees only for the costs of the functions or activities described, and not for general revenue purposes. [Section 1525, subdivision \(c\)](#) carefully sets out that the fees imposed shall relate to costs linked to issuing, monitoring, enforcing and administering licenses and permits, and lists the recoverable costs in some detail. [Section 1551](#) directs that the fees collected be deposited in the Water Rights Fund, not in the General Fund. [Section 1552](#) describes the *439 purposes for which the money in the Water Rights Fund may be expended.²¹ Although the fees set forth in [section 1551](#) come from various sources, including some that do not involve the services described in [section 1525](#),²² it cannot be argued that the fees are excessive just because ***52 [sections 1551](#) and [1552](#) list a variety of revenues to be deposited in the Water Rights Fund.

Section 1552 does not describe how the various revenues deposited in the Water Rights Fund should be allocated. However, no statutory language precludes the segregation and application of collected fees to fund services described in that section.²³

[21] Section 1525 does not require the SWRCB to collect anything more than the administrative “costs incurred” in carrying out the functions authorized in its subdivisions (a), (b) and (c). Also, section 1525, subdivision (c) directs the SWRCB to set the fee schedules so that the “total amount of **125 fees collected ... equals that amount necessary to recover costs incurred in connection with” the Division's administration of the provisions of subdivisions (a) and (b). Similarly, section 1525, subdivision (d)(3) requires the SWRCB to “set the amount of total revenue collected each year through the fees authorized by this section at an amount equal to the revenue levels *440 set forth in the annual Budget Act *for this activity*.” (Italics added.) Although the “activity” subject to fees under this section could represent all of the Division's activities, the Court of Appeal correctly noted, “[T]here is nothing in the ‘total amount’ or ‘total revenue’ provisions of subdivisions (c) and (d) that requires the SWRCB to set the fees so as to collect anything more than the administrative ‘costs incurred’ in carrying out the permit functions authorized in subdivisions (a), (b) and (c).” Also, there is a safeguard in subdivision (d)(3) authorizing the SWRCB to “further adjust the annual fees” if it “determines that the revenue collected during the preceding year was greater than, or less than, the revenue levels set forth in the annual Budget Act....” (§ 1525, subd. (d)(3).) Thus, the fees charged under section 1525 are linked to the activities the Division performs.

“As applied” challenge

Plaintiffs also contend section 1525 is unconstitutional as applied through the fee schedule in regulation 1066 because the fees are so disproportionate that they are unreasonable. Central to the resolution of this issue is an understanding of the extent and costs of the Division's regulatory “activity.” (§ 1525, subd. (d)(3).) The parties diverge in their approach.

As noted, on its face the statutory scheme appears simply to permit the recovery of costs the SWRCB incurs in annual supervision of water usage and the processing of applications for new or modified rights. However,

plaintiffs argue the following: (1) While the Division engages in a variety of activities that benefit all water rights holders, and the general public, it is only authorized to impose fees on 40 percent of rights holders. (2) Because the statutory scheme requires that 100 percent of the Division's annual budget must be recovered through fees, the result is that 40 percent of rights holders are charged for the entire cost of operations that benefit all rights holders and the public at large. This disparity is brought to bear not on the face of the statutes, but in the regulations authorizing fee collection. Plaintiffs claim the regulations impose unreasonable fees because they are so disproportionate to the benefit derived by the fee payors or the burden they place on the regulatory system. (See *Sinclair Paint, supra*, 15 Cal.4th at p. 878, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Therefore, plaintiffs contend the fees operate as a tax and are unconstitutional because the authority for ***53 their imposition was not approved by a two-thirds vote of the Legislature.

On the other hand, the SWRCB claims that the fees are proportional and that plaintiffs' focus on the benefits of the regulatory program is misplaced. It argues that the broad benefits of the program must be distinguished from its costs. The Board contends that it can allocate the majority of its regulatory costs to persons subject to the water rights permit and license system because *441 its costs flow primarily from the administration of that permit and license system. It acknowledges that the benefits that result from the regulation of permits and licenses may be characterized as benefits not only to permit and license holders, but also to the general public, and other water rights holders not subject to its fee system. But, the Board argues, that does not alter the fact that its costs are largely due to its oversight and administration of the permit and license system and not the regulation of the public or other water rights holders. The Board claims that some 95 percent of its time and expense are directed toward servicing and regulating those licensees and permittees against whom the challenged fees were assessed. As we explain below, however, the trial court made no findings on this claim.

In weighing these arguments, we look to our decision in *Sinclair Paint, supra*, 15 Cal.4th at page 866, 64 Cal.Rptr.2d 447, 937 P.2d 1350. There, the plaintiff challenged the fee in question on the basis that the fee was not regulatory in nature, but rather was **126 aimed at raising revenue.²⁴ We acknowledged that “the term

'special taxes' ... ' "does not embrace fees charged in connection with regulatory activities which fees do not exceed the reasonable cost of providing services necessary to the activity for which the fee is charged and which are not levied for unrelated revenue purposes." [Citations.]' " (*Sinclair Paint, supra*, 15 Cal.4th at p. 876, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) We held that the fee in question was a regulatory fee and not a tax because it was "imposed ... to mitigate the actual or anticipated adverse effects of the fee payers' operations." (*Id.* at p. 870, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Thus, in *Sinclair Paint*, to determine the tax or fee issue, we directed courts to examine the costs of the regulatory activity and determine if there was a reasonable relationship between the fees assessed and the costs of the regulatory activity. (*Id.* at pp. 870, 878, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)²⁵

[22] Thus, the question revolves around the scope and the cost of the Division's regulatory activity and the relationship between those costs and the fees imposed. It is further complicated by the fact that not all those who hold water rights are required to pay the fee. Unfortunately, the record before us is insufficient to resolve the "tax or fee" question. The trial court's order lacks sufficient factual findings for us to determine whether the fees, as imposed, were reasonably proportional to the costs of the regulatory program. In fact, at the hearing on plaintiffs' motion for a peremptory writ of mandate, ***54 the trial court stated it did not believe it was required to make detailed findings.

*442 We have previously noted that "[i]t has long been the general rule and understanding that 'an appeal reviews the correctness of a judgment as of the time of its rendition, upon a record of matters which were before the trial court for its consideration.' [Citation.] This rule reflects an 'essential distinction between the trial and the appellate court ... that it is the province of the trial court to decide questions of fact and of the appellate court to decide questions of law....' [Citation.] The rule promotes the orderly settling of factual questions and disputes in the trial court, provides a meaningful record for review, and serves to avoid prolonged delays on appeal." (*In re Zeth S.* (2003) 31 Cal.4th 396, 405, 2 Cal.Rptr.3d 683, 73 P.3d 541.) Here, the trial court erred by failing to provide a sufficient record to rule on the question of law. Accordingly, this matter must be remanded. The trial court is directed to make detailed findings focusing on the Board's evidentiary showing that the associated costs of

the regulatory activity were reasonably related to the fees assessed on the payors. (*Sinclair Paint, supra*, 15 Cal.4th at p. 870, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Of course, plaintiffs are free to renew their claim that the fees assessed exceeded the reasonable cost of the Division's services. (*Id.* at p. 881, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)²⁶

The trial court's findings should include whether the fees are reasonably related to the total budgeted cost of the Division's "activity" (see § 1525, subd. (c)), keeping in mind that a government agency should be accorded some flexibility in calculating the amount and distribution of a regulatory fee. Focusing on the activity and its associated costs will allow the trial court to determine whether the assessed fees were reasonably proportional and thus not a tax. (*Sinclair Paint, supra*, 15 Cal.4th at p. 870, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) The court must determine whether the statutory scheme and its implementing regulations provide a fair, **127 reasonable, and substantially proportionate assessment of all costs related to the regulation of affected payors.

C. Ad Valorem Real Property Tax

Plaintiffs Northern California Water Association and Central Valley Water Project Association contend that section 1525 imposes an unconstitutional "new ad valorem tax[] on real property." As these parties observe, Proposition 13 prohibits this particular category of new taxes, regardless of legislative approval. (Cal. Const., art. XIII A, § 3.)

[23] The gravamen of the contention is that the water rights obtained through the Division's permits and licenses are interests in real property, and that the license and permit charges imposed under section 1525 are thus taxes *443 improperly based on the ownership of real property interests. However, we have determined above that section 1525 does not, on its face, impose a tax, as opposed to a regulatory fee unaffected by Proposition 13. A fortiori, the face of the statute assesses no new "ad valorem tax[] on real property."

***55 Any further consideration of the ad valorem real property tax issue is premature. We have deemed it necessary to remand for further evidence and findings whether the specific system of charges developed by the SWRCB under the authority of section 1525, subdivision (a) imposes taxes, rather than fees. If the remand leads to

the conclusion that the charges are valid fees, not taxes, it will follow that they do not constitute ad valorem taxes on real property.

On the other hand, if the remand results in a conclusion that the current charges are taxes, not fees, those taxes will be unconstitutional under Proposition 13, whether or not they are “ad valorem taxes on real property” (Cal. Const., art. XIII A, § 3), because they were authorized by less than a two-thirds legislative vote (*ibid.*). Accordingly, we express no further views on this subject.

D. Federal Contractors

Facial challenge

[24] These same plaintiffs also contend that sections 1540 and 1560 are unconstitutional on their face because they violate the supremacy clause of the United States Constitution. (See *McCulloch v. Maryland* (1819) 17 U.S. (4 Wheat.) 316, 425–437, 4 L.Ed. 579.) Under established principles of sovereign immunity, the federal government is immune from state taxation absent its consent. (See *Davis v. Michigan Dept. of Treasury* (1989) 489 U.S. 803, 812–813, 109 S.Ct. 1500, 103 L.Ed.2d 891.)

Section 1540 provides in relevant part: “If the board determines that the person or entity on whom a fee or expense is imposed will not pay the fee ... based on the fact that the fee payer has sovereign immunity under Section 1560, the board may allocate the fee or expense, or an appropriate portion of the fee or expense, to persons or entities who have contracts for the delivery of water from the person or entity on whom the fee or expense was initially imposed. The allocation of the fee or expense to these contractors does not affect ownership of any permit, license, or other water right, and does not vest any equitable title in the contractors.”

Section 1560 states that the fees imposed under section 1525 apply to the United States and Indian tribes “to the extent authorized under federal *444 or tribal law.” (§ 1560, subd. (a).) Also, section 1560, subdivision (b)(2) provides that the SWRCB should allocate the fees as provided in section 1540 should the United States or an Indian tribe refuse to pay them.

[25] [26] [27] Thus, the plain language of section 1540 provides that if a federal or tribal obligee asserts sovereign immunity under section 1560, the SWRCB

may allocate the fee, or a portion of the fee, to persons or entities that have water delivery contracts with the obligee. This practice is permitted under federal law when a private contractor's use of United States property may be taxed.²⁷ But the allocation is limited to the extent the contractor has beneficial or possessory use of the property. (See *United States v. County of Fresno* (1977) 429 U.S. 452, 462, 97 S.Ct. 699, 50 L.Ed.2d 683 (*County of Fresno*); *United States v. Nye County Nevada* (9th Cir.1991) 938 F.2d 1040, 1042–1043 **128 (*Nye County*); *United States v. Hawkins County, Tennessee* (6th Cir.1988) 859 F.2d 20, 23 (*Hawkins County*).)²⁸ We reject ***56 the contention that the statutory scheme imposes the fees on water rights of the United States and not the private contractors. Clearly, any attempt to impose fees on the federal government would be resisted on sovereign immunity grounds.

[28] Accordingly, neither section 1540 nor section 1560 authorizes imposition of a fee that facially violates the supremacy clause or state and federal rights to equal protection and due process.

“As applied” challenge

We next address the implementing regulation. Under regulation 1073, the SWRCB assessed annual costs against the federal contractors, prorating among them the amount of annual fees associated with *all* the Bureau of Reclamation's permits and licenses—over 116 million acre-feet. However, while the Bureau holds all the permits and licenses, the contractors have contractual rights for water delivery over only 6.6 million acre-feet or about 5 percent of all rights held by the Bureau. The Court of Appeal held that regulation 1073 violated the supremacy clause because it required “the federal contractors to pay for the entire amount of annual fees that would otherwise be imposed on the Bureau.”

[29] *445 To successfully defend a supremacy clause challenge to a tax on persons or entities that contract with the federal government, the taxing authority must segregate and tax only the beneficial or possessory interest in the property. (See *County of Fresno, supra*, 429 U.S. at p. 462, 97 S.Ct. 699; *Nye County, supra*, 938 F.2d at pp. 1042–1043; *Hawkins County, supra*, 859 F.2d at p. 23.) Thus, although the SWRCB has the authority to impose regulatory costs on the federal contractors, it can do so only to the extent of the contractors' interest.

Regulation 1073's formula required the federal contractors to pay for the entire amount of annual costs that would be imposed on the Bureau of Reclamation despite the fact that their contractual rights represented a small proportion of the whole. Plaintiffs claim that the result is a disproportionate assessment of fees, thereby making regulation 1073 unconstitutional under the supremacy clause.²⁹ (*County of Fresno, supra*, 429 U.S. at p. 462, 97 S.Ct. 699.) They contend that the fees should be based on the amount of water they contracted to deliver.

The SWRCB counters that the imposition of the fee should not be limited to the amount of water actually deliverable under the federal contracts. The SWRCB argues that it correctly calculated the fees using the face value of the permitted and licensed water rights. The face value is the total annual amount of water diversion authorized by the federally held permit or license. The SWRCB argues that the amount of diversions authorized by the federally held permits and licenses generally exceeds the amount of the water delivery contracts. The difference between the amount available for diversion and the amount actually delivered is due to factors that include hydrological variation, the need to hold water in storage for future dry years, conveyance and evaporation losses, and water releases to mitigate for project impacts on fish and wildlife.

In addition, the SWRCB argues the following. The Bureau of Reclamation controls the CVP water under permits and licenses issued and regulated by the Water Rights Division. The water is held for two primary purposes: hydroelectric power generation and water supply. The SWRCB sought to apportion a fair share of the regulatory costs associated with these permits and licenses to those water users who benefit through their water delivery contracts with the Bureau. As a result, the SWRCB initially discounted the value of the permits and licenses by approximately 50 percent to account for hydroelectric power generation use, then allocated to the federal contractors a pro rata share of the regulatory costs to the remaining value of the Bureau's permits and licenses that related to water supply. Accordingly, the Board argues, these charges were reasonably calculated because they apportioned the Division's costs of administering the Bureau's permits and licenses, exclusive of those

costs related to hydroelectric generation, to the federal contractors who benefited from the receipt of the water.

[30] The SWRCB asserts that this is a fair apportionment of costs that withstands a supremacy clause challenge. It argues the federal contractors' beneficial interest is not properly valued by a simple calculation of the proportion of total CVP water the contractors are entitled to receive under their contracts. It claims that a fair determination of the federal contractors' beneficial interest must include consideration of the system that supports and ensures the delivery of the amount contracted, not just the amount of water contracted for delivery. Thus, the SWRCB proposes that the federal contractors have a taxable interest in the "face value" of the Bureau's water rights held under permits and licenses, less any amounts used for hydroelectric generation.

We agree with the SWRCB. However, again due to conflicting factual assertions and an inadequate record, we cannot determine how much of the total water in question is used to support the water delivered and can thus be allocated to the federal contractors' beneficial interest. Accordingly, we remand for the trial court to determine the contractors' beneficial interest and the value of that interest. The trial court shall make findings as to whether the Board has fairly evaluated the federal contractors' beneficial interest, such that water not actually under contract for delivery is fairly attributable to the value of the delivery contracts themselves.³⁰

DISPOSITION

We affirm the Court of Appeal's judgment holding that the fee statutes at issue are facially constitutional. However, the Court of Appeal's judgment is reversed as to its determination that the statutes and their implementing regulations are unconstitutional as applied. We remand this matter for the Court of Appeal to remand to the trial court for proceedings consistent with this opinion.

WE CONCUR: [KENNARD](#), Acting C.J., [BAXTER](#), [WERDEGAR](#), [CHIN](#), and [MORENO](#), JJ., and [GEORGE](#), J.*

Concurring Opinion by [MORENO](#), J.

I concur in the majority opinion. I write separately to offer these additional reflections on the “as applied” challenge to the fee as a tax.

*****58** A charge that is labeled a regulatory fee may indeed be a tax in disguise if “the amount of fees assessed and paid exceeded the reasonable cost of providing the [regulatory] services for which the fees were charged, or [if] the fees were levied for unrelated revenue purposes.” (*Sinclair Paint Co. v. State Bd. of Equalization* (1997) 15 Cal.4th 866, 881, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) Here, there is no allegation that the fees in question are being used for unrelated revenue purposes. Rather, it is contended that only 40 percent of water rights holders are being charged a fee that by right should be charged to all water rights holders, and therefore the fee is not sufficiently linked to the regulatory costs generated by those on whom the fee is imposed and constitutes a tax.

****130** Every government entity that imposes a regulatory fee must decide who should be subject to the fee and who should not. A number of factors may go into that decision, including assessments of the regulatory burdens imposed by the various actors and the administrative convenience of imposing the fee. As the majority states: “ ‘Legislators “need only apply sound judgment and consider ‘probabilities according to the best honest

viewpoint of informed officials’ in determining the amount of the regulatory fee.” [Citation.] ” (Maj. opn., *ante*, 121 Cal.Rptr.3d at pp. 50–51, 247 P.3d at p. 123.) So, too, legislators and regulators need only make reasonable decisions about who should be subject to a regulatory fee.

In the present case, the State Water Resources Control Board claims that “some 95 percent of its time and expense are directed toward servicing and regulating those licensees and permittees against whom the challenged fees were assessed.” (Maj. opn., *ante*, 121 Cal.Rptr.3d at p. 53, 247 P.3d at p. 125.) The support for this contention ***448** stems primarily from a document produced by the board on April 15, 2004, shortly after the present litigation commenced. Because of the uncertain reliability of this document, as well as the trial court's lack of findings, remand is appropriate to determine whether the board's decisions regarding who would be subject to the fee were reasonable.

I CONCUR: [WERDEGAR, J.](#)

All Citations

51 Cal.4th 421, 247 P.3d 112, 121 Cal.Rptr.3d 37, 11 Cal. Daily Op. Serv. 1429, 2011 Daily Journal D.A.R. 1698

Footnotes

- 1 [California Constitution, article XIII A, section 3](#), originally approved by initiative as Proposition 13, sometimes referred to as the “People's Initiative to Limit Property Taxation,” on June 6, 1978.
- 2 On November 2, 2010, the voters approved Proposition 26, which requires a two-thirds supermajority vote of the Legislature to pass certain fees. None of the parties have asserted that the law enacted by Proposition 26 applies to this case.
- 3 Hereafter, undesignated statutory references are to the Water Code.
- 4 The factual and procedural background is largely adopted from the Court of Appeal opinion.
- 5 The Division consists of three sections: permitting, licensing, and hearings and special projects. As noted by the Court of Appeal, “[t]he permitting section ‘processes water right applications, petitions to change terms in water right permits and water right licenses. Groundwater recordations, [and] statements of water diversion and use, which are a recordation function [*sic.*]...’ The licensing section enforces existing permits and licenses and handles work associated with licensing a permit. The hearings and special projects section assists the SWRCB with various types of administrative hearings, reviews environmental documents filed in support of water rights applications and petitions, assists with the implementation of the Bay–Delta Water Quality Control Plan, and certifies water quality....” Although the SWRCB has other divisions in its organization, we are concerned only with the Water Rights Division.
- 6 Anyone seeking to obtain an appropriative water right files an application with the SWRCB (§ 1225 *et seq.*), which issues a water right permit. (§ 1380 *et seq.*) Beneficial use of water perfected under this post–1914 statutory scheme is confirmed by a license issued by the SWRCB. (§§ 1605, 1610.) The license is, in effect, a title or deed to the water right and is recorded in the county in which the diversion takes place. (§ 1650.)

- 7 Under the common law riparian doctrine, a person owning land bordering a stream has the right to reasonable and beneficial use of water on his or her land. (*People v. Shirokow* (1980) 26 Cal.3d 301, 307, 162 Cal.Rptr. 30, 605 P.2d 859 (*Shirokow*).) A riparian owner must share the right to use water with other riparian owners. (See *Harris v. Harrison* (1892) 93 Cal. 676, 681, 29 P. 325.)
- 8 “The pueblo water right—a distinctive feature of California water law—is the paramount right of an American city as successor of a Spanish or Mexican pueblo (municipality) to the use of water naturally occurring within the old pueblo limits for the use of the inhabitants of the city.” (Hutchins, *The Cal. Law of Water Rights* (1956) p. 256.)
- 9 “In 1933, primarily to control flooding in the Central Valley, the California Legislature approved the Central Valley Project (CVP), which is the nation’s largest water reclamation project and California’s largest water supplier. [Citation.] Originally a state project, the CVP was turned over to the federal Bureau of Reclamation, which operates the CVP under rights granted by the SWRCB.” (*In re Bay–Delta etc.* (2008) 43 Cal.4th 1143, 1154, 77 Cal.Rptr.3d 578, 184 P.3d 709, fn. omitted.) To achieve its purposes, “[t]he CVP operates 21 reservoirs, 11 power plants, and 500 miles of major canals and aqueducts.” (*Id.* at p. 1154, fn. 1, 77 Cal.Rptr.3d 578, 184 P.3d 709.)
- 10 The proposal called for General Fund support for the first half of the 2003–2004 fiscal year with fee increases covering the second half of the year. Thereafter, total Water Rights Division operations would be fee supported.
- 11 In relevant part, section 1525 provides:
- “(a) Each person or entity who holds a permit or license to appropriate water, and each lessor of water leased under Chapter 1.5 (commencing with Section 1020) of Part 1, shall pay an annual fee according to a fee schedule established by the board.
- “(b) Each person or entity who files any of the following shall pay a fee according to a fee schedule established by the board:
- “(1) An application for a permit to appropriate water.
- “(2) A registration of appropriation for a small domestic use or livestock stockpond.
- “(3) A petition for an extension of time within which to begin construction, to complete construction, or to apply the water to full beneficial use under a permit.
- “(4) A petition to change the point of diversion, place of use, or purpose of use, under a permit or license.
- “(5) A petition to change the conditions of a permit or license, requested by the permittee or licensee, that is not otherwise subject to paragraph (3) or (4).
- “(6) A petition to change the point of discharge, place of use, or purpose of use, of treated wastewater, requested pursuant to Section 1211.
- “(7) An application for approval of a water lease agreement.
- “(8) A request for release from priority pursuant to Section 10504.
- “(9) An application for an assignment of a state-filed application pursuant to Section 10504.
- “(c) The board shall set the fee schedule authorized by this section so that the total amount of fees collected pursuant to this section equals that amount necessary to recover costs incurred in connection with the issuance, administration, review, monitoring, and enforcement of permits, licenses, certificates, and registrations to appropriate water, water leases, and orders approving changes in point of discharge, place of use, or purpose of use of treated wastewater. The board may include, as recoverable costs, but is not limited to including, the costs incurred in reviewing applications, registrations, petitions and requests, prescribing terms of permits, licenses, registrations, and change orders, enforcing and evaluating compliance with permits, licenses, certificates, registrations, change orders, and water leases, inspection, monitoring, planning, modeling, reviewing documents prepared for the purpose of regulating the diversion and use of water, applying and enforcing the prohibition set forth in Section 1052 against the unauthorized diversion or use of water subject to this division, and the administrative costs incurred in connection with carrying out these actions.
- “(d)(1) The board shall adopt the schedule of fees authorized under this section as emergency regulations in accordance with Section 1530.” [¶] ... [¶]
- “(3) The board shall set the amount of total revenue collected each year through the fees authorized by this section at an amount equal to the revenue levels set forth in the annual Budget Act for this activity. The board shall review and revise the fees each fiscal year as necessary to conform with the revenue levels set forth in the annual Budget Act. If the board determines that the revenue collected during the preceding year was greater than, or less than, the revenue levels set forth in the annual Budget Act, the board may further adjust the annual fees to compensate for the over or under collection of revenue.
- “(e) Annual fees imposed pursuant to this section for the 2003–04 fiscal year shall be assessed for the entire 2003–04 fiscal year.”

12 Section 1540 provides:

"If the board determines that the person or entity on whom a fee or expense is imposed will not pay the fee or expense based on the fact that the fee payer has sovereign immunity under Section 1560, the board may allocate the fee or expense, or an appropriate portion of the fee or expense, to persons or entities who have contracts for the delivery of water from the person or entity on whom the fee or expense was initially imposed. The allocation of the fee or expense to these contractors does not affect ownership of any permit, license, or other water right, and does not vest any equitable title in the contractors."

Section 1560 provides:

"(a) The fees and expenses established under this chapter and Part 3 (commencing with Section 2000) apply to the United States and to Indian tribes, to the extent authorized under federal or tribal law.

"(b) If the United States or an Indian tribe declines to pay a fee or expense, or the board determines that the United States or the Indian tribe is likely to decline to pay a fee or expense, the board may do any of the following:

"(1) Initiate appropriate action to collect the fee or expense, including any appropriate enforcement action for failure to pay the fee or expense, if the board determines that federal or tribal law authorizes collection of the fee or expense.

"(2) Allocate the fee or expense, or an appropriate portion of the fee or expense, in accordance with Section 1540. The board may make this allocation as part of the emergency regulations adopted pursuant to Section 1530.

"(3) Enter into a contractual arrangement that requires the United States or the Indian tribe to reimburse the board, in whole or in part, for the services furnished by the board, either directly or indirectly, in connection with the activity for which the fee or expense is imposed.

"(4) Refuse to process any application, registration, petition, request, or proof of claim for which the fee or expense is not paid, if the board determines that refusal would not be inconsistent with federal law or the public interest."

13 An acre-foot is "[t]he volume of water, 43,560 cubic feet, that will cover an area of one acre to a depth of one foot." (American Heritage Dict. (2d college ed.1982) p. 75.)

14 Regulation 1066, subdivision (a) provided: "A person who holds a water right permit or license shall pay an annual fee that is the greater of \$100 or \$0.03 per acre-foot based on the total annual amount of diversion authorized by the permit or license." (Cal.Code Regs., tit. 23, § 1066, subd. (a), Register 2003, No. 52 (Dec. 23, 2003).)

15 Plaintiff California Farm Bureau Federation (Farm Bureau) asserts it is authorized to take judicial action to protect the rights of farm families that hold water rights subject to the fees imposed by Senate Bill No. 1049 (2003–2004 Reg. Sess.) and the emergency regulations. The individuals named in its complaint hold water rights and have been assessed the section 1525 fees. Plaintiff Northern California Water Association represents over 70 agricultural water districts within the Sacramento River Basin, some of which hold water rights. Other members receive water under contracts with the Bureau of Reclamation, and others operate hydroelectric plants licensed or regulated by the Federal Energy Regulatory Commission.

Plaintiff Central Valley Water Project Association represents the interests of some 300 agricultural and municipal districts, agencies and communities within the Central and Santa Clara Valleys that have contracts for water from the Central Valley Project.

16 The terms "payor" and "payer" are synonymous and are used variably in case law.

17 The terms "burden of proof" and "burden of persuasion" are synonymous. (1 Witkin, Cal. Evidence (4th ed. 2000) Burden of Proof and Presumptions, § 3, p. 157.)

18 The "burden of producing evidence" has also been referred to as the "burden of production" and the "burden of going forward." (*Sargent Fletcher, supra*, 110 Cal.App.4th at p. 1667, 3 Cal.Rptr.3d 279.)

19 Plaintiffs do not challenge the one-time fees set forth in section 1525, subdivision (b).

20 This case does not involve a special assessment or a development fee, two types of fees that are routinely challenged under Proposition 13. (*Prof. Scientists, supra*, 79 Cal.App.4th at p. 944, 94 Cal.Rptr.2d 535.)

21 Section 1552 provides:

"The money in the Water Rights Fund is available for expenditure, upon appropriation by the Legislature, for the following purposes:

"(a) For expenditure by the State Board of Equalization in the administration of this chapter and the Fee Collection Procedures Law (Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code) in connection with any fee or expense subject to this chapter.

"(b) For the payment of refunds, pursuant to Part 30 (commencing with Section 55001) of Division 2 of the Revenue and Taxation Code, of fees or expenses collected pursuant to this chapter.

“(c) For expenditure by the board for the purposes of carrying out this division, Division 1 (commencing with Section 100), Part 2 (commencing with Section 10500) of Division 6, and Article 7 (commencing with Section 13550) of Chapter 7 of Division 7.

“(d) For expenditures by the board for the purposes of carrying out Sections 13160 and 13160.1 in connection with activities involving hydroelectric power projects subject to licensing by the Federal Energy Regulatory Commission.

“(e) For expenditures by the board for the purposes of carrying out Sections 13140 and 13170 in connection with plans and policies that address the diversion or use of water.”

22 Section 1551 provides:

“All of the following shall be deposited in the Water Rights Fund:

“(a) All fees, expenses, and penalties collected by the board or the State Board of Equalization under this chapter and Part 3 (commencing with Section 2000).

“(b) All funds collected under Section 1052, 1845, or 5107.

“(c) All fees collected under Section 13160.1 in connection with certificates for activities involving hydroelectric power projects subject to licensing by the Federal Energy Regulatory Commission.”

23 The Court of Appeal referred to the situation as “an accounting issue that concerns how the monies are treated within the Water Rights Fund.”

24 The plaintiff also did not contend that the fees exceeded the reasonable cost of the services provided or that they were charged for unrelated revenue purposes. (*Sinclair Paint, supra*, 15 Cal.4th at p. 876, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)

25 On remand, we also allowed plaintiffs “to prove ... that the amount of fees assessed and paid exceeded the reasonable cost of providing the ... services for which the fees were charged, or that the fees were levied for unrelated revenue purposes.” (*Sinclair Paint, supra*, 15 Cal.4th at p. 881, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)

26 Because we remand, we need not address the SWRCB’s contention that the “polluter pays” rationale justifies the annual cost allocation because the money collected supports regulatory activities that serve an important public purpose and are a valid exercise of the police power.

27 When conducting a supremacy clause analysis, federal courts do not distinguish between fees and taxes. (See *Novato Fire Protection Dist. v. United States* (9th Cir.1999) 181 F.3d 1135, 1138–1139; *United States v. Anderson Cottonwood Irrigation Dist.* (N.D.Cal.1937) 19 F.Supp. 740, 741.)

28 Also, section 1560, subdivision (a) provides that the fees are only to be collected “to the extent authorized under federal or tribal law.”

29 We reject plaintiff Northern California Water Association’s contention that because the federal government is immune from the fee under federal law there should be no fee imposed on the federal contractors. (*County of Fresno, supra*, 429 U.S. at p. 453, 97 S.Ct. 699.)

Plaintiffs also argue that the annual fee is unconstitutional because the SWRCB failed to provide any evidence showing that this amount is reasonably related to the cost of the regulatory burden. This argument fails. The SWRCB presented evidence to the trial court in support of the amount charged for the annual fee.

30 Because we reverse the Court of Appeal’s judgment and remand this matter to the trial court so it can make findings and a determination as to whether the fees were improperly imposed, we need not address plaintiffs’ claim that the Court of Appeal erred by limiting refunds.

* Retired Chief Justice of California, assigned by the Chief Justice pursuant to article VI, section 6 of the California Constitution.

ATTACHMENT D-10

213 Cal.App.4th 1310
Court of Appeal,
Second District, Division 3, California.

Lee SCHMEER et al., Plaintiffs and Appellants,

v.

COUNTY OF LOS ANGELES et
al., Defendants and Respondents.

B240592

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Filed February 21, 2013

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As Modified March 11, 2013

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Review Denied May 15, 2013 *

Synopsis

Background: Petitioners filed combined petition for writ of mandate and complaint challenging county ordinance prohibiting retail stores from providing plastic carryout bags and requiring stores to charge customers 10 cents for each paper carryout bag provided. The Superior Court, Los Angeles County, No. BC470705, [James C. Chalfant, J.](#), denied relief, and petitioners appealed.

[Holding:] The Court of Appeal, [Croskey](#), Acting P.J. held that paper bag carryout charge was not a “tax” which required voter approval.

Affirmed.

West Headnotes (10)

[1] Constitutional Law
🔑 [Amendments in general](#)

The court construes provisions added to the state Constitution by a voter initiative by applying the same principles governing the construction of a statute.

[Cases that cite this headnote](#)

[2] Constitutional Law
🔑 [Intent in general](#)

When construing provisions added to the state Constitution by a voter initiative, the court's task is to ascertain the intent of the electorate so as to effectuate the purpose of the law.

[Cases that cite this headnote](#)

[3] Constitutional Law
🔑 [Intent in general](#)

When construing provisions added to the state Constitution by a voter initiative, the court first examines the language of the initiative, as the best indicator of the voters' intent.

[3 Cases that cite this headnote](#)

[4] Constitutional Law
🔑 [Plain, ordinary, or common meaning](#)

When construing provisions added to the state Constitution by a voter initiative, the court gives the words of the initiative their ordinary and usual meaning and construes them in the context of the entire scheme of law of which the initiative is a part, so that the whole may be harmonized and given effect.

[Cases that cite this headnote](#)

[5] Constitutional Law
🔑 [Existence of ambiguity](#)

Constitutional Law
🔑 [Extrinsic aids to construction in general](#)

If the language of a provisions added to the state Constitution by a voter initiative is unambiguous and a literal construction would not result in absurd consequences, the court presumes that the voters intended the meaning on the face of the initiative and the plain meaning governs; if the language is ambiguous, the court may consider the analyses and arguments contained in the official ballot pamphlet as extrinsic evidence of the voters' intent and understanding of the initiative.

5 Cases that cite this headnote

[6] **Appeal and Error**

🔑 Statutory or legislative law

The construction of statute or an initiative, including the resolution of any ambiguity, is a question of law reviewed de novo.

1 Cases that cite this headnote

[7] **Taxation**

🔑 Distinguishing 'tax' and 'license' or 'fee'

Charge of \$0.10 imposed by county ordinance on retail establishments for each carryout paper bag provided was not a "tax" within meaning of state constitution provision prohibiting any new general or special tax imposed by local government without prior approval by the voters; charge was not remitted to the county, but rather was payable to and retained by the retail store providing the bag, and the store was required to use the funds for specified purposes. Cal. Const. art. 13 C, § 1.

7 Cases that cite this headnote

[8] **Taxation**

🔑 Nature of taxes

The term "tax" in ordinary usage refers to a compulsory payment made to the government or remitted to the government.

2 Cases that cite this headnote

[9] **Taxation**

🔑 Nature of taxes

Taxes ordinarily are imposed to raise revenue for the government, although taxes may be imposed for nonrevenue purposes as well.

4 Cases that cite this headnote

[10] **Municipal Corporations**

🔑 Submission to voters, and levy, assessment, and collection

Language "any levy, charge, or exaction of any kind imposed by a local government" in state constitution provision defining a "tax," for purposes of prohibition against new taxes without prior voter approval, is limited to charges payable to, or for the benefit of, a local government. Cal. Const. art. 13 C, § 1.

See 9 Witkin, *Summary of Cal. Law* (10th ed. 2005) Taxation, § 136.

10 Cases that cite this headnote

****353** APPEAL from a judgment of the Superior Court of Los Angeles County, [James C. Chalfant](#), Judge. Affirmed. (Los Angeles County Super. Ct. No. BC470705)

Attorneys and Law Firms

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Opinion

[CROSKEY](#), Acting P.J.

*1313 A Los Angeles County ordinance prohibits retail stores from providing plastic carryout bags and requires stores to charge customers 10 cents for each paper carryout bag provided. Lee Schmeer and others (Petitioners) filed a combined petition for writ of mandate and complaint challenging the ordinance. Petitioners contend the ordinance violates article XIII C of the California Constitution, as amended by Proposition 26, because the 10-cent charge is a tax and was not approved by county voters. We conclude that the paper carryout bag charge is not a tax for purposes of article XIII C because the charge is payable to and retained by *1314 the retail store and is not remitted to the county. We therefore will affirm the judgment in favor of the county and other respondents.

FACTUAL AND PROCEDURAL BACKGROUND

1. Factual Background

The Los Angeles County Board of Supervisors enacted ordinance No. 2010-0059 on November 23, 2010. The ordinance prohibits retail stores within unincorporated areas of Los Angeles County from providing plastic carryout bags to customers. The ordinance states that retail stores may provide, for the purpose of carrying goods away from the store, only recyclable paper carryout bags or reusable carryout bags meeting certain requirements (including plastic bags satisfying those requirements). The ordinance also states that retail stores must provide reusable bags to customers, either for sale or free of charge, and encourages retail stores to educate their employees to promote reusable bags and post signs encouraging customers to use reusable bags.

The ordinance further states that retail stores must charge the customer 10 cents for each recyclable paper carryout bag provided and must indicate on the receipt the number of recyclable paper carryout bags provided and the total amount charged for the bags. It states that customers participating in the California Supplemental Food Program for Women, Infants, and Children ([Health & Saf.Code, § 123275](#)) or the Supplemental Food Program ([Welf. & Inst.Code, § 15500 et seq.](#)) are exempt from the charge and must be provided free of charge either reusable bags or recyclable paper carryout bags. The ordinance states that the money received for recyclable paper bags must be retained by the store and used only for (1) the costs of compliance with the ordinance; **355 (2) the actual

costs of providing recyclable paper bags; or (3) the costs of educational materials or other costs of promoting the use of reusable bags, if any.

The ordinance includes a severability provision stating: “If any section, subsection, sentence, clause, or phrase of this ordinance is for any reason held to be invalid by a decision of any court of competent jurisdiction, that decision will not affect the validity of the remaining portions of the ordinance. The Board of Supervisors hereby declares that it would have passed this ordinance and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of this ordinance would be subsequently declared invalid.”

The ordinance became effective on July 1, 2011. The ordinance was not submitted to the county electorate for its approval.

**1315 2. Trial Court Proceedings*

Lee Schmeer, Salim Bana, Jeff Wheeler, Chris Wheeler and Hilex Poly Co. LLC (Hilex) filed a combined petition for writ of mandate and complaint in October 2011 against the County of Los Angeles and three county officials. Petitioners allege that the individual petitioners are California taxpayers who have been required to pay the paper carryout bag charge and that Hilex is a manufacturer of plastic bags prohibited by the ordinance.

Petitioners allege that the paper carryout bag charge required under the ordinance is a “tax” as defined in article XIII C of the California Constitution, as amended by Proposition 26. They allege that the charge was imposed by the county in violation of section 2 of article XIII C, which prohibits any new general or special tax imposed by local government without prior approval by the voters. Petitioners allege counts for (1) a writ of mandate to prevent the county from implementing and enforcing the ordinance and (2) a judicial declaration that the paper carryout bag charge violates article XIII C.

The trial court conducted a hearing on the merits of the petition for writ of mandate in March 2012. The court adopted its written tentative decision denying the petition as its final ruling. The court concluded that the paper carryout bag charge is not a general or special tax because the money is retained by the retail stores and is not remitted to the county. The court also concluded

that even if the charge fell within the general definition of a tax under Proposition 26, the charge would satisfy an exception to that definition for “[a] charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege” (Cal. Const., art. XIII C, § 1(e)(1)). The court stated that the county, through retail stores, conferred the benefit of a paper carryout bag only on customers paying the charge, satisfying the first prong of the exception. The court stated that Petitioners waived the argument that the charge did not satisfy the second prong of the exception by failing to assert that argument in their opening brief on the petition. The court stated further that, in any event, substantial evidence shows that the money received by the stores for recyclable paper bags will be used for the purposes required under the ordinance. The court therefore concluded that Petitioners were not entitled to a writ of mandate.

Petitioners' counsel acknowledged that the trial court's ruling on the petition for writ of mandate effectively adjudicated the count for declaratory relief as well. The court entered a judgment in April 2012 denying Petitioners any relief on their **356 combined petition for writ of mandate and complaint. Petitioners timely appealed the judgment.

*1316 CONTENTIONS

Petitioners contend (1) the paper carryout bag charge is a special tax imposed by the county without the voters' prior approval and therefore violates article XIII C of the California Constitution; (2) the charge does not satisfy the exception for a charge imposed for a specific benefit conferred or privilege granted, or any other exception under article XIII C; and (3) the challenged provisions of the ordinance are not severable, so the entire ordinance must be invalidated, including the ban on single-use plastic bags.

DISCUSSION

1. Standard of Review

The trial court's ruling turned on its construction of article XIII C of the California Constitution, as amended

by Proposition 26, and its determination that the amount charged did not exceed the reasonable costs. We review the ruling de novo to the extent that the court decided questions of law concerning the construction of constitutional provisions and not turning on any disputed facts. (*Professional Engineers in California Government v. Kempton* (2007) 40 Cal.4th 1016, 1032, 56 Cal.Rptr.3d 814, 155 P.3d 226 (*Professional Engineers*).) We review the court's factual findings under the substantial evidence standard. (*Ibid.*)

2. Construction of a Voter Initiative

[1] [2] [3] [4] We construe provisions added to the state Constitution by a voter initiative by applying the same principles governing the construction of a statute. (*Professional Engineers, supra*, 40 Cal.4th at p. 1037, 56 Cal.Rptr.3d 814, 155 P.3d 226.) Our task is to ascertain the intent of the electorate so as to effectuate the purpose of the law. (*Robert L. v. Superior Court* (2003) 30 Cal.4th 894, 901, 135 Cal.Rptr.2d 30, 69 P.3d 951.) We first examine the language of the initiative as the best indicator of the voters' intent. (*Kwikset Corp. v. Superior Court* (2011) 51 Cal.4th 310, 321, 120 Cal.Rptr.3d 741, 246 P.3d 877.) We give the words of the initiative their ordinary and usual meaning and construe them in the context of the entire scheme of law of which the initiative is a part, so that the whole may be harmonized and given effect. (*Professional Engineers, supra*, at p. 1037, 56 Cal.Rptr.3d 814, 155 P.3d 226; *State Farm Mutual Automobile Ins. Co. v. Garamendi* (2004) 32 Cal.4th 1029, 1043, 12 Cal.Rptr.3d 343, 88 P.3d 71.)

[5] If the language is unambiguous and a literal construction would not result in absurd consequences, we presume that the voters intended the meaning on the face of the initiative and the plain meaning governs. (*Professional Engineers, supra*, 40 Cal.4th at p. 1037, 56 Cal.Rptr.3d 814, 155 P.3d 226; *1317 *Coalition of Concerned Communities, Inc. v. City of Los Angeles* (2004) 34 Cal.4th 733, 737, 21 Cal.Rptr.3d 676, 101 P.3d 563.) If the language is ambiguous, we may consider the analyses and arguments contained in the official ballot pamphlet as extrinsic evidence of the voters' intent and understanding of the initiative. (*Professional Engineers, supra*, at p. 1037, 56 Cal.Rptr.3d 814, 155 P.3d 226.)

[6] The construction of statute or an initiative, including the resolution of any ambiguity, is a question of law that we review de novo. (*Bruns v. E-Commerce Exchange, Inc.*

(2011) 51 Cal.4th 717, 724, 122 Cal.Rptr.3d 331, 248 P.3d 1185.)

3. Historical Foundations of Proposition 26

a. Proposition 13

California voters adopted Proposition 13 in June 1978, adding ****357** article XIII A to the California Constitution. Proposition 13 “impos[ed] important limitations upon the assessment and taxing powers of state and local governments.” (*Amador Valley Joint Union High Sch. Dist. v. State Bd. of Equalization* (1978) 22 Cal.3d 208, 218, 149 Cal.Rptr. 239, 583 P.2d 1281 (*Amador Valley*).) Proposition 13 generally (1) limited the rate of any ad valorem tax on real property to 1 percent; (2) limited increases in the assessed value of real property to 2 percent annually absent a change in ownership; (3) required that “ ‘any changes in State taxes enacted for the purpose of increasing revenues collected pursuant thereto whether by increased rates or changes in methods of computation’ ” must be approved by two-thirds of the Legislature; and (4) required that special taxes imposed by cities, counties and special districts must be approved by a two-thirds vote of the electors. (*Amador Valley, supra*, at p. 220, 149 Cal.Rptr. 239, 583 P.2d 1281, quoting former art. XIII A, § 3 as added by Prop. 13.)

The California Supreme Court in *Amador Valley, supra*, 22 Cal.3d at page 231, 149 Cal.Rptr. 239, 583 P.2d 1281, stated that the various elements of Proposition 13 formed “an interlocking ‘package’ ” with the purpose of providing effective real property tax relief. *Amador Valley* rejected several constitutional challenges to the initiative. Local governments, however, soon found ways to generate additional revenue without a two-thirds vote of the electors despite Proposition 13. Some of those efforts were approved by the courts.

The California Supreme Court in *Los Angeles County Transportation Com. v. Richmond* (1982) 31 Cal.3d 197, 208, 182 Cal.Rptr. 324, 643 P.2d 941 (*Richmond*), held that a sales tax imposed by the Los Angeles County Transportation Commission and approved by a majority, but less than two-thirds, of county voters was validly adopted. The state Legislature, before the ***1318** passage of Proposition 13, had authorized the local commission to adopt a sales tax to fund public transit projects. Writing

for a plurality of three justices, Justice Mosk stated that the term “special districts” in [section 4 of article XIII A of the California Constitution](#) was ambiguous. (*Richmond, supra*, at p. 201, 182 Cal.Rptr. 324, 643 P.2d 941 (plur. opn. of Mosk, J.)) Justice Mosk stated that the requirement of a two-thirds vote imposed by the state’s voters on local voters was “fundamentally undemocratic” and that the language of section 4 therefore must be strictly construed in favor of allowing local voters to approve special taxes by a majority vote rather than a two-thirds vote. (*Richmond, supra*, at p. 205, 182 Cal.Rptr. 324, 643 P.2d 941 (plur. opn. of Mosk, J.)) Noting that section 4 expressly prohibited cities, counties and special districts from imposing ad valorem taxes on real property or transaction or sales taxes on the sale of real property even with a two-thirds vote, and citing language in the ballot pamphlet, the plurality held that “special districts” under section 4 must be limited to special districts authorized to levy taxes on real property. (*Richmond, supra*, at p. 205, 182 Cal.Rptr. 324, 643 P.2d 941 (plur. opn. of Mosk, J.)) Two justices concurred in the judgment and also concluded that the term “special districts” was limited to special districts authorized to levy taxes on real property. (*Richmond, supra*, at p. 209, 182 Cal.Rptr. 324, 643 P.2d 941 (conc. opn. of Kaus, J.))

Justice Richardson stated in a dissent that the sales tax imposed by the local commission served as a convenient substitute for an increase in real property taxes. (*Richmond, supra*, 31 Cal.3d at pp. 212–213, 182 Cal.Rptr. 324, 643 P.2d 941 (dis. opn. of Richardson, J.)) The dissent stated that under the holding by the majority, the creation of districts without real property ****358** taxing authority provided a means by which local government could readily avoid the restrictions of Proposition 13. (*Id.* at p. 213, 182 Cal.Rptr. 324, 643 P.2d 941.) The dissent concluded that just as the county would be prohibited from imposing the new tax without a two-thirds vote of its voters, the local commission as the county’s surrogate should be prohibited from imposing the new tax without the required voter approval. (*Id.* at p. 215, 182 Cal.Rptr. 324, 643 P.2d 941.)

City and County of San Francisco v. Farrell (1982) 32 Cal.3d 47, 184 Cal.Rptr. 713, 648 P.2d 935 held that a payroll and gross receipts tax imposed on businesses operating within the City and County of San Francisco, but not approved by a two-thirds vote of the voters, was valid. *Farrell* concluded that the requirement in [section](#)

4 of article XIII A of the California Constitution that “special taxes” imposed by cities, counties and special districts must be approved by a two-thirds vote of the electors applied only to taxes levied for a specific purpose and did not apply to taxes paid into the general fund to be used for general governmental purposes. (*Farrell, supra*, at p. 57, 184 Cal.Rptr. 713, 648 P.2d 935.)

Rider v. County of San Diego (1991) 1 Cal.4th 1, 2 Cal.Rptr.2d 490, 820 P.2d 1000 found invalid a sales tax imposed by the County of San Diego *1319 for the purpose of financing the construction and operation of criminal detention and courthouse facilities. The tax was enacted without the approval of two-thirds of the voters.¹ Distinguishing *Richmond, supra*, 31 Cal.3d 197, 182 Cal.Rptr. 324, 643 P.2d 941, the *Rider* court held that a local agency that the trial court found was created solely for the purpose of circumventing Proposition 13’s two-thirds voter approval requirement was a “special district” (Cal. Const., art. XIII A, § 4) despite its lack of authority to levy taxes on real property. (*Rider, supra*, at pp. 8, 10, 2 Cal.Rptr.2d 490, 820 P.2d 1000.) *Rider* stated, “To hold otherwise clearly would create a wide loophole in Proposition 13 as feared by the dissent in *Richmond*.” (*Id.* at p. 10, 2 Cal.Rptr.2d 490, 820 P.2d 1000.) *Rider* noted a proliferation of governmental entities lacking the power to levy real property taxes raising revenues through sales taxes without the approval of two-thirds of the voters following *Richmond, supra*, 31 Cal.3d 197, 182 Cal.Rptr. 324, 643 P.2d 941. (*Rider, supra*, at p. 10, 2 Cal.Rptr.2d 490, 820 P.2d 1000.) *Rider* stated that the framers of Proposition 13 and the voters who adopted it could not have “intended to adopt a definition [of ‘special districts’] that could so readily permit circumvention of section 4.” (*Rider, supra*, at p. 11, 2 Cal.Rptr.2d 490, 820 P.2d 1000.) *Rider* held that the term “special district” includes “any local taxing agency created to raise funds for city or county purposes to replace revenues lost by reason of the restrictions of Proposition 13.” (*Ibid.*)

Knox v. City of Orland (1992) 4 Cal.4th 132, 14 Cal.Rptr.2d 159, 841 P.2d 144 held that a charge levied against real property in the City of Orland for the maintenance of public parks was a “special assessment,” and was not a “special tax” within the meaning of section 4 of article XIII A of the California Constitution. *Knox* stated that a special assessment is a charge levied against real property within a particular district for the purpose of conferring a special benefit on the assessed properties

beyond any benefit received by the general public. (*Knox, supra*, at pp. 141–142, 14 Cal.Rptr.2d 159, 841 P.2d 144.) A “special tax,” in contrast, is imposed to provide **359 benefits to the general public. (*Id.* at pp. 142–143, 14 Cal.Rptr.2d 159, 841 P.2d 144.) *Knox* concluded that the park maintenance charge was a special assessment and therefore was not subject to the two-thirds voter approval requirement. (*Id.* at pp. 140–141, 145, 14 Cal.Rptr.2d 159, 841 P.2d 144.)

b. Proposition 218

California voters adopted Proposition 218 in November 1992, adding articles XIII C and XIII D to the California Constitution. Proposition 218 imposed additional voting approval requirements on the imposition of taxes by a local government. Proposition 218 also added to Proposition 13’s limitations on ad valorem property taxes and special taxes similar limitations on assessments, fees, and charges relating to real property. (*1320 *Apartment Assn. of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 837, 102 Cal.Rptr.2d 719, 14 P.3d 930 (*Apartment Assn.*).) The initiative measure’s findings and declaration of purpose stated:

“The people of the State of California hereby find and declare that Proposition 13 was intended to provide effective tax relief and to require voter approval of tax increases. However, local governments have subjected taxpayers to excessive tax, assessment, fee and charge increases that not only frustrate the purposes of voter approval for tax increases, but also threaten the economic security of all Californians and the California economy itself. This measure protects taxpayers by limiting the methods by which local governments exact revenue from taxpayers without their consent.” (Ballot Pamp., Gen. Elec. (Nov. 5, 1996) text of Prop. 218, § 2, p. 108, reprinted in Historical Notes, 2A West’s Ann. Cal. Const. (2013 supp.) foll. art. XIII C, § 1, p. 171.)

Section 2, subdivision (a) of article XIII C of the California Constitution, added by Proposition 218, states: “All taxes imposed by any local government shall be deemed to be either general taxes or special taxes. Special purpose districts or agencies, including school districts, shall have no power to levy general taxes.” Section 1 of article XIII C defines “[g]eneral tax” as “any tax imposed for general governmental purposes” and defines “[s]pecial

tax” as “any tax imposed for specific purposes, including a tax imposed for specific purposes, which is placed into a general fund.” (*Id.*, subs.(a), (d).) Proposition 218 required that all general taxes imposed by a local government must be approved by a majority vote of the electorate and all special taxes imposed by a local government must be approved by a two-thirds vote of the electorate.² (Cal. Const., art. XIII C, § 2, subs. (b), (d).) Proposition 218, however, did not define the term “tax.”

Section 3, subdivision (a) of article XIII D of the California Constitution, added by Proposition 218, states that the only “taxes, assessments, fees, or charges” that a local government may impose “as an incident of property ownership” are ad valorem property taxes, special taxes approved by two-thirds of the voters, “[a]ssessments as provided by this article,” and “[f]ees or charges for property related services as provided by this article.” Proposition 218 restricted local government’s ability to impose real property assessments by (1) tightening the definition of “special benefit” ****360** and “proportionality” (Cal. Const., art. XIII D, §§ 2, subd. (i), 4, subd. (a)); (2) establishing strict procedural requirements for the imposition of an assessment (*id.*, § 4, subs.(b)-(e)); and (3) shifting to the public agency the burden of demonstrating the legality of an assessment (*id.*, § 4, subd. (f)). (***1321** *Silicon Valley Taxpayers’ Assn., Inc. v. Santa Clara County Open Space Authority* (2008) 44 Cal.4th 431, 443–444, 79 Cal.Rptr.3d 312, 187 P.3d 37.) Proposition 218 also established procedural requirements for the imposition of new or increased fees and charges relating to real property and requirements for existing fees and charges. (Cal. Const., art. XIII D, § 6.)

Apartment Assn., supra, 24 Cal.4th at page 838, 102 Cal.Rptr.2d 719, 14 P.3d 930, held that article XIII D of the California Constitution restricted only fees imposed on real property owners in their capacity as owners and therefore did not apply to an inspection fee imposed by the City of Los Angeles on property owners in their capacity as landlords.

c. *Sinclair Paint Co. v. State Board of Equalization*

In *Sinclair Paint Co. v. State Board of Equalization* (1997) 15 Cal.4th 866, 64 Cal.Rptr.2d 447, 937 P.2d 1350, the California Supreme Court decided the question whether fees imposed by the Legislature on manufacturers and

others contributing to environmental lead contamination were “taxes enacted for the purpose of increasing revenues” under former section 3 of article XIII A of the California Constitution, and therefore subject to the requirement of a two-thirds vote of the Legislature. (*Sinclair Paint, supra*, at p. 873, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* construed the language “‘taxes enacted for the purpose of increasing revenues’” in former section 3 of article XIII A, which had not been construed in any California appellate opinion, by reference to prior opinions construing the term “special taxes” in section 4 of article XIII A. (*Sinclair Paint, supra*, at pp. 873–881, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* stated:

“The cases recognize that ‘tax’ has no fixed meaning, and that the distinction between taxes and fees is frequently ‘blurred,’ taking on different meanings in different contexts. [Citations.] In general, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted. [Citations.]....

“The ‘special tax’ cases have involved three general categories of fees or assessments: (1) special assessments, based on the value of benefits conferred on property; (2) development fees, exacted in return for permits or other government privileges; and (3) regulatory fees, imposed under the police power.” (*Sinclair Paint, supra*, 15 Cal.4th at p. 874, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)

Sinclair Paint stated that the courts had held that special assessments and development fees satisfying certain requirements were not “special taxes” under article XIII A, section 4. (*Sinclair Paint, supra*, 15 Cal.4th at pp. 874–875, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* stated that regulatory fees that do not exceed the reasonable cost of providing the services for which the ***1322** fees are charged and are not levied for any unrelated revenue purposes also are not “special taxes” subject to the two-thirds voting requirement of section 4. (*Sinclair Paint, supra*, at p. 876, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* rejected the holding by the Court of Appeal in that case that the fees were not regulatory in nature because the legislation imposing the fees imposed no other conditions ****361** on persons subject to the fees. Instead, *Sinclair Paint* concluded that the fees were regulatory because the legislation “requires manufacturers and other persons whose products have exposed children to lead contamination to bear a fair share of the cost of mitigating the adverse health effects their

products created in the community.” (*Id.* at p. 877, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* stated that such “ ‘mitigating effects’ fees” were just as regulatory in nature as fees imposed on polluters or producers of contaminating products for the initial permit or licensing programs, and that such fees in substantial amounts also regulate future conduct by deterring the conduct subject to the fee and by encouraging research and development of alternative products. (*Ibid.*)

Sinclair Paint rejected the argument that the state had no authority to impose the fees, stating that the case law “clearly indicates that the police power is broad enough to include mandatory remedial measures to mitigate the *past, present, or future* adverse impact of the fee payer’s operations, at least where, as here, the measure requires a casual connection or nexus between the product and its adverse effects. [Citations.]” (*Sinclair Paint, supra*, 15 Cal.4th at pp. 877–878, 64 Cal.Rptr.2d 447, 937 P.2d 1350.) *Sinclair Paint* stated that if the primary purpose of a fee is to regulate rather than to raise revenue, the fee is not a tax. (*Id.* at p. 880, 64 Cal.Rptr.2d 447, 937 P.2d 1350.)

4. Proposition 26

California voters approved Proposition 26 on November 2, 2010. Proposition 26 expanded the definition of taxes so as to include fees and charges, with specified exceptions; required a two-thirds vote of the Legislature to approve laws increasing taxes on any taxpayers; and shifted to the state or local government the burden of demonstrating that any charge, levy or assessment is not a tax. Proposition 26 amended [section 3 of article XIII A](#) and [section 1 of article XIII C of the California Constitution](#). The initiative was an effort to close perceived loopholes in Propositions 13 and 218 and was largely a response to *Sinclair Paint, supra*, 15 Cal.4th 866, 64 Cal.Rptr.2d 447, 937 P.2d 1350. Proposition 26’s findings and declaration of purpose stated:

“The people of the State of California find and declare that:

“(a) Since the people overwhelmingly approved Proposition 13 in 1978, the Constitution of the State of California has required that increases in state taxes be adopted by not less than two-thirds of the members elected to each house of the Legislature.

***1323** “(b) Since the enactment of Proposition 218 in 1996, the Constitution of the State of California has required that increases in local taxes be approved by the voters.

“(c) Despite these limitations, California taxes have continued to escalate. Rates for state personal income taxes, state and local sales and use taxes, and a myriad of state and local business taxes are at all-time highs. Californians are taxed at one of the highest levels of any state in the nation.

“(d) Recently, the Legislature added another \$12 billion in new taxes to be paid by drivers, shoppers, and anyone who earns an income.

“(e) This escalation in taxation does not account for the recent phenomenon whereby the Legislature and local governments have disguised new taxes as ‘fees’ in order to extract even more revenue from California taxpayers without having to abide by these constitutional voting requirements. Fees couched as ‘regulatory’ but which ****362** exceed the reasonable costs of actual regulation or are simply imposed to raise revenue for a new program and are not part of any licensing or permitting program are actually taxes and should be subject to the limitations applicable to the imposition of taxes.

“(f) In order to ensure the effectiveness of these constitutional limitations, this measure also defines a ‘tax’ for state and local purposes so that neither the Legislature nor local governments can circumvent these restrictions on increasing taxes by simply defining new or expanded taxes as ‘fees.’ ” (Ballot Pamp., Gen. Elec. (Nov. 2, 2010) text of Prop. 26, § 1, p. 114, reprinted in Historical Notes, 2A West’s Ann. Cal. Const. (2013 supp.) foll. art. XIII C, § 3, pp. 141–142.)

****363** Proposition 26 amended [section 3 of article XIII A of the California Constitution](#) to read:

“(a) Any change in state statute which results in any taxpayer paying a higher tax must be imposed by an act passed by not less than two-thirds of all members elected to each of the two houses of the Legislature, except that no new ad valorem taxes on real property, or sales or transaction taxes on the sales of real property may be imposed.

“(b) As used in this section, ‘tax’ means any levy, charge, or exaction of any kind imposed by the State, except the following:

“(1) A charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does *1324 not exceed the reasonable costs to the State of conferring the benefit or granting the privilege to the payor.

“(2) A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the State of providing the service or product to the payor.

“(3) A charge imposed for the reasonable regulatory costs to the State incident to issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof.

“(4) A charge imposed for entrance to or use of state property, or the purchase, rental, or lease of state property, except charges governed by Section 15 of Article XI.

“(5) A fine, penalty, or other monetary charge imposed by the judicial branch of government or the State, as a result of a violation of law.

“(c) Any tax adopted after January 1, 2010, but prior to the effective date of this act, that was not adopted in compliance with the requirements of this section is void 12 months after the effective date of this act unless the tax is reenacted by the Legislature and signed into law by the Governor in compliance with the requirements of this section.

“(d) The State bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor's burdens on, or benefits received from, the governmental activity.”³

Proposition 26 amended [section 1 of article XIII C of the California Constitution](#) to read:

*1325 “(a) ‘General tax’ means any tax imposed for general governmental purposes.

“(b) ‘Local government’ means any county, city, city and county, including a charter city or county, any special district, or any other local or regional governmental entity.

“(c) ‘Special district’ means an agency of the state, formed pursuant to general law or a special act, for the local performance of governmental or proprietary functions with limited geographic boundaries including, but not limited to, school districts and redevelopment agencies.

“(d) ‘Special tax’ means any tax imposed for specific purposes, including a tax imposed for specific purposes, which is placed into a general fund.

“(e) As used in this article, ‘tax’ means any levy, charge, or exaction of any kind imposed by a local government, except the following:

“(1) A charge imposed for a specific benefit conferred or privilege granted directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege.

“(2) A charge imposed for a specific government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product.

“(3) A charge imposed for the reasonable regulatory costs to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof.

“(4) A charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property.

“(5) A fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law.

“(6) A charge imposed as a condition of property development.

“(7) Assessments and property-related fees imposed in accordance with the provisions of Article XIII D.

***1326** “The local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor’s burdens on, or benefits received from, the governmental activity.”⁴

Proposition 26, in an effort to curb the perceived problem of a proliferation of regulatory fees imposed by the state without a two-thirds vote of the Legislature or imposed ****364** by local governments without the voters’ approval, defined a “tax” to include “any levy, charge, or exaction of any kind imposed by” the state or a local government, with specified exceptions. The question here is whether the paper carryout bag charge constitutes a tax and therefore is subject to one of the two voter approval requirements (Cal. Const., art. XIII C, § 2, subs. (b), (d)).

5. The Paper Carryout Bag Charge Is Not a Tax

[7] The county contends the paper carryout bag charge is not a tax because it is payable to and retained by the retail store and is not remitted to the county. We agree.

[8] [9] The term “tax” in ordinary usage refers to a compulsory payment made to the government or remitted to the government. Taxes ordinarily are imposed to raise revenue for the government (*California Farm Bureau Federation v. State Water Resources Control Bd.* (2011) 51 Cal.4th 421, 437, 121 Cal.Rptr.3d 37, 247 P.3d 112 (*California Farm*) [“Ordinarily taxes are imposed for revenue purposes and not ‘in return for a specific benefit conferred or privilege granted’ ”]; *Sinclair Paint, supra*, 15 Cal.4th at p. 874, 64 Cal.Rptr.2d 447, 937 P.2d 1350 [“In general, taxes are imposed for revenue purposes, rather than in return for a specific benefit conferred or privilege granted”]; *Morning Star Co. v. Board of Equalization*

(2011) 201 Cal.App.4th 737, 750, 135 Cal.Rptr.3d 457), although taxes may be imposed for nonrevenue purposes as well (see *Washington v. Confederated Tribes of Colville Indian Reservation* (1980) 447 U.S. 134, 158, 100 S.Ct. 2069, 65 L.Ed.2d 10 [“taxes can be used for distributive or regulatory purposes, as well as for raising revenue”]).

The definition of a “tax” in California Constitution, article XIII C, section 1, subdivision (e) does not explicitly state that the levy, charge or exaction must be payable to a local government, but does state that it must be “imposed by a local government.” In light of the ordinary meaning of a “tax” as a ***1327** compulsory payment made to the government or remitted to the government, we conclude that subdivision (e) is ambiguous as to whether a levy, charge or exaction must be payable to a local government in order to constitute a tax. Our consideration of other language added to article XIII C by Proposition 26 helps to resolve this ambiguity.

Subdivision (e) of article XIII C, section 1 lists seven exceptions to the rule that “ ‘tax’ means any levy, charge, or exaction of any kind imposed by a local government” (*ibid.*). The exceptions (quoted *ante*) all relate to charges ordinarily payable to the government, including charges imposed in connection with governmental activities or use of government property, fines imposed by the government for a violation of law, development fees and real property assessments. (*Ibid.*)

The first three exceptions, in particular, state that a charge imposed by a local government is not a tax if the charge does not exceed “the reasonable costs to the local government” of conferring a specific benefit or privilege directly to the payor or providing a specific service or product directly to the payor, and also except from the definition of a tax a charge “for the reasonable regulatory costs to a local government for issuing licenses and permits” and related activities. (Cal. Const., art. XIII C, § 1, subd. (e), items (1), (2) & (3).) These exceptions, generally speaking, except from the definition of a “tax” charges not exceeding the reasonable costs to the local government of providing specific benefits or regulatory services. These exceptions do not contemplate the situation where a charge is paid to an entity or ****365** person other than a local government or where such an entity or person incurs reasonable costs. In our view, this suggests an understanding that the language “any

levy, charge, or exaction of any kind imposed by a local government” in the first paragraph of [article XIII C, section 1](#), subdivision (e) is limited to charges payable to a local government. This is consistent with the ordinary meaning of the term “tax.”⁵

No reason appears on the face of Proposition 26, or from our consideration of the ballot pamphlet and the historical foundations of the initiative, ***1328** to conclude that the voters approving the initiative intended the definition of a “tax” to include both charges payable to a local government and charges payable to a nongovernmental entity or person, while limiting the “reasonable costs” exceptions to charges payable to a local government. In other words, there is no reason to believe that the voters approving Proposition 26 intended to except from the definition of a “tax” and, consequently, from the voter approval requirements, charges payable to a local government not exceeding the reasonable costs of providing specific benefits or regulatory activities, but intended the same charges if made payable to another person or entity in an amount not exceeding the reasonable costs to be considered taxes subject to the voter approval requirements.

The analysis and arguments for and against the initiative in the official ballot pamphlet discussed the impact of the initiative on the ability of local government to raise revenues. The analysis by the Legislative Analyst stated, “Generally, the types of fees and charges that would become taxes under the measure are ones that government imposes to address health, environmental, or other societal or economic concerns.” A chart listed several examples of regulatory fees that could be considered taxes under the measure, stating as to each one that the state or local government “uses the funds” for specified purposes, necessarily implying that the fees were payable to the government. There was no discussion in the ballot pamphlet of any charges or fees payable to a nongovernmental entity or person and nothing to suggest to the voters that Proposition 26 would have any impact on such charges or fees.⁶

[10] ****366** Accordingly, we conclude that the language “any levy, charge, or exaction of any kind imposed by a local government” in the first paragraph of ***1329** [article XIII C, section 1](#), subdivision (e) is limited to charges payable to, or for the benefit of, a local government.⁷

Petitioners note that Proposition 26 deleted the language “any change in state taxes enacted for the purpose of increasing revenues collected pursuant thereto” in [article XIII A, section 3 of the California Constitution](#) and replaced it with “[a]ny change in state statute which results in any taxpayer paying a higher tax.” Petitioners argue that this amendment indicates an intent to eliminate the prior requirement that a charge must produce revenue for the government to be considered a tax. We disagree. This amendment was to the provision requiring approval by two-thirds of the Legislature for any increase in state taxes. The provisions requiring voter approval for increases in local taxes ([Cal. Const., art. XIII A, § 4, art. XIII C, § 2](#)), in contrast, never included the language “for the purpose of increasing revenues” or any similar limiting language. The purpose of this amendment to [article XIII A, section 3](#) was to end the Legislature's practice of approving by a simple majority vote so-called “revenue-neutral” laws that increased taxes for some taxpayers but decreased taxes for others. The Legislative Analyst's analysis in the official ballot pamphlet stated:

“Current Requirement. The State Constitution currently specifies that laws enacted ‘for the purpose of increasing revenues’ must be approved by two-thirds of each house of the Legislature. Under current practice, a law that increases the amount of taxes charged to some taxpayers but offers an equal (or larger) reduction in taxes for other taxpayers has been viewed as not increasing revenues. As such, it can be approved by a majority vote of the Legislature.

“New Approval Requirement. The measure specifies that state laws that result in *any* taxpayer paying a higher tax must be approved by two-thirds of each house of the Legislature.” (Boldface omitted.)

Accordingly, we conclude that the amendment to [article XIII A, section 3](#) does not support Petitioners' position. The paper carryout bag charge is payable to and retained by the retail store providing the bag, which is required to use the funds for specified purposes. The charge is not remitted to the county. Because the charge is not remitted to the county and raises no revenue for the county, we conclude that the charge is not a “tax” for purposes of article XIII C of the California Constitution. The voter approval requirements of [article XIII C, section 2](#) ***1330** therefore are inapplicable. In light of our conclusion, we

need not decide whether, if the charge were otherwise considered a tax, any of the specified exceptions would apply.

****367 WE CONCUR:**

KITCHING, J.

ALDRICH, J.

All Citations

213 Cal.App.4th 1310, 153 Cal.Rptr.3d 352, 13 Cal. Daily Op. Serv. 2037, 2013 Daily Journal D.A.R. 2393

DISPOSITION

The judgment is affirmed. Respondents are entitled to recover their costs on appeal.

Footnotes

- * Kennard and Corrigan, JJ., are of the opinion the petition should be granted.
- 1 The tax was approved by 50.8%, a bare majority of the county voters. (*Rider, supra*, 1 Cal.4th at p. 6, 2 Cal.Rptr.2d 490, 820 P.2d 1000.)
- 2 Article XIII C, section 2, subdivision (b) states, in relevant part, “No local government may impose, extend, or increase any general tax unless and until that tax is submitted to the electorate and approved by a majority vote.” Subdivision (d) states, in relevant part, “No local government may impose, extend, or increase any special tax unless and until that tax is submitted to the electorate and approved by a two-thirds vote.”
- 3 Section 3 of article XIII A stated, in its entirety, before the enactment of Proposition 26: “From and after the effective date of this article, any changes in State taxes enacted for the purpose of increasing revenues collected pursuant thereto whether by increased rates or changes in methods of computation must be imposed by an Act passed by not less than two-thirds of all members elected to each of the two houses of the Legislature, except that no new ad valorem taxes on real property, or sales or transaction taxes on the sales of real property may be imposed.” Proposition 26 amended the first sentence of section 3, designated the first paragraph as subdivision (a), and added subdivisions (b), (c) and (d).
- 4 Proposition 26 added subdivision (e) of article XIII C, section 1 and left subdivisions (a) through (d) of section 1 unchanged.
- 5 None of the seven exceptions expressly refers to the reasonable costs to a nongovernmental entity or person or to activities undertaken by or payments typically made to a nongovernmental entity or person. Consideration of the final paragraph of article XIII C, section 1, subdivision (e) supports the view that the exceptions all refer to activities directly undertaken by the local government. The final paragraph states, “The local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of *the governmental activity*, and that the manner in which those costs are allocated to a payor bear a fair or reasonable relationship to the payor’s burdens on, or benefits received from, *the governmental activity*.” (Italics added.) Use of the term “the governmental activity” as a shorthand reference for the activities described in the exceptions suggests that the exceptions all refer to activities undertaken directly by the local government.
- 6 Another part of the Legislative Analyst’s analysis provided other examples of regulatory fees, including “fees on the purchase of beverage containers to support recycling programs.” The California Beverage Container Recycling and Litter Reduction Law (Pub. Resources Code, § 14500 et seq.) requires a payment by the distributor to the Department of Resources Recycling and Recovery for each beverage container sold or transferred to a retailer. (*Id.*, § 14574.) The burden of the distributor’s payment is passed on to the consumer through a fee charged by the retailer. The payments are deposited into a fund in the state treasury and used for the administration of the recycling program. (*Id.*, §§ 14574, 14580, subd. (a).) Here, in contrast, the paper carryout bag charge is retained by the retailer, and no payment is made into any government fund. Contrary to Petitioners’ argument, the charge here is not akin to a beverage container fee, and the reference in the ballot materials to beverage container fees did not suggest to the voters that a charge such as the paper carryout bag charge would be considered a tax.
- 7 A charge payable to a third party creditor to extinguish a debt owed by a local government, for example, would effectively be equivalent to a payment made to the local government.

ATTACHMENT E-1

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER: WQ 2000 - 11

In the Matter of the Petitions of
**THE CITIES OF BELLFLOWER, ET AL., THE CITY OF ARCADIA, AND
WESTERN STATES PETROLEUM ASSOCIATION**
Review of January 26, 2000 Action of the Regional Board
and
Actions and Failures to Act
by both the
California Regional Water Quality Control Board,
Los Angeles Region and Its Executive Officer
Pursuant to Order No. 96-054,
Permit for Municipal Storm Water and Urban Run-Off Discharges Within
Los Angeles County
[NPDES NO. CAS614001]

SWRCB/OCC FILES A-1280, A-1280(a) and A-1280(b)

BY THE BOARD:

On July 15, 1996, the Los Angeles Regional Water Quality Control Board (Regional Water Board) issued a revised national pollutant discharge elimination system (NPDES) permit in Order No. 96-054 (permit) to the 85 incorporated cities and the county within Los Angeles County (the County).¹ The permit covers storm water discharges from municipal separate storm sewer systems throughout the County.²

¹ This was the second storm water permit adopted for Los Angeles County and its cities. The first permit was the subject of an earlier Order. (In the Matter of Natural Resources Defense Council, Inc., Order WQ 91-04). In this permit, the County is designated as the Principal Permittee, and each city is designated as a permittee. The County is required to submit various documents on behalf of all of the permittees.

² The Regional Water Board has since issued a separate permit for one city, Long Beach. The relevant provisions of the Long Beach permit are similar to those in Order No. 96-054.

The permit contains provisions for the regulation of storm water discharges from development planning and construction.³ Pursuant to these provisions, the County was required to submit Standard Urban Storm Water Mitigation Plans (SUSMPs).⁴ The SUSMPs are plans that designate best management practices (BMPs) that must be used in specified categories of development projects. The County submitted SUSMPs, but the Regional Water Board approved the SUSMPs only after making revisions. The Executive Officer issued the revised SUSMPs on March 8, 2000.⁵

On February 25, 2000, the State Water Resources Control Board (State Water Board or Board) received a petition for review of the actions and failures to act regarding the SUSMPs from a number of cities, the Building Industry Association of Southern California and the Building Industry Legal Defense Foundation (jointly referred to as Cities). A second petition was received from the City of Arcadia. And a third petition was received from the Western States Petroleum Association (WSPA). On April 7, 2000, the petitioners filed amendments to their petitions, concerning the March 8, 2000 issuance of the SUSMPs. The Cities' amendment also revised the list of cities included in the petition. The Cities' petition now includes 32 cities. The petitions are legally and factually related, and have therefore been consolidated for purposes of review.⁶ The petitioners also requested a stay of the SUSMPs. This request was denied by letter, dated May 11, 2000.

³ Permit, Part 2.III. These provisions focus more on post-construction impacts of development than on discharges from construction activities.

⁴ Permit, Part 2.III.A.1.c.

⁵ These are referred to herein as the Final SUSMPs. The Final SUSMPs also apply to Long Beach, even though it is subject to a separate permit.

⁶ Cal. Code of Regs., tit. 23, section 2054.

On June 7 and 8, 2000, the Board held a hearing in Torrance. Several entities, including the petitioners, the Regional Water Board, and several environmental groups⁷, were designated parties. The evidence from that hearing has been included in the record before the Board. The record for comments on the petition was kept open until the end of the hearing. The parties were allowed to submit post-hearing briefs.⁸

I. BACKGROUND

In prior Orders⁹ this Board has explained the need for the municipal storm water programs and the emphasis on BMPs in lieu of numeric effluent limitations. The emphasis for preventing pollution from storm water discharges is still on the development and implementation of effective BMPs, but with the expectation that the level of effort will increase over time. In its Interim Permitting Approach¹⁰, the United States Environmental Protection Agency (U.S. EPA) stated that first-round permits should include BMPs, and expanded or better-tailored BMPs in subsequent permits where necessary to attain water quality standards. Dischargers, consultants, and academic institutions in California and nationwide have conducted numerous studies on the effectiveness of BMPs and appropriate design standards. While many questions are still

⁷ The environmental groups are Natural Resources Defense Council, Inc., Santa Monica BayKeeper, and Heal the Bay.

⁸ There are several documents that were not timely received and, therefore, are not made a part of the record before the Board. The hearing notice specified that all evidence from parties must be received by May 31, 2000. The Regional Water Board submitted documents on June 6, 2000. The hearing notice specified that policy statements were due by the close of the hearing. Several comment letters were received June 12, 13, and 19, 2000. None of these submittals are a part of the record. The post-hearing briefs were subject to a 10-page limit. The environmental groups submitted objections to the post-hearing brief submitted by the Cities. First, the environmental groups challenge the length of the brief. All briefs were subject to a 10-page limit. The Cities submitted a 10-page brief, with a 22-page attachment showing extensive proposed revisions to the SUSMPs. This submittal violates the page limit, and only the brief is considered part of the record. Second, the environmental groups claim that an e-mail message referred to by the petitioners is subject to attorney-client privilege and should not have been used in this hearing. This e-mail message, from the Regional Water Board's counsel to one of its engineers, was placed in the Regional Water Board's administrative record and submitted to the State Water Board. Any privilege that may have attached to the message has been waived and no longer exists. Finally, the post-hearing brief from the City of Arcadia was received late and will not be considered. Documents submitted late for interim deadlines (such as the deadline for submitting responses to the petitions), have been included in the record.

⁹ See, especially Orders WQ 91-03 (In the Matter of Citizens for a Better Environment et al.) and WQ 91-04.

¹⁰ Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. (61 Federal Register 57425.)

outstanding, more is expected of municipal dischargers, and many are implementing more effective programs.

While storm water management plans are improving, our knowledge of the impacts is also growing. Urban runoff has been determined to be a significant contributor of impairment to waters throughout the state. In Los Angeles specifically, beach closures are sometimes associated with urban runoff. In adopting the SUSMPs, the Regional Water Board took note of the urgent need for preventing further pollution from urban runoff and storm water discharges.

It is important to emphasize the role of the SUSMPs within the totality of regulating storm water discharges, and the purpose of these particular control measures. The requirement to prepare SUSMPS was part of the development controls in the permit. In addition to development controls, the permit requires education, public outreach, programs to restrict illicit connections and discharges, and controls on public facilities. In the context of the entire effort required by the permit, the development controls can be seen as preventing the existing situation from becoming worse.

The Final SUSMPs include a list of mandatory BMPs for nine categories of development. There are provisions that are applicable to all categories and lists of BMPs for individual categories. Requirements applicable to all categories include provisions to limit erosion from new development and redevelopment, requirements to conserve natural areas, protection of slopes and channels, and storm drain stenciling. Examples of BMPs specific to categories of discharge include design of loading docks for commercial projects and design of fueling areas for retail gasoline outlets. In most respects, the Final SUSMPs were similar to those proposed by the County. The significant departures were the inclusion of a numeric design standard for structural or treatment control BMPs, and the inclusion of certain types of projects that were not

covered in the County's proposal. The design standard creates objective and measurable criteria for the amount of runoff that must be treated or infiltrated by BMPs.

The record indicates that the purpose of the development controls, including the SUSMPs, is not simply to prevent pollution associated with construction runoff. As the petitioners point out, construction discharges are already subject to this Board's Statewide Construction Permit. The development controls in the SUSMPs, on the other hand, focus on post-construction runoff. They are aimed at limiting not just the pollutants in runoff from the new development, but also the volume of runoff that enters the municipal storm sewer system. By limiting runoff from new development, the SUSMPs prevent increased impacts from urban runoff generally. There is adequate technical information in the record to show that by controlling the volume of runoff from new development, BMPs can be effective in reducing the discharge of pollutants in storm water runoff.

The Procedure for Adopting the SUSMPs

The permit requires a program for controls on Development Planning and Construction. It involved a number of submissions by the County in consultation with the Cities. The first step was submission of a checklist for determining priority projects and exempt projects. The checklist was due on January 30, 1998. A list of recommended BMPs for development projects was also due on that date. The SUSMPs were due within six months of approval of the BMP list, and were to incorporate BMPs for certain categories of development. Following approval of the SUSMPs, the cities and County were to implement development programs for priority projects, consistent with the BMP list and the SUSMPs.

The BMP list was not approved until April 22, 1999. Thereafter, the County submitted proposed SUSMPs on July 22, 1999. The Regional Water Board held a public workshop on

August 10, 1999. Following the workshop, the County submitted revisions to the SUSMPs on August 12, 1999. On August 16, 1999, the Regional water Board gave notice that it would discuss the SUSMPs in a public meeting on September 16, 1999. There was significant discussion at that meeting regarding the intent of the Executive Officer to approve the SUSMPs, but with revisions including a numeric design standard. At the conclusion of the meeting, the Regional Water Board members asked the Executive Officer to revise the SUSMPs and bring them back to another meeting. On December 7, 1999, the Executive Officer circulated revised SUSMPs for public review. This document incorporated a numeric design standard and made other revisions to the permittees' proposal. The Regional Water Board held a hearing on the SUSMPs on January 26, 2000. At that meeting, the Regional Water Board endorsed the SUSMPs revised by the Executive Officer, but directed him to make further changes. The Executive Officer issued the Final SUSMPs on March 8, 2000.

The Contents of the Final SUSMPs

The permit provides that the SUSMPs must incorporate the appropriate elements of the BMP list and, at a minimum, apply to seven development categories: 100-plus home subdivisions; 10-plus home subdivisions; 100,000-plus square foot commercial developments; automotive repair shops; retail gasoline outlets; restaurants; and hillside single-family dwellings.

The SUSMPs proposed by the County applied to these seven categories. Various BMPs applied to the different categories, and the SUSMPs contained narrative mitigation requirements for source control and treatment. The July proposals stated:

“The development must be designed so as to mitigate (infiltrate and/or treat) the site runoff generated from impervious directly connected areas that may contribute pollutants of concern to the storm water conveyance system.”

There were no numeric design criteria for mitigation. According to various participants, earlier County drafts had included design standards to mitigate flows from 0.6-inch storm events. But any numeric criteria had been removed from the version that was submitted.

In its revised SUSMPs, submitted on August 12, the County explained in its cover letter that the mitigation language did not mean that all runoff must be mitigated. Rather, the County's intent was to omit a numerical standard from the SUSMPs. The revised SUSMPs no longer referred to mitigation at all. Instead, the following language replaced the mitigation requirement:

“The development must be designed so as to minimize, to the maximum extent practicable (MEP), the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as approved by the building official.”

The Final SUSMPs, as approved by the Executive Officer and the Regional Water Board, included several revisions from the County's submittal. The revision that is of greatest concern to the petitioners is the addition of Design Standards for Structural or Treatment Control BMPs.¹¹ The design standards require that developments subject to the SUSMPs shall be designed to mitigate storm water runoff (by treatment or infiltration) from one of the following:

1. The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area..., or
2. The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment..., or
3. The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or
4. The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment” (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.”

¹¹ The Final SUSMPs also include the narrative language quoted from the County's August 22, 1999 proposal.

The Final SUSMPs also applied to two additional categories of development: parking lots over 5,000 square feet or with 25 or more spaces and exposed to storm water, and to developments in environmentally-sensitive areas. Other revisions included application to all projects in the categories instead of discretionary projects only and the definition of redevelopment.

II. CONTENTIONS AND FINDINGS¹²

Contention: The petitioners contend that the Regional Water Board erred in not complying with the Administrative Review Process within the permit, and acted arbitrarily and capriciously and in violation of the Clean Water Act and state law.

Finding: The permit required the County, in consultation with the cities subject to the permit, to submit SUSMPs. The permit includes some general minimum requirements for the SUSMPs.¹³ The Executive Officer is granted authority to approve the SUSMPs.¹⁴

The permit also contains an administrative review process.¹⁵ The permit states that the administrative review process “formalizes the procedure for review and acceptance of reports and documents” and “provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement action.”¹⁶ Following this introductory statement, the permit includes two procedures. The first is for review and approval or disapproval of reports and documents. The second is the dispute resolution section that must be followed prior to enforcement action.

¹² This Order does not address all of the issues raised by the petitioners. The Board finds that the issues that are not addressed are insubstantial and not appropriate for State Water Board review. (See *People v. Barry* (1987) 194 Cal.App.3d 158, [239 Cal.Rptr. 349], Cal. Code Regs., tit. 3, § 052.)

¹³ Permit, Part 2, III.A.1.c.

¹⁴ Permit, Part 2, III.A.2.

¹⁵ Permit, Part 2, I.G.

¹⁶ *Id.*

The process for review of documents that are subject to the Executive Officer's approval is that the Executive Officer will notify the permittees of the results of the review and approval or disapproval within 120 days. If the Executive Officer does not do so, the permittees must notify the Regional Water Board of their intent to implement the documents without approval. The Executive Officer then has 10 days to respond, or the permittees may implement the program and the Executive Officer may not make modifications.

The dispute resolution procedure is to be used when the Executive Officer determines that a permittee's storm water program is insufficient to meet the permit's provisions. The Executive Officer must send a "Notice of Intent to Meet and Confer" with the permittee. A meet and confer period then ensues, resulting in a written "Storm Water Program Compliance Amendment (SWPCA)." The permittee is provided time to comply with the SWPCA. The Executive Officer is not allowed to take enforcement action against a permittee until the Executive Officer notifies the permittee in writing that the administrative review process has been exhausted and that a violation exists warranting enforcement.

The petitioners contend that the Executive Officer failed to notify the permittees that their SUSMPs were inadequate within 120 days of its submittal. The petitioners also argue that, by revising the SUSMPs without pursuing the dispute resolution process, the Regional Water Board "violated" the terms of the permit.

The provision for review of documents, which clearly includes the SUSMPs, requires that the Executive Officer notify the permittees of the results of the review and approval or disapproval within 120 days. The County submitted the revised SUSMPs on August 12, 1999. Within 120 days, the Regional Water Board held a workshop where staff expressed their concerns with the SUSMPs. Also within 120 days the Regional Water Board itself held a public

meeting where there was extensive discussion and concern by board members that the SUSMPs did not include a numeric standard. And, prior to any notification by the permittees that they would proceed with implementing their SUSMPs, the Regional Water Board held a hearing January 26, 2000, where it directed the Executive Officer to issue the SUSMPs with revisions. The Executive Officer did so on March 8, 2000.

It is clear from the record that the Executive Officer, and the Regional Water Board itself, did inform the permittees that the SUSMPs were inadequate. There was no requirement for a specific form for expressing disapproval of documents. The extensive discussion and meetings on the need for revisions to the SUSMPs, and the Executive Officer's approval of revised SUSMPs, plainly refutes the allegation that the Regional Water Board never notified the permittees of its disapproval of the County's proposed SUSMPs.

The permittees also claim that the Regional Water Board "violated" the permit by failing to institute the meet and confer process.¹⁷ The dispute resolution process, which includes meet and confer, did not apply to the decision to disapprove the proposed SUSMPs. That process is only required when the Regional Water Board ultimately takes an enforcement action against a permittee. It is separate from the process for review and approval or disapproval of documents, and does not even appear to relate to possible enforcement actions for submission of inadequate documents. This is illustrated by the fact that the provision regarding documents refers to submittals from both the Principal Permittee and the individual permittees, while the dispute resolution provision refers only to the permittees. This distinction is relevant because the County is charged with submitting the documents, while the individual permittees are responsible for compliance. A fair reading of the entire section on the administrative review process is that the

¹⁷ We note that permits are issued to permittees to allow discharges to waters of the state. It is only permittees, and not Regional Water Boards, who can be charged with violating permits.

review and approval or disapproval of documents applies to submission of documents by the County on behalf of the cities, while the dispute resolution process applies to enforcement actions against any permittees for failing to implement adequate programs.

Contention: The petitioners contend that the Regional Water Board was not authorized to revise the SUSMPs to add more stringent requirements.

Finding: The petitioners contend that the mitigation standards in the SUSMPs are more stringent than the requirement in the permit to reduce pollutants in storm water runoff to the maximum extent practicable (MEP)¹⁸. The issue of what level of protection constitutes MEP will be discussed *Infra*, in the discussion of the reasonableness of the numeric standards. But the petitioners also make certain procedural claims on this point. They argue that in approving the BMP list, the Regional Water Board determined that those BMPs constituted MEP and that the Board could not add additional BMPs in the SUSMPs. They also contend the Regional Water Board itself had no authority to “usurp” the Executive Officer’s role in reviewing the SUSMPs.¹⁹ Finally, the petitioners contend that the Regional Water Board was not authorized to mandate a program for the permittees without amending the permit.

The permit requires the County to submit a list of BMPs for approval. The Regional Water Board approved this list. Following approval of the list, the County was required to submit the SUSMPs, which must “incorporate the appropriate elements of the recommended BMPs list.”²⁰ The petitioners contend that by approving the list, the Regional Water Board determined that those BMPs constituted MEP, and that under the terms of the permit the Regional Water Board could not require additional BMPs.

¹⁸ The technology-based standard for controls under municipal storm water permits is MEP. For a fuller discussion of this standard, see Order WQ 91-03.

¹⁹ It is undisputed that, at its January 26, 2000 meeting, the Board directed the Executive Officer to make additional revisions to the SUSMPs.

²⁰ Permit, Part 2, III.A.1.c.

In addressing this contention, we face what appears to be a fundamental misunderstanding of the numeric design standards on the part of the petitioners. The design standards are objective criteria that developers must achieve in designing their BMPs. The design standards are not separate BMPs. The standards tell what magnitude of storm event the BMPs must be designed to treat or infiltrate. They do not specify the BMPs that must be employed.

The SUSMPs as submitted by the County specify BMPs for various categories of development. Many of these BMPs are designed to minimize the pollutants in storm water runoff, by reducing flow through infiltration or by treatment. Examples of BMPs proposed by the County include infiltration basins and trenches, oil/water separators, and media filtration. The County's proposed SUSMPs also included language requiring minimizing the introduction of pollutants to the storm water conveyance system. That language remains unchanged in the Final SUSMPs. The only significant difference between the two versions of the SUSMPs was that the Regional Water Board established numeric criteria for designing the BMPs.

In adopting the Final SUSMPs, the Regional Water Board based its decision on the MEP standard.²¹ The Regional Water Board did not significantly revise the BMP list or specify further the actions that developers must take to comply with the SUSMPs. Thus, we find that the Regional Water Board did not inappropriately revise its determination of what constituted MEP.

The Regional Water Board is the political body responsible for water quality control in the Los Angeles region.²² While the Regional Water Board may delegate specified powers and duties to its Executive Officer,²³ it can at any time act on its own behalf. The fact that the Board authorized its Executive Officer to approve the SUSMPs in the permit did not mean that the Board thereby denied itself the opportunity to provide direction to the Executive Officer in his

²¹ Resolution R-00-02.

²² Water Code sections 13200 and 13225.

²³ Water Code section 13223.

approval. Such an interpretation of its delegation authority would result in an improper failure of the Board to assume responsibility for water quality in the region.

We also find that the Regional Water Board was authorized to revise the SUSMPs to achieve compliance with the permit's requirements. The SUSMPs are a part of implementation of the permit. Because the permit regulates storm water discharges throughout the entire Los Angeles region and it is implemented by 85 cities and the County, it is obvious that the permit could not spell out every detail of the program for the five-year term of the permit. Instead, the implementation is through the submission, review and approval, and implementation of various programs, including the SUSMPs.²⁴ Where it receives a submission that it finds is not consistent with the requirements of the permit, it is reasonable for the Regional Water Board to be able to require revisions. The Regional Water Board is not required to amend the permit each time it approves a submittal or approves a submittal with revisions. On the other hand, if the Regional Water Board's action in requiring revisions is inconsistent with the terms of the permit, then the Board should not act without first amending the permit. While the Regional Water Board could have required the County to make the revisions rather than making them itself, we see no harm in the Regional Water Board's approach.

As will be discussed below, in most respects the Final SUSMPs are consistent with the permit. But there are some portions of the SUSMPs that are not consistent, and in those cases the SUSMPs provisions are further revised in this Order.

Contention: The petitioners make various procedural claims, including that they were denied due process, and that the Regional Water Board violated the Administrative Procedure

²⁴ A fuller discussion of the use of storm water management plans to incorporate a developing program is found in Order No. WQ 91-03.

Act, the California Environmental Quality Act (CEQA), and the California Constitution, Article XIII B, section 6 (regarding state mandates).

Finding: The petitioners point out that at the January 26, 2000 Regional Water Board hearing, there was some confusion over late changes to the SUSMPs and they contend they were not provided adequate opportunity to comment. There was significant discussion of the SUSMPs over several months. We do not agree with the petitioners that a program of this magnitude must necessarily take years to develop. But we are concerned that at the January 26, 2000 hearing, interested persons and permittees were not given adequate time to review late revisions or to comment on them. Given the intense interest in this issue, the Regional Water Board should have diverged from its strict rule limiting individual speakers to three minutes and conducted a more formal process. Such a process should provide adequate time for comment, including continuances where appropriate.²⁵ But to the extent the Regional Water Board's process caused any harm, this Board cured those harms. We held a two-day hearing in Los Angeles County, where all parties were allowed significant time to present their positions and testimony. In addition, we allowed the introduction of new evidence that had not been presented to the Regional Water Board. At this point, all parties have been afforded a full opportunity to review the Final SUSMPs, to present their positions and evidence, and to engage in cross-examination. The petitioners' due process rights have been protected.

The Board has already addressed the contentions regarding compliance with other laws in prior decisions. The Administrative Procedure Act exempts the adoption of permits from its requirements.²⁶ While the SUSMPs are not a permit, they are implementing documents for a

²⁵ For future adjudicative proceedings that are highly controversial or involve complex factual or legal issues, we encourage regional water boards to follow the procedures for formal hearings set forth in Cal. Code of Regs., tit. 23, section 648 et seq.

²⁶ Government Code section 11352; See, Order No. 95-4 (In the Matter of the City and County of San Francisco).

permit, and are therefore subject to the exemption. Moreover, they are relevant only to this permit, and are not a general rule of application. The constitutional provisions regarding state mandates also do not apply to NPDES permits.²⁷ As will be explained below, the SUSMPs as revised herein, are consistent with MEP and therefore are federally mandated. The provisions of CEQA requiring adoption of environmental documents also do not apply to NPDES permits.²⁸ Again, as an implementing document for the permit, there is no requirement for a separate CEQA analysis.²⁹

Contention: The petitioners contend that the SUSMPs do not properly apply the maximum extent practicable standard.

Finding: The permit, consistent with Clean Water Act section 402(p)(3)(B)(iii), requires controls to reduce the discharge of pollutants to the maximum extent practicable, or MEP.³⁰ In approving the Final SUSMPs, the Regional Water Board acknowledged that one of the primary objectives of the municipal storm water program is the requirement to reduce the discharge of pollutants from storm water conveyance systems to the MEP.³¹ While all parties appear to agree that the standard for the SUSMPs is MEP, they disagree about what level of effort is necessary to comply with that standard.

The petitioners approach this issue from two angles. First, they contend that the SUSMPs will not provide water quality benefits that reflect MEP. Second, they contend that there could be adverse impacts on groundwater quality that have not been adequately evaluated.

²⁷ See, Order No. WQ 90-3 (In the Matter of San Diego Unified Port District).

²⁸ Water Code section 13389.

²⁹ We do note with interest the environmental groups' comment that if the permittees believed it was necessary to comply with the APA and CEQA prior to adoption of the SUSMPs, then they themselves would have violated those acts in their submissions of the proposed SUSMPs.

³⁰ Permit, Finding 13.

³¹ Final SUSMPs, at page 2; Resolution No. R-00-02, at page 3.

Storm Water Design Standards as MEP

In adopting the Final SUSMPs, the Regional Water Board found that many rivers and streams in Los Angeles County are impaired for pollutants found in storm water and urban runoff, and that storm water runoff carries pollutants from nearly all types of developed properties.³² Pollutant loading from the aggregate of development in the basin results in impairments from sediments, metals, complex organic compounds, oil and grease, nutrients, and pesticides.³³ The Final SUSMPs reflect two goals: to reduce the amounts of these pollutants in runoff and to reduce the ability of runoff to act as a conveyance system to deliver more pollutants to receiving waters. The Final SUSMPs, which include lists of BMPs and design standards requiring treatment or infiltration, address these two goals.

Clean Water Act section 402(p)(3)(B)(iii), which sets forth the requirements for establishing MEP in municipal storm water permits, provides that such permits “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” The United States Environmental Protection Agency (U.S. EPA), in a guidance document, explains that BMPs should be used in first-round storm water permits, and “expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.”³⁴ The Clean Water Act, as interpreted by U.S. EPA, does require that, in a second-round permit,³⁵ expanded BMPs may be appropriate. In light of the number of water

³² Resolution No. R-00-02.

³³ *Id.*

³⁴ Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 Federal Register 57425 (1996).

³⁵ The original permit was issued in 1990. The 1996 permit is a second-round permit.

bodies impaired by runoff in Los Angeles County, it was appropriate to expand the scope of BMPs during the permit term.

The regulations implementing section 402(p) specifically require municipalities to have controls to reduce the discharge of pollutants from their storm sewer systems that “receive discharges from areas of new development and significant redevelopment,” including post-construction discharges.³⁶ Clearly, it was appropriate for the Regional Water Board to require BMPs for new development and significant redevelopment. The permittees, who submitted their own version of SUSMPs with listed BMPs for categories of development, appear to have no real quarrel with this general mandate.

This Board has already endorsed requirements to limit the flow of the “first flush” of storm water, which may contain more significant pollutants.³⁷ The permittees’ own version of the SUSMPs required mitigation of storm water runoff by treatment or infiltration, thus conceding the propriety of these two approaches to lessening the impact of storm water discharges. The crux of the disagreement is that the Regional Water Board added numeric design standards to establish the amount of runoff that must be treated or infiltrated, and required the mandatory application of these standards to categories of development.

The addition of measurable standards for designing the BMPs provides additional guidance to developers and establishes a clear target for the development of the BMPs. The U.S. EPA guidance manual suggests the use of design criteria and performance standards for post-construction BMPs.³⁸ The numeric criteria the Regional Water Board adopted essentially

³⁶ 40 CFR section 122.26(d)(2)(iv)(A)(2).

³⁷ In the Matter of National Steel and Shipbuilding Company, et al., Order WQ 98-07, at slip opinion 7.

³⁸ Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems, at page 6-4 (November 1992).

requires that 85 percent of the runoff from the development be infiltrated or treated.³⁹ In adopting these standards, the Regional Water Board based its decision on a research review of standards in other states and a statistical analysis of the rainfall in the area. The standard was set to gain the maximum benefit in mitigation while imposing the least burden on developers.⁴⁰ In light of the evidence of the use of this or more stringent standards in other states, the expert testimony supporting this standard, the endorsement by U.S. EPA in its comments, and the cost-effectiveness of its implementation (discussed below), the Regional Water Board acted appropriately in determining that the standards reflect MEP.⁴¹

We also find that the Regional Water Board appropriately applied these standards to seven of the categories listed in the SUSMPs: single-family hillside residences, 100,000 square foot commercial developments, automotive repair shops, restaurants, home subdivisions with 10 to 99 housing units, home subdivisions with 100 or more housing units, and parking lots with 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff.⁴² These categories, except for parking lots, were already targeted for special treatment in the permit. The evidence shows that each listed category can be a significant source of pollutants and/or runoff following development. It is appropriate that the design standards apply so that BMPs for these categories of development result in the infiltration or treatment of a significant amount of the runoff.

³⁹ Four different methods of calculation are permitted, so the percentage of capture may vary slightly.

⁴⁰ At the hearing in this matter, Regional Water Board staff explained that the standard was set at the bottom of the “knee” of the curve where the benefits of the mitigation requirements decrease and the cost increases. Other states have set the standard higher along this curve, requiring 90 to 95 percent mitigation.

⁴¹ This conclusion in no way departs from our acceptance of BMPs in lieu of numeric effluent limitations in storm water permits. (See, e.g., Order WQ 91-03 and Order WQ 91-04.) The numeric standard is a design standard for BMPs. It does not quantify or limit the pollutants in the effluent. It also does not specify which of the listed BMPs must be employed.

⁴² As discussed below, this Board is revising the SUSMPs to delete the application of the design standards to retail gasoline outlets and to locations within or directly adjacent to or discharging directly to environmentally-sensitive areas.

Potential Impacts on Ground Water

The petitioners contend that infiltration of runoff may lead to ground water pollution, and that the Regional Water Board did not properly consider such potential impacts. The mitigation standards provide for a waiver where there is a risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than ten feet from the soil surface.⁴³ The Final SUSMPs also include a discussion on how to use infiltration so that the risk of contamination of groundwater is reduced, and where infiltration is not appropriate.⁴⁴

The Regional Water Board did consider the potential impacts to groundwater from infiltration, and included appropriate limitations and guidance on its use as a BMP. These provisions will ensure adequate protection of groundwater from any adverse impacts due to infiltration.

Contention: The petitioners contend the Regional Water Board failed to show that the SUSMPs as adopted are cost-effective and that the benefits to be obtained outweigh the costs.

Finding: The petitioners refer to the Preamble to the Phase II storm water regulations⁴⁵ as the basis for their economic argument. The quoted language, however, does not wholly support the petitioners' contention. The Preamble states that President Clinton's Clean Water Initiative clarifies "that the maximum extent practicable standard should be applied in a site-specific, flexible manner, taking into account cost considerations as well as water quality effects."⁴⁶ It is clear that cost should be considered in determining MEP; this does not mean that

⁴³ Final SUSMP, page 14.

⁴⁴ *Id.*, at page 15.

⁴⁵ 64 Federal Register 68722 and following. These regulations do not apply to the permit, but the general language on MEP is relevant to EPA's interpretation of the standard.

⁴⁶ 64 Federal Register 68722, 68732 (December 8, 1999).

the Regional Water Board must demonstrate that the water quality benefits outweigh the economic costs.

While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. Probably the most comparable law that uses the term is the Superfund legislation, or CERCLA, at section 121(b). The legislative history of CERCLA indicates that the relevant factors, to determine whether MEP is met in choosing solutions and treatment technologies, include technical feasibility, cost, and state and public acceptance.⁴⁷ Another example of a definition of MEP is found in a regulation adopted by the Department of Transportation for onshore oil pipelines. MEP is defined as to “the limits of available technology and the practical and technical limits on a pipeline operator”⁴⁸

These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.

In reviewing the record, it is apparent that the Regional Water Board did evaluate the cost of the SUSMPs. While the petitioners claim there is no evidence in the record to show the

⁴⁷ 132 Cong. Rec. H 9561 (Oct. 8, 1986).

⁴⁸ 49 CFR section 194.5.

SUSMPs are necessary and cost effective, the opposite is true. The record is replete with documentation of costs of pilot mitigation projects, studies from similar programs in other states, and research studies. The Regional Water Board complied with the requirement to consider cost.

The Regional Water Board found that the cost to include BMPs that will meet the mitigation criteria will be one to two percent of the total development cost. This amount appears reasonable, especially in light of the amount of impervious surface already in Los Angeles County and the impacts on impaired water bodies. In considering the cost of compliance, it is also important to consider the costs of impairment. The beach closures in the Los Angeles region, well documented in the evidence, have reached critical proportions. These beach closures clearly have a financial impact on the area, and should be positively affected by the SUSMPs.

We do note that there could be further cost savings for developers if the permittees develop a regional solution for the problem. We recommend that the cities and the County, along with other interested agencies, work to develop regional solutions so that individual dischargers are not forced to create numerous small-scale projects. While the SUSMPs are an appropriate means of requiring mitigation of storm water discharges, we also encourage innovative regional approaches.⁴⁹

Contention: The petitioners have raised contentions regarding details of the SUSMPs, including the amount of time allowed for inclusion of SUSMPs in local ordinances, and their application to both “discretionary” and “non-discretionary” projects. In addition, during the hearing certain ambiguities in the wording of the Final SUSMPs became apparent, including the provisions regarding redevelopment and environmentally-sensitive areas. In this portion of the

⁴⁹ We note that the SUSMPs as written do not in any way preclude the development of regional solutions approved by the Regional Water Board as a means to comply with the BMP and design standard requirements.

Order we address these issues and also the application of the design standards to retail gasoline outlets (RGOs) and the waiver funding requirements.

Finding: The testimony at the hearing in this matter revealed that there are specific provisions of the SUSMPs that create confusion as to the types of development projects subject to the mitigation design standards. The petitioners also contend that application of the standards to specific types of development either is unreasonable or is inconsistent with the terms of the permit. The specific requirements are discussed below.

Retail Gasoline Outlets

Petitioner WSPA contends that RGOs should be excluded from the SUSMPs. Its petition raised the same general contentions as the other petitioners, but at the hearing WSPA presented evidence specific to RGOs. In particular, WSPA raised questions about the propriety of applying the design standards for BMPs to RGOs. In considering this issue, we conclude that construction of RGOs is already heavily regulated and that owners may be limited in their ability to construct infiltration facilities. Moreover, in light of the small size of many RGOs and the proximity to underground tanks, treatment may not always be feasible, or safe. The mandatory BMPs that are included in the SUSMPs may be adequate to achieve MEP at RGOs, but the Regional Water Board should add additional mandatory BMPs, such as use of dry cleanup methods (e.g. sweeping) for removal of litter and debris, use of rags and absorbents for leaks and spills, restricting the practice of washing down hard surfaces unless the wash water is collected and disposed of properly, annual training of employees on proper spill cleanup and waste disposal methods, and the inclusion of BMPs to address trash receptacle areas and air/water supply

areas.⁵⁰ We conclude that because RGOs are already heavily regulated and may be limited in their ability to construct infiltration facilities or to perform treatment, they should not be subject to the BMP design standards at this time, and recommend that the Regional Water Board undertake further consideration of a threshold relative to size of the RGO, number of fueling nozzles, or some other relevant factor. This Order should not be construed to preclude inclusion of RGOs in the SUSMP design standards, with proper justification, when the permit is reissued.

Redevelopment Projects

The SUSMPs were written to apply to new development and to some types of redevelopment in nine categories of projects. The definition of “redevelopment” reflected the intent of the Regional Water Board to define the scope of redevelopment projects subject to the requirements. That definition⁵¹, however, was somewhat confusing, and it was apparent from testimony at the hearing that the parties had different understandings of the scope of redevelopment subject to the SUSMPs. In their post-hearing briefs, the various parties appeared to agree on the actual intent of the Regional Water Board in including redevelopment in the SUSMPs. This intent was to include redevelopment that adds or creates at least 5,000 square feet of impervious surface to the original development and, where the addition constitutes less than 50 percent of the original development, to limit the application of the BMP design standards to the addition.

⁵⁰ These BMPs are from a list of BMPs in a publication of the California Storm Water Quality Task Force. (Best Management Practice Guide – Retail Gasoline Outlets, March 1997.) This publication includes BMPs in addition to those listed in the SUSMPs. All BMPs recommended in this publication should be mandated.

⁵¹ The SUSMPs state: “Redevelopment” means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious surfaces or the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces.

While some parties requested further requirements for development, it appears that the Regional Water Board's original intent was relatively simple to apply and results in a fair and appropriate application of the SUSMPs' requirements to redevelopment. Therefore, we will revise the definition in the SUSMPs accordingly.

Environmentally-Sensitive Areas

The permit required that the SUSMPs address at least seven development categories.⁵² The final SUSMPs added two more categories: parking lots of 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff; and location within or directly adjacent to an environmentally-sensitive area (ESA). The petitioners contend that the addition of ESAs was inappropriate because the permit refers only to "development categories",⁵³ and ESA is a location category.

Whether or not the Regional Water Board went beyond the permit's terms in including this category, we find a fundamental problem with the language of the SUSMPs regarding ESAs. All of the other categories are relatively simple to apply because they describe the types of development that fall within the category. For instance, the threshold for a commercial development is 100,000 square feet. If the development is smaller, it is not subject to the SUSMPs. But for developments within ESAs, the SUSMPs contain no threshold. This absence led to speculation by the petitioners that something as small as a new patio on a home in an ESA would make the SUSMPs applicable. The Regional Water Board, at the hearing and in its post-hearing brief, conceded that there should be some threshold. While the Regional Water Board

⁵² The categories listed in the permit are: single-family hill residences, 100,000 square-foot commercial developments, automotive repair shops, retail gasoline outlets, restaurants, home subdivisions with 10 to 99 housing units, and home subdivisions with 100 or more housing units. Permit, Part 2, III.A.1.c.

⁵³ *Id.*

did recommend a specific threshold, we believe that it is inappropriate for this Board to add a threshold that has not been fully discussed by all interested persons.

While it may be appropriate to include more stringent controls for developments in ESAs, we also note that such developments are already subject to extensive regulation under other regulatory programs. Moreover, in light of the permit language limiting the SUSMPs to development categories, ESAs are not an appropriate category within the SUSMPs. The Regional Water Board may choose to consider the issue further when it reissues the permit.

Discretionary and Non-Discretionary, or Ministerial, Projects

The petitioners contend that the SUSMPs should apply only to projects that are considered “discretionary” within the meaning of California Environmental Quality Act (CEQA).⁵⁴ They argue that the inclusion of non-discretionary, or ministerial, projects is inconsistent with the terms of the permit.

The permit provisions on development projects do refer to “discretionary” projects in several places. The permittees are directed to develop a checklist for determining priority and exempt projects.⁵⁵ Priority projects are defined as development and redevelopment projects requiring discretionary approval, which may have a potential significant effect on storm water quality.⁵⁶ The permittees are also required to develop a BMP list.⁵⁷ In developing the SUSMPs, the permittees are required to incorporate appropriate elements of the BMP list.⁵⁸ Next, the permittees must develop a program on planning control measures for priority projects (which are limited to projects requiring discretionary approval), consistent with the list of BMPs and the

⁵⁴ Public Resources Code section 21000 *et seq.*

⁵⁵ Permit, Part 2, III.A.1.a.

⁵⁶ *Id.*

⁵⁷ Permit, Part 2, III.A.1.b.

⁵⁸ Permit, Part 2, III.A.1.c.

SUSMPs.⁵⁹ The permit further states that, in order to assure compliance with these requirements, the permittees must develop guidelines on preparing CEQA documents that link mitigation conditions to “local discretionary project approvals.”⁶⁰

Taken as a whole, the provisions of the permit appear to link the development requirements for SUSMPs to developments that receive discretionary approval by local governments, as defined in CEQA. The SUSMPs are an implementation tool for the permit and must be consistent with the permit. While the limitation of the SUSMPs to discretionary projects may not be sufficiently broad for an effective storm water control program, the Regional Water Board acted inappropriately in expanding the SUSMPs to include non-discretionary projects. The Regional Water Board may consider expanding the development controls beyond CEQA discretionary projects when it reissues the permit. But at this time, the SUSMPs must be revised so that they are limited to development projects requiring discretionary approval within the meaning of CEQA.⁶¹

Waiver Funding Requirement

Where a waiver is granted from the design standard requirements, the Final SUSMPs provide that the permittee must require the project proponent to transfer the cost savings to a storm water mitigation fund. The fund is to be operated by a public agency or a non-profit entity, to promote regional or alternative solutions for storm water pollution in the same storm watershed. The petitioners contend that the funding requirement will create an additional administrative burden.

⁵⁹ Permit, Part 2, III.a.2.

⁶⁰ Permit, Part 2, III.a.3.b.

⁶¹ We note that the Final SUSMPs already include a definition of “discretionary project” consistent with the definition in the CEQA guidelines. Final SUSMPs at page 4 of 25; Title 14, California Code of Regulations, section 15357. Apparently this definition was inadvertently retained after the Regional Water Board decided to expand the SUSMPs beyond discretionary projects.

The concept of a mitigation fund or “bank” is a positive idea for obtaining regional solutions to storm water runoff. As a long-term strategy, municipal storm water dischargers should work to establish regional mitigation facilities, which may be more cost-effective and more technically effective than mitigation structures at individual developments. But at this point there are not sufficient resources in place to require all permittees to establish such funds or to find appropriate non-profit organizations. Before mandating funding, preliminary questions should be answered, including who will manage the fund, what types of projects it will be used for, what entities can legally operate such funds, and how permittees will determine the amount of the assessments. It would be appropriate for the County to consider developing a program with the appropriate flood control agency, or as a model for the separate cities to develop. There may be suitable agencies to administer such funds, but the development of programs may take some time. The Regional Water Board should consider adopting such a program when it reissues the permit, after consultation with the appropriate local agencies.

III. CONCLUSIONS

Based on the discussion above, the Board concludes that:

1. The Regional Water Board complied with the procedural requirements of the permit, including the Administrative Review Process, in approving the Final SUSMPs.
2. The Regional Water Board was authorized to revise the SUSMPs by including more stringent requirements than the permittees had proposed.
3. The Regional Water Board complied with did not violate the Administrative Procedure Act, CEQA, or the Constitutional provisions on state mandates. The petitioners’ due process rights have been protected
4. The Regional Water Board considered the costs of the SUSMPs, and acted reasonably in requiring these controls in light of the expected benefits to water quality.

IV. ORDER

IT IS HEREBY ORDERED that the Standard Urban Storm Water Mitigation Plans for Los Angeles County and Cities in Los Angeles County is revised consistent with the amendments attached hereto. In all other respects the petitions are dismissed.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 5, 2000.

AYE: Arthur G. Baggett, Jr.
Mary Jane Forster
John W. Brown

NO: None

ABSENT: Peter S. Silva

ABSTAIN: None

/s/

Maureen Marché
Administrative Assistant to the Board

AMENDMENTS TO SUSMPS

[These amendments are to the Final SUSMP, as published March 8, 2000]

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First full paragraph:

All **discretionary development and redevelopment** projects that fall into one of ~~seven~~ **the following** categories are ~~identified in the Los Angeles County MS4 Permit as requiring subject to these~~ SUSMPs. These categories are:

- Single-family Hillside Residences
- 100,000 Square Foot Commercial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 to 99 housing units
- Home Subdivisions with 100 or more housing units
- **Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff**

Second full paragraph:

~~The Regional Board Executive Officer has designated two additional categories subject to SUSMP requirements for the Los Angeles County MS4 Permit. These categories are:~~

- ~~• Location within or directly adjacent to or discharging directly to an environmentally sensitive area, and~~
- ~~• Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff~~

Fourth full paragraph:

Permittees shall amend codes, if necessary, not later than ~~September 8, 2000~~ **January 15, 2001**, to give legal effect to the SUSMP requirements. The SUSMP requirements for projects identified herein shall take effect not later than ~~October 8, 2000~~ **February 15, 2001**.

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Delete definition of “Environmentally Sensitive Area”

Revise Definition of “Redevelopment”:

“Redevelopment” means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious surfaces ~~or the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure~~. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. **Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to these SUSMPs, the Design Standards apply only to the addition, and not to the entire development.**

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Add to “Limited Exclusion”: Retail Gasoline Outlets

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Delete the first full paragraph (storm water mitigation funding)

ATTACHMENT E-2

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
ORDER WQ 2009-0008

In the Matter of the Petition of
COUNTY OF LOS ANGELES AND LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
Waste Discharge Requirements Order No. R4-2006-0074
Issued by the
California Regional Water Quality Control Board,
Los Angeles Region

SWRCB/OCC FILE A-1780

BY THE BOARD:

In 2001, the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) adopted Waste Discharge Requirements Order No. 01-182 (the permit), a national pollutant discharge elimination system (NPDES) municipal storm water permit. The permit authorizes storm water discharges from municipalities throughout the County of Los Angeles.¹ In 2002, the Los Angeles Water Board established a total maximum daily load (TMDL) for bacteria at Santa Monica Bay beaches during dry weather (the TMDL). The TMDL includes a waste load allocation for municipal storm water discharges. On September 14, 2006, the Los Angeles Water Board modified the permit by adopting Waste Discharge Requirements Order No. R4-2006-0074 (the Permit modification). The Los Angeles Water Board crafted the Permit modification to implement the summer dry weather waste load allocations in the TMDL.

On October 16, 2006, the County of Los Angeles and the Los Angeles County Flood Control District (Petitioners) filed a petition with the State Water Resources Control Board (State Water Board), challenging the Permit modification. The Petitioners asked that the petition be placed in abeyance. Two years later, in September 2008, the Petitioners activated

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¹ The City of Long Beach is subject to a separate municipal storm water permit. (Los Angeles Water Board Order 99-060 [NPDES No. CAS004002].)

the petition. In this Order, the State Water Board concludes that the Los Angeles Water Board's implementation of the TMDL through the Permit modification was appropriate and proper.²

I. BACKGROUND

A. Regulatory Background

The Petitioners contend the Los Angeles Water Board improperly translated the provisions of an existing TMDL into a municipal storm water permit. In this section, we provide a brief overview of relevant portions of the regulatory frameworks for TMDLs and for storm water regulation.

1. TMDLs

In State Water Board Order WQ 2001-06 (*Tosco*), this Board provided a detailed background of TMDLs. As we explained in the *Tosco* order, water quality standards provide the foundation for identifying impaired waters that require a TMDL. Clean Water Act section 303(c) requires the states to adopt water quality standards that protect the public health or welfare, enhance the quality of water, and serve the purposes of the Clean Water Act. Water quality standards consist of the beneficial uses of a water body and the criteria to protect those uses. For waters subject to the Clean Water Act, California's water quality standards are typically found in regional water quality control plans (basin plans) and in statewide plans.

Clean Water Act section 303(d) requires states to identify waters of the United States for which technology-based effluent limitations are not stringent enough to implement water quality standards. We refer to those waters that are not attaining water quality standards as impaired waters, and identify the impaired waters on the state's 303(d) list of water quality limited segments.

For the pollutants causing impairment of waters of the United States, Clean Water Act section 303(d) requires states to establish TMDLs. "A TMDL defines the specified maximum amount of a pollutant which can be discharged or 'loaded' into [impaired waters] from all combined sources."³ A TMDL is the sum of the individual wasteload allocations assigned to point sources, load allocations for nonpoint sources, and other elements designed to achieve

² To the extent Petitioners raised issues not discussed in this order, such issues are hereby dismissed as not substantial or appropriate for review by the State Water Board. (See *People v. Barry* (1987) 194 Cal.App.3d 158, 175-177; *Johnson v. State Water Resources Control Board* (2004) 123 Cal.App.4th 1107; Cal. Code Regs., tit. 23, § 2052, subd. (a)(1).)

³ *Dioxin/Organochlorine Center v. Clarke* (9th Cir. 1995) 57 F.3d 1517, 1520.

water quality standards.⁴ Regional water quality control boards typically adopt TMDLs as part of each region's basin plan⁵ and therefore include programs for implementation.⁶ In essence, TMDLs serve as a backstop provision of the Clean Water Act designed to implement water quality standards when other provisions have failed to achieve water quality standards.

TMDLs are not self-executing, but instead, rely upon further orders or actions to adjust pollutant restrictions on individual dischargers.⁷ Federal regulations state that water quality based effluent limitations in NPDES permits must be consistent with the assumptions and requirements of the wasteload allocations in the TMDL, if the TMDL has been approved by the United States Environmental Protection Agency (U.S. EPA).⁸

The State Water Board estimates that statewide over 580 TMDLs will be needed for the current impaired waters list of 2,238 pollutant/water body combinations. Over 115 TMDLs are currently under development.

2. Municipal Storm Water Regulation

This Board has discussed the regulatory requirements for municipal storm water discharges in prior orders.⁹ Section 402(p) of the Clean Water Act prohibits the discharge of pollutants from specified municipal separate storm sewer systems (MS4s) to waters of the United States except as authorized by an NPDES permit. Section 402(p) contains two substantive standards applicable to municipal storm water permits: MS4 permits (1) "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers;"¹⁰ and (2) "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."¹¹

⁴ 40 C.F.R. § 130.3(i).

⁵ See 40 C.F.R. §§ 130.6(c)(1) & 130.7.

⁶ Wat. Code, §§ 13050, subd. (j), & 13242.

⁷ *City of Arcadia v. EPA* (N.D.Cal. 2003) 265 F.Supp.2d 1142, 1144-1145; see also, e.g., State Water Board Resolution 2002-0149, ¶ 9 (approving Santa Monica Beaches Dry Weather Bacteria TMDL and noting that numeric targets and wasteload allocations are not directly enforceable and will need to be translated into individual permit requirements during a subsequent permitting action).

⁸ 40 C.F.R. § 122.44(d)(1)(vii)(B).

⁹ See, e.g., State Water Board Orders WQ 91-03 (*Communities for a Better Environment*), WQ 96-13 (*Save San Francisco Bay Ass'n*), WQ 2000-11 (*Cities of Bellflower et al.*), and WQ 2001-15 (*BIA*).

¹⁰ 33 U.S.C., § 1342(p)(3)(B)(ii).

¹¹ *Id.*, § 1342(p)(3)(B)(iii).

U.S. EPA promulgated regulations establishing minimum requirements for all MS4 permits. The regulations generally focus on requirements that MS4s implement programs to reduce the amount of pollutants found in storm water discharges to the maximum extent practicable. The regulations also require the MS4's program to include an element to detect and remove illicit discharges and improper disposal into the storm sewer.¹² U.S. EPA added the illicit discharge program requirement with the stated intent of implementing the Clean Water Act provision requiring permits to "effectively prohibit non-storm water discharges."¹³ Neither the Clean Water Act nor the federal storm water regulations define "non-storm water." "Illicit discharge" is defined as any discharge to an MS4 "not composed entirely of storm water."¹⁴ Thus, "illicit discharge" is the most nearly applicable definition of "non-storm water" found in federal law and is often used interchangeably with that term.

B. Procedural Background

In 1998, the State Water Board added 44 Santa Monica Bay beaches to its 303(d) list due to bacteria impairments. As required by the Clean Water Act, the Los Angeles Water Board adopted a TMDL entitled *Dry Weather TMDL for Bacteria at Santa Monica Bay Beaches* (the TMDL) on January 24, 2002. The State Water Board approved the TMDL on September 19, 2002. The California Office of Administrative Law and U.S. EPA subsequently approved the TMDL, and the TMDL became effective on July 15, 2003.

The Los Angeles Water Board established the TMDL to protect swimmers and other recreational users of Santa Monica Bay beaches when there are dry weather conditions and the beaches are most heavily used. Dry weather is defined in the TMDL to mean those days with less than 0.1 inches of rain and days at least three days after a day with 0.1 inches of rain or more. The TMDL recognizes that, under certain conditions, even undeveloped watersheds may have exceedances of bacteria water quality standards. As a result, the TMDL differentiates between summer dry weather (April 1 to October 31) and winter dry weather (November 1 to March 31). In summer dry weather, a reference beach in an undeveloped watershed had no exceedances of bacteria water quality standards. The resulting summer dry weather wasteload allocations in the TMDL are, therefore, zero days of exceedance of the bacteria water quality standards at a particular beach. In winter dry weather, the reference

¹² 40 C.F.R. § 122.26(d)(2)(iv)(B).

¹³ National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule (hereafter Phase I preamble), 55 Fed. Reg. 47990, 47995 (Nov. 16, 1990).

¹⁴ 40 C.F.R. § 122.26(b)(2). The definition of "illicit discharge" does provide exceptions for discharges pursuant to a separate NPDES permit and for discharges resulting from fire fighting activities. (*Ibid.*)

beach had three exceedances of the bacteria water quality standards. The resulting winter dry weather wasteload allocations allowed no more than three days of exceedance of the bacteria water quality standards at a particular beach.¹⁵

The TMDL includes wasteload allocations for municipal storm water discharges. Recognizing the different challenges associated with achieving the summer and winter dry weather wasteload allocations, as well as the higher summertime use of the beaches, the Los Angeles Water Board's implementation plan for the TMDL established a shorter schedule for achieving the summer dry weather wasteload allocations. The basin plan amendment establishing the TMDL included an implementation plan with a final compliance date of July 15, 2006 for summer dry weather. The final date for winter dry weather is July 15, 2009. By those dates, the TMDL's implementation plan anticipated there were to be no more discharges from MS4s that cause or contribute to exceedances of bacteria water quality standards on summer dry weather days.

The TMDL applies to Santa Monica Bay beaches along 55 miles of coastline, from Leo Carillo State Beach in the north to Outer Cabrillo beach in the south. Together, the beaches host an average of 55 million visitors per year, who add approximately \$1.7 billion dollars to the local economy.

In May 2006, the Los Angeles Water Board's staff provided notice of its proposal to reopen and modify the permit in order to establish permit requirements consistent with the TMDL and its implementation plan. The proposed modification would make the TMDL's wasteload allocations enforceable, and be consistent with U.S. EPA's regulation requiring that effluent limitations in NPDES permits be consistent with the assumptions and requirements of the wasteload allocations in the TMDL.¹⁶ The Los Angeles Water Board solicited and received two rounds of comments on the proposed permit revisions, held a public workshop to solicit oral and written comments, and issued two sets of responses to comments. During the comment period, the Los Angeles Water Board received many comment letters, including letters of support from Governor Schwarzenegger and other public officials. On September 14, 2006, the Los Angeles Water Board held a public hearing and adopted a permit modification that included requirements to implement the TMDL's summer dry weather wasteload allocations.

¹⁵ Relying on antidegradation principles, the TMDL established winter dry weather wasteload allocations of zero, one, two, or three days of bacteria exceedances based on a particular beach's historical water quality.

¹⁶ 40 C.F.R. §122.44(d)(1)(vii)(B).

The modification prohibits discharges that cause or contribute to exceedances of bacteria water quality standards at Santa Monica Bay beaches on summer dry weather days. The Permit modification added Part 2.5 to the Receiving Water Limitations. Part 2.5 states:

During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to exceedances in the Wave Wash, of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.

The Permit modification also added a discharge prohibition. Discharge Prohibition 1.B states: "Discharges of Summer Dry Weather flows from MS4s into Santa Monica Bay that cause or contribute to exceedances of the bacteria Receiving Water Limitations in Part 2.5 below are prohibited." Neither the discharge prohibition nor the receiving water limitations includes an iterative process towards compliance.

Petitioners submitted a timely joint petition to the State Water Board on October 16, 2006. Pursuant to State Water Board regulations,¹⁷ the petition was held in abeyance for nearly two years before Petitioners activated it on September 18, 2008. On that date, Petitioners also submitted a supplemental statement of points and authorities, which the State Water Board hereby adds to the administrative record. Petitioners, the Los Angeles Water Board, and a group of three environmental organizations sought leave to make additional submissions and to add evidence to the administrative record.¹⁸ Those requests are hereby denied.¹⁹

II. ISSUES AND FINDINGS

Contention: The discharge prohibition and receiving water limitations added by the Permit modification are ambiguous and should be clarified.

Finding: The contested provisions are sufficiently clear and were properly adopted. We conclude that no changes are necessary and reject this contention. Petitioners claim that the discharge prohibition and receiving water limitations added by the Permit modification could be construed to prohibit storm water discharges containing bacteria, despite the Los Angeles Water Board's stated intention to limit those provisions to non-storm

¹⁷ See Cal. Code Regs., tit. 23, § 2050.5, subd. (d).

¹⁸ The filings include Petitioners' request to file a reply pleading, and various requests for administrative notice and to submit additional evidence.

¹⁹ See Cal. Code Regs., tit. 23, §§ 2050.5, subd. (a), & 2050.6.

water discharges. In Petitioners' view, the words "non-storm water" should be added to Part 2.5 of the permit's receiving water limitations to match that intent and to clarify that Part 2.5 does not apply to storm water discharges.

Part 2.5 of the permit reads: "During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to [bacteria] exceedances...." The permit defines dry weather as "days with less than 0.1 inch of rainfall and occurring more than three days after a rain day."²⁰ "Summer Dry Weather" is a dry weather day occurring from April 1 to October 31 of each year.²¹

Petitioners' proposed revision to Part 2.5 would read: "During Summer Dry Weather there shall be no *non-storm water* discharges of bacteria from MS4s" (Italics added.) They argue that, without the change, Part 2.5 may apply to "storm water" because that term is defined in federal regulations to include "surface run-off and drainage." Petitioners imply that the federal reference to "surface run-off and drainage" includes run-off and drainage discharges that occur during dry weather periods of the summer.

We decline to accept Petitioners' proposed language, including their similar proposal for Discharge Prohibition 1.B, because the language chosen by the Los Angeles Water Board is clear and appropriate. The challenged permit provisions do not apply to storm water flows. U.S. EPA has previously rejected the notion that "storm water," as defined at 40 Code of Federal Regulations section 122.26(b)(13), includes dry weather flows. In U.S. EPA's preamble to the storm water regulations, U.S. EPA rejected an attempt to define storm water to include categories of discharges "not in any way related to precipitation events."²² The Los Angeles Water Board's permit language follows U.S. EPA's approach. The new Permit provisions specifically regulate dry weather discharges, which are defined to exclude discharges occurring during or immediately following a reportable precipitation event. Any discharges during such dry weather days would not be precipitation-related. No liability will attach under these provisions for discharges during, or as the result of, a rainfall event exceeding 0.1 inches.

In any event, Petitioners' proposed language deviates from that of the underlying wasteload allocation. That wasteload allocation defines "dry weather" and "summer dry weather" with language identical to that used in the challenged provisions.²³ The discharges

²⁰ Permit, Part 5, Definitions.

²¹ *Ibid.*

²² 55 Fed. Reg. 47990, 47995.

²³ See Basin Plan, Tables 7-4.1, 7-4.2a.

regulated by the wasteload allocation are not qualified by the modifier “non-storm water,” or any other term. Because 40 Code of Federal Regulations section 122.44(d)(1)(vii) requires effluent limitations to be consistent with the assumptions and requirements of the underlying wasteload allocation, we refuse to unnecessarily add language that, if anything, could cause confusion and threaten compliance with U.S. EPA’s regulation.

Contention: The receiving water limitations and discharge prohibition are numeric effluent limitations and, therefore, do not follow the accepted approach for controlling municipal storm water discharges.

Finding: The contested provisions are appropriate and proper. The summer dry weather discharges, as defined by the Permit and the TMDL, are more appropriately regarded as non-storm water discharges, which the Clean Water Act requires to be effectively prohibited.

Petitioners liken the challenged provisions to numeric effluent limitations, and then cite various state and federal sources to argue that using numeric effluent limitations to implement a TMDL in a storm water permit is inappropriate. Petitioners point to State Water Board Order WQ 2001-15 (*BIA*), where we stated that, for municipal storm water permits, “we will generally not require ‘strict compliance’ with water quality standards through numeric effluent limitations,” and instead “we will continue to follow an iterative approach, which seeks compliance over time” with water quality standards.²⁴ They also point to a U.S. EPA guidance document entitled *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs* (the U.S. EPA guidance document).²⁵ Petitioners cite a provision therein that reads, “because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction discharges.”²⁶

The references relied upon by Petitioners are inapposite, and do not support invalidating the Los Angeles Water Board’s requirements. Instead, the Petitioners’ references are directed at the regulation of storm water discharges. The Permit modification is limited to non-storm water discharges which occur during summer dry weather. The U.S. EPA guidance document is limited to wasteload allocations “for storm water discharges” and permit limitations

²⁴ *BIA*, *supra*, at p. 8.

²⁵ U.S. EPA, *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs*, Memorandum from U.S. EPA Director, Office of Wetlands, Oceans and Watersheds Robert H. Wayland, III and Director, Office of Wastewater Management James Hanlon to Water Division Directors, Regions 1-10, Nov. 22, 2002 (hereafter U.S. EPA guidance document).

²⁶ *Id.*, at p. 4.

and conditions “based on the [wasteload allocations] for storm water discharges.”²⁷

Furthermore, the Clean Water Act and the federal storm water regulations assign different performance requirements for storm water and non-storm water discharges. These distinctions in the guidance document, the Clean Water Act, and the storm water regulations make it clear that a regulatory approach for storm water - such as the iterative approach we have previously endorsed - is not necessarily appropriate for non-storm water.

We instead look to directly relevant authorities. Federal law requires municipal storm water permit limitations to be consistent with applicable wasteload allocations.²⁸ The Clean Water Act requires MS4 permit requirements to effectively prohibit non-storm water discharges.²⁹ Similarly, California law requires NPDES permits to apply “any more stringent effluent standards or limitations necessary to implement water quality control plans....”³⁰

The basin plan established a compliance deadline of July 15, 2006, for achieving final compliance with the summer dry weather wasteload allocations for bacteria. The TMDL, which is a component of the Los Angeles Water Board’s basin plan, assigns a wasteload allocation to certain “local agencies that are permittees or co-permittees on a municipal storm water permit.”³¹ The basin plan further establishes that these agencies are responsible for complying with the summer dry weather wasteload allocation. The summer dry weather wasteload allocation prohibits the exceedance of bacteria water quality objectives on summer dry weather days at specified locations.³² The Permit modification is consistent with the wasteload allocation and other basin plan provisions.

The Permit modification is also consistent with the federal framework for non-storm water discharges. 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B), which implements the Clean Water Act’s requirement for the effective prohibition of non-storm water discharges, requires municipal storm water permittees to detect and remove all categories of non-storm water discharges to the MS4, or to require the non-storm water discharger to obtain a separate NPDES permit. While MS4 permits generally contain exceptions for some non-storm water discharges, these exceptions do not extend to non-storm water discharges identified as a

²⁷ U.S. EPA guidance document, *supra*, at p. 1.

²⁸ 40 C.F.R. § 122.44(d)(1)(vii)(B).

²⁹ 33 U.S.C. § 1342(p)(3)(B)(ii).

³⁰ Wat. Code, § 13377.

³¹ Basin Plan, Table 7-4.1, fn. 3.

³² *Id.*, Table 7-4.1.

source of pollutants.³³ In adopting the TMDL, the Los Angeles Water Board identified summer dry weather discharges as a source of water quality exceedances for bacteria. Prohibiting summer dry weather bacteria exceedances caused or contributed to by MS4s is therefore consistent with the federal framework for non-storm water discharges.

Moreover, the references Petitioners' rely upon to challenge the prohibitions and receiving water limitations as strict, numeric effluent limitations are not relevant to this petition. The contested provisions are receiving water limitations, not numeric effluent limitations. The contested provisions do not impose a numeric limitation measured at a point source outfall. Instead, compliance with the limitations is measured in the receiving water, and more specifically, at the "wave wash" for the individual beaches. The TMDL defines the wave wash "as the point at which the storm drain or creek empties and the effluent from the storm drain initially mixes with the receiving ocean water."³⁴ The provisions are directed at the quality of the receiving water, as affected by the discharge. They do not establish numeric effluent limitations for the discharge to the receiving water.^{35, 36}

While the issue before us only concerns permit requirements to implement summer dry weather wasteload allocations and therefore non-storm water discharges, the result would not necessarily be different for municipal *storm water* discharges subject to a TMDL. TMDLs, which take significant resources to develop and finalize, are devised with specific implementation plans and compliance dates designed to bring impaired waters into compliance with water quality standards. It is our intent that federally mandated TMDLs be given substantive effect. Doing so can improve the efficacy of California's NPDES storm water permits. This is not to say that a wasteload allocation will result in numeric effluent limitations for municipal storm water discharges. But, when an approved TMDL is in place, the water boards will give substantive effect to the TMDL and allow it to become much more than an academic exercise. Whether a future municipal storm water permit requirement appropriately implements a storm water wasteload allocation will need to be decided based on the regional

³³ See 40 C.F.R. § 122.26(d)(2)(iv)(B)(1). The exempted categories include, but are not limited to, water line flushing, rising ground waters, landscape irrigation, and street wash water.

³⁴ Basin Plan, Table 7-4.1, fn. 1.

³⁵ See, e.g., *BIA, supra*; State Water Board Order WQ 99-05 (*Environmental Health Coalition*). Those Orders endorsed receiving water limitations modified by an iterative process. The absence of an accompanying iterative process does not convert receiving water limitations into numeric effluent limitations.

³⁶ For the purposes of state enforcement under the Porter-Cologne Act's mandatory minimum penalties law, California distinguishes numeric restrictions on discharged effluent from receiving water limitations. (Wat. Code, § 13385.1, subd. (c).)

water quality control board's findings supporting either the numeric or non-numeric effluent limitations contained in the permit.

III. ORDER

IT IS HEREBY ORDERED THAT the petition of the County of Los Angeles and Los Angeles County Flood Control District is denied.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 4, 2009.

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: None

ABSENT: None

ABSTAIN: None



Jeanine Townsend
Clerk to the Board

ATTACHMENT F-1

APPENDIX D: FINAL AMENDMENT TO WATER QUALITY CONTROL PLAN FOR OCEAN WATERS OF CALIFORNIA TO CONTROL TRASH

Text of the final amendment to control trash proposed to be amended into Chapter II – Water Quality Objectives of the Ocean Plan

C. Physical Characteristics

5. Trash* shall not be present in ocean waters, along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

Text of the final amendment to control trash proposed to be amended into Chapter III – Program of Implementation of the Ocean Plan

I. Prohibition of Discharge

6. Trash*

The discharge of Trash* to surface waters of the State or the deposition of Trash* where it may be discharged into surface waters of the State is prohibited. Compliance with this prohibition of discharge shall be achieved as follows:

- a. Dischargers with NPDES permits that contain specific requirements for the control of Trash* that are consistent with these Trash Provisions* shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.
- b. Dischargers with non-NPDES waste discharge requirements (WDRs) or waivers of WDRs that contain specific requirements for the control of Trash* shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.
- c. Dischargers with NPDES permits, WDRs, or waivers of WDRs that do not contain specific requirements for the control of Trash* are exempt from these Trash Provisions*.
- d. Dischargers without NPDES permits, WDRs, or waivers of WDRs must comply with this prohibition of discharge.
- e. Chapter III.I.6.b and Chapter III.L.3 notwithstanding, this prohibition of discharge applies to the discharge of preproduction plastic* by manufacturers of preproduction plastics*, transporters of preproduction

*Represents a defined term in the California Ocean Plan.

plastics* , and manufacturers that use preproduction plastics* in the manufacture of other products to surface waters of the State, or the deposition of preproduction plastic* where it may be discharged into surface waters of the State, unless the discharger is subject to a NPDES permit for discharges of storm water* associated with industrial activity.

L. Implementation Provisions for Trash*

1. **Applicability**

- a. These Trash Provisions* shall be implemented through a prohibition of discharge (Chapter III.I.6) and through NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act, waste discharge requirements (WDRs), or waivers of WDRs (as set forth in Chapter III.L.2 and Chapter III.L.3 below).
- b. These Trash Provisions* apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these Trash Provisions*¹; provided, however, that:
- (1) Upon the effective date of these Trash Provisions*, the Los Angeles Water Board shall cease its full capture system* certification process and provide that any new full capture systems* shall be certified by the State Water Board in accordance with these Trash Provisions*.
- (2) Within one year of the effective date of these Trash Provisions*, the Los Angeles Water Board shall convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, to particularly consider an approach that would focus MS4* permittees' trash-control efforts on high-trash generation areas within their jurisdictions.

¹ In the Los Angeles Region, there are fifteen (15) trash TMDLs for the following watersheds and water bodies: Los Angeles River Watershed, Ballona Creek, Malibu Creek Watershed, Santa Monica Bay Nearshore and Offshore, San Gabriel River East Fork, Revolon Slough and Beardsley Wash, Ventura River Estuary, Machado Lake, Lake Elizabeth, Lake Hughes, Munz Lake, Peck Road Park Lake, Echo Park Lake, Lincoln Park Lake and Legg Lake. Three of these were established by the U.S. EPA: Peck Road Park Lake, Echo Park Lake and Lincoln Park Lake.

*Represents a defined term in the California Ocean Plan.

2. Dischargers Permitted Pursuant to Federal Clean Water Act Section 402(p)

Permitting authorities* shall include the following requirements in NPDES permits issued pursuant to Federal Clean Water Act section 402(p):

- a. MS4* permittees with regulatory authority over priority land uses* shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein by either of the following measures:
 - (1) Track 1: Install, operate, and maintain full capture systems* for all storm drains that captures runoff from the priority land uses* in their jurisdictions; or
 - (2) Track 2: Install, operate, and maintain any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* within either the jurisdiction of the MS4* permittee or within the jurisdiction of the MS4* permittee and contiguous MS4* permittees. The MS4* permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. The MS4* permittee shall demonstrate that such combination achieves full capture system equivalency*. The MS4* permittee may determine which controls to implement to achieve compliance with full capture system equivalency*. It is, however, the State Water Board's expectation that the MS4* permittee will elect to install full capture systems* where such installation is not cost-prohibitive.
- b. The California Department of Transportation (Department) shall be required to comply with the prohibition of discharge in Chapter III.I.6.a herein in all significant trash generating areas* by installing, operating, and maintaining any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* for all storm drains that captures runoff from significant trash generating areas*. The Department shall demonstrate that such combination achieves full capture system equivalency*. In furtherance of this provision, the Department and MS4* permittees that are subject to the provisions of Chapter III.L.2.a herein shall coordinate their efforts to install, operate, and maintain full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* in significant trash generating areas* and/or priority land uses*.
- c. Dischargers that are subject to NPDES permits for discharges of storm water* associated with industrial activity (including construction activity) shall be required to comply with the prohibition of discharge in Chapter

*Represents a defined term in the California Ocean Plan.

III.I.6.a herein by eliminating Trash* from all storm water* and authorized non-storm water* discharges consistent with an outright prohibition of the discharge of Trash* contained within the applicable NPDES permit regulating the industrial or construction facility. If the discharger can satisfactorily demonstrate to the permitting authority* its inability to comply with the outright prohibition of the discharge of Trash* contained within the applicable NPDES permit, then the permitting authority* may require the discharger to either:

- (1) Install, operate, and maintain full capture systems* for all storm drains that captures runoff from the facility or site regulated by the NPDES permit; or,
- (2) Install, operate, and maintain any combination of full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* for the facility or site regulated by the NPDES permit. The discharger shall demonstrate that such combination achieves full capture system equivalency*.

Termination of permit coverage for industrial and construction storm water* dischargers shall be conditioned upon the proper operation and maintenance of all controls (e.g., full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls*) used at their facility(ies).

- d. A permitting authority* may determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of Trash*. In the event that the permitting authority* makes that determination, the permitting authority* may require the MS4* to comply with Chapter III.L.2.a.1 or Chapter III.L.2.a.2, as determined by the permitting authority*, with respect to such land uses or locations.

3. Other Dischargers

A permitting authority* may require dischargers, described in Chapter III.I.6.c or Chapter III.I.6.d, that are not subject to Chapter III.L.2 herein, to implement any appropriate Trash* controls in areas or facilities that may generate Trash*. Such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4* permit, or marinas.

*Represents a defined term in the California Ocean Plan.

4. Time Schedule

The permitting authority* shall modify, re-issue, or newly adopt NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act that are subject to the provisions of Chapter III.L.2 herein to include requirements consistent with these Trash Provisions*. The permitting authorities* shall abide by the following time schedules:

- a. NPDES Permits Regulating MS4* Permittees that have Regulatory Authority over Priority Land Uses*.²
 - (1) Within eighteen (18) months of the effective date of these Trash Provisions*, for each permittee, each permitting authority* shall either:
 - A. Modify, re-issue, or adopt the applicable MS4* permit to add requirements to implement these Trash Provisions*. The implementing permit shall require written notice from each MS4* permittee stating whether it has elected to comply under Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2) and such notice shall be submitted to the permitting authority* no later than three (3) months from the effective date of the implementing permit, or for MS4s* designated after the effective date of these Trash Provisions*, three (3) months from the effective date of that designation. The implementing permit shall also require that within eighteen (18) months of the effective date of the implementing permit or new designation, MS4* permittees that have elected to comply with Track 2 shall submit an implementation plan to the permitting authority*. The implementation plan shall describe: (i) the combination of controls selected by the MS4* permittee and the rationale for

² The time schedule requirement in Chapter III.L.4.a.1 requiring MS4* permittees to elect Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2) does not apply to MS4* permittees subject to the Municipal Regional Stormwater NPDES Permit (MRP) issued by the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) or the East Contra Costa Municipal Storm Water Permit issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) because those permits already require control requirements substantially equivalent to Track 2. The time schedule requirement in Chapter III.L.4.a.1 requiring MS4* permittees to submit an implementation plan does not apply to the above permittees if the pertinent permitting authority* determines that such permittee has already submitted an implementation plan prior to the effective date of the Trash Provisions* that is equivalent to the implementation plan required by Chapter III.L.4.a.1. In the aforementioned permits, the pertinent permitting authority* may establish an earlier full compliance deadline than that specified in Chapter III.L.4.a.3.

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the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency*, and (iii) how full capture system equivalency* will be demonstrated. The implementation plan is subject to approval by the permitting authority*.

B. Issue an order pursuant to Water Code section 13267 or 13383 requiring the MS4* permittee to submit, within three (3) months from receipt of the order, written notice to the permitting authority* stating whether such MS4* permittee will comply with the prohibition of discharge under Chapter III.L.2.a.1 (Track 1) or Chapter III.L.2.a.2 (Track 2). For MS4s* designated after the effective date of these Trash Provisions*, the order pursuant to Water Code section 13267 or 13383 shall be issued at the time of designation. Within eighteen (18) months of the receipt of the Water Code section 13267 or 13383 order, MS4* permittees that have elected to comply with Track 2 shall submit an implementation plan to the permitting authority* that describes: (i) the combination of controls selected by the MS4* permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve full capture system equivalency*, and (iii) how full capture system equivalency* will be demonstrated. The implementation plan is subject to approval by the permitting authority*.

(2) For MS4* permittees that elect to comply with Chapter III.L.2.a.1 (Track 1), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter III.L.4.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

(3) For MS4* permittees that elect to comply with Chapter III.L.2.a.2 (Track 2), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter III.L.4.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later

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than fifteen (15) years from the effective date of these Trash Provisions*.

- (4) The implementing permit shall state that for MS4* permittees designated after the effective date of the implementing permit, full compliance shall occur within ten (10) years of the effective date of the designation. The permit shall also require such designations to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation.
- (5) Where a permitting authority* makes a determination pursuant to Chapter III.L.2.d that a specific land use generates a substantial amount of Trash*, that permitting authority* has discretion to determine the time schedule for full compliance. In no case may the final compliance date be later than ten (10) years from the determination.

b. NPDES Permits Regulating the Department.

- (1) Within eighteen (18) months of the effective date of these Trash Provisions*, the State Water Board shall issue an order pursuant to Water Code section 13267 or 13383 requiring the Department to submit an implementation plan to the Executive Director of the State Water Board that: (i) describes the specific locations of its significant trash generating areas*, (ii) the combination of controls selected by the Department and the rationale for the selections, and (iii) how it will demonstrate full capture system equivalency*.
- (2) The Department must demonstrate full compliance with Chapter III.L.2.b herein within ten (10) years of the effective date of the first implementing NPDES permit, along with achievements of interim milestones such as average load reductions of ten percent (10%) per year. In no case may the final compliance date be later than fifteen (15) years from the effective date of these Trash Provisions*.

c. NPDES Permits Regulating the Discharges of Storm Water* Associated with Industrial Activity (Including Construction Activity). Dischargers that are subject to the provisions of Chapter III.L.2.c herein must demonstrate full compliance in accordance with the deadlines contained in the first implementing NPDES permits. Such deadlines may not exceed the terms of the first implementing permits.

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5. Monitoring and Reporting

The permitting authority* must include monitoring and reporting requirements in its implementing permits. The following monitoring and reporting provisions are the minimum requirements that must be included within the implementing permits:

- a. MS4* permittees that elect to comply with Chapter III.L.2.a.1 (Track 1) shall provide a report to the applicable permitting authority* demonstrating installation, operation, maintenance, and the Geographic Information System- (GIS-) mapped location and drainage area served by its full capture systems* on an annual basis.
- b. MS4* permittees that elect to comply with Chapter III.L.2.b.2 (Track 2) shall develop and implement monitoring plans that demonstrate the effectiveness of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* and compliance with full capture system equivalency*. Monitoring reports shall be provided to the applicable permitting authority* on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* installed or utilized by the MS4* permittee. In developing the monitoring reports the MS4* permittee should consider the following questions:
 - (1) What type of and how many treatment controls*, institutional controls*, and/or multi-benefit projects* have been used and in what locations?
 - (2) How many full capture systems* have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?
 - (3) What is the effectiveness of the total combination of treatment controls*, institutional controls*, and multi-benefit projects* employed by the MS4* permittee?
 - (4) Has the amount of Trash* discharged from the MS4* decreased from the previous year? If so, by how much? If not, explain why.
 - (5) Has the amount of Trash* in the MS4's* receiving water(s) decreased from the previous year? If so, by how much? If not, explain why.
- c. The Department, as subject to the provisions of Chapter III.L.2.b, shall develop and implement monitoring plans that demonstrate the

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effectiveness of the controls and compliance with full capture system equivalency*. Monitoring reports shall be provided to the State Water Board on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the full capture systems*, multi-benefit projects*, other treatment controls*, and/or institutional controls* installed or utilized by the Department. In developing the monitoring report, the Department should consider the following questions:

- (1) What type of and how many treatment controls* institutional controls*, and/or multi-benefit projects* have been used and in what locations?
 - (2) How many full capture systems* have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?
 - (3) What is the effectiveness of the total combination of treatment controls*, institutional controls*, and multi-benefit projects* employed by the Department?
 - (4) Has the amount of Trash* discharged from the Department's MS4* decreased from the previous year? If so, by how much? If not, explain why.
 - (5) Has the amount of Trash* in the receiving waters decreased from the previous year? If so, by how much? If not, explain why.
- d. Dischargers that are subject to the provisions of Chapter III.L.2.c herein shall be required to report the measures used to comply with Chapter III.L.2.c.

Text of the final amendment to control trash proposed to be amended into Appendix I of the Ocean Plan

APPENDIX I

DEFINITION OF TERMS

Full capture system is a treatment control*, or series of treatment controls*, including but not limited to, a multi-benefit project* or a low-impact development control* that traps all particles that are 5 mm or greater, and has a design treatment capacity that is either: a) of not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the subdrainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain.

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[Rational equation is used to compute the peak flow rate: $Q = C \cdot I \cdot A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map specific to each region, and A = subdrainage area (acres).]

Prior to installation, full capture systems* must be certified by the Executive Director, or designee, of the State Water Board. Uncertified full capture systems* will not satisfy the requirements of these Trash Provisions*. To request certification, a permittee shall submit a certification request letter that includes all relevant supporting documentation to the State Water Board's Executive Director. The Executive Director, or designee, shall issue a written determination approving or denying the certification of the proposed full capture system* or conditions of approval, including a schedule to review and reconsider the certification. Full capture systems* certified by the Los Angeles Regional Water Board prior to the effective date of these Trash Provisions* and full capture systems* listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014) will satisfy the requirements of these Trash Provisions*, unless the Executive Director, or designee, of the State Water Board determines otherwise.

Full capture system equivalency is the Trash* load that would be reduced if full capture systems* were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land (priority land uses*, significant trash generating areas*, facilities or sites regulated by NPDES permits for discharges of storm water* associated with industrial activity, or specific land uses or areas that generate substantial amounts of Trash*, as applicable). The full capture system equivalency* is a Trash* load reduction target that the permittee quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of permitting authority*. Examples of such approaches include, but are not limited to, the following:

- (1) **Trash Capture Rate Approach.** Directly measure or otherwise determine the amount of Trash* captured by full capture systems* for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific trash capture rates. Apply each specific Trash* capture rate across all similar types of land uses, facilities, or areas to determine full capture system equivalency*. Trash* capture rates may be determined either through a pilot study or literature review. Full capture systems* selected to evaluate Trash* capture rates may cover entire types of land uses, facilities, or areas, or a representative subset of types of land uses, facilities, or areas. With this approach, full capture system equivalency* is the sum of the products of each type of land use, facility, or area multiplied by Trash* capture rates for that type of land use, facility, or area.

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- (2) Reference Approach. Determine the amount of Trash* in a reference receiving water in a reference watershed where full capture systems* have been installed for all storm drains that capture runoff from all relevant areas of land. The reference watershed must be comprised of similar types and extent of sources of trash* and land uses (including priority land uses* and all other land uses), facilities, or areas as the permittee's watershed. With this approach, full capture system equivalency* would be demonstrated when the amount of Trash* in the receiving water is equivalent to the amount of Trash* in the reference receiving water.

Institutional controls are non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk Trash* bins, collection of the Trash*, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances.

Low-impact development controls are treatment controls* that employ natural and constructed features that reduce the rate of storm water* runoff, filter out pollutants, facilitate storm water* storage onsite, infiltrate storm water* into the ground to replenish groundwater supplies, or improve the quality of receiving groundwater and surface water. (See Water Code § 10564.)

Multi-benefit project is a treatment control* project designed to achieve any of the benefits set forth in section 10562, subdivision (d) of the Water Code. Examples include projects designed to: infiltrate, recharge or store storm water* for beneficial reuse; develop or enhance habitat and open space through storm water* and non-storm water management; and/or reduce storm water* and non-storm water runoff volume.

Municipal Separate Storm Sewer System (MS4) has the same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(8).

Preproduction plastic has the same meaning set forth in section 13367(a) of the Water Code.

Priority land uses are those developed sites, facilities, or land uses (i.e., not simply zoned land uses) within the MS4* permittee's jurisdiction from which discharges of Trash* are regulated by this Ocean Plan as follows:

- (1) **High-density residential**: all land uses with at least ten (10) developed dwelling units/acre.
- (2) **Industrial**: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
- (3) **Commercial**: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.)

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- (4) **Mixed urban:** land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
- (5) **Public transportation stations:** facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Equivalent alternate land uses: An MS4* permittee with regulatory authority over priority land uses* may issue a request to the applicable permitting authority* that the MS4* permittee be allowed to substitute one or more land uses identified above with alternates land use within the MS4* permittee's jurisdiction that generates rates of Trash* that are equivalent to or greater than the priority land use(s)* being substituted. The land use area requested to substitute for a priority land use* need not be an acre-for-acre substitution but may involve one or more priority land uses*, or a fraction of a priority land use*, or both, provided the total trash* generated in the equivalent alternative land use is equivalent to or greater than the total Trash* generated from the priority land use(s)* for which substitution is requested. Comparative Trash* generation rates shall be established through the reporting of quantification measures such as street sweeping and catch basin cleanup records; mapping; visual trash presence surveys, such as the "Keep America Beautiful Visible Litter Survey"; or other information as required by the permitting authority*.

Significant trash generating areas means all locations or facilities within the Department's jurisdiction where Trash* accumulates in substantial amounts, such as:

- (1) Highway on- and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under priority land uses* herein).
- (2) Rest areas and park-and-rides.
- (3) State highways in commercial and industrial land uses (as such land uses are defined under priority land uses* herein).
- (4) Mainline highway segments to be identified by the Department through pilot studies and/or surveys.

Storm water has the same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(13) (Nov. 16, 1990).

Treatment controls are structural best management practices to either (a) remove pollutants and/or solids from storm water* runoff, wastewater, or effluent, or (b) capture, infiltrate or reuse storm water* runoff, wastewater, or effluent. Treatment controls include full capture systems* and low-impact development controls*.

Trash means all improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

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Trash Provisions are the water quality objective for Trash*, as well as the prohibition of discharge set forth in Chapter III.I and implementation requirements set forth in Chapter III.L herein.

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ATTACHMENT F-2

APPENDIX E: FINAL PART 1 TRASH PROVISIONS OF THE WATER QUALITY CONTROL PLAN FOR INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES OF CALIFORNIA⁹⁷

Text of the final Part 1 Trash Provisions proposed to Chapter III – Water Quality Objectives of the ISWEBE Plan

A. Trash

TRASH shall not be present in inland surface waters, enclosed bays, estuaries, and along shorelines or adjacent areas in amounts that adversely affect beneficial uses or cause nuisance.

Draft text of the final Part 1 Trash Provisions proposed to Chapter IV – Implementation of Water Quality Objectives of the ISWEBE Plan

A. Trash

1. Applicability

- a. These TRASH PROVISIONS shall be implemented through a prohibition of discharge (Chapter IV.A.2) and through NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act, waste discharge requirements (WDRs), or waivers of WDRs (as set forth in Chapter IV.A.3 and Chapter IV.A.4 below).
- b. These TRASH PROVISIONS apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) for which trash Total Maximum Daily Loads (TMDLs) are in effect prior to the effective date of these TRASH PROVISIONS¹; provided, however, that:
 - (1) Upon the effective date of these TRASH PROVISIONS, the Los Angeles Water Board shall cease its FULL CAPTURE SYSTEM certification process and provide that any new FULL CAPTURE SYSTEMS shall be certified by the State Water Board in accordance with these TRASH PROVISIONS.

⁹⁷ The State Water Board intends to amend the Water Quality Control Plan for Enclosed Bays and Estuaries of California to create the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California Plan (ISWEBE Plan). The State Water Board intends that the Part 1 Trash Provisions will be incorporated into the ISWEBE Plan, once it is adopted.

¹ In the Los Angeles Region, there are fifteen (15) trash TMDLs for the following watersheds and water bodies: Los Angeles River Watershed, Ballona Creek, Malibu Creek Watershed, Santa Monica Bay Nearshore and Offshore, San Gabriel River East Fork, Revolon Slough and Beardsley Wash, Ventura River Estuary, Machado Lake, Lake Elizabeth, Lake Hughes, Munz Lake, Peck Road Park Lake, Echo Park Lake, Lincoln Park Lake and Legg Lake. Three of these were established by the USEPA: Peck Road Park Lake, Echo Park Lake and Lincoln Park Lake.

- (2) Within one year of the effective date of these TRASH PROVISIONS, the Los Angeles Water Board shall convene a public meeting to reconsider the scope of its trash TMDLs, with the exception of those for the Los Angeles River and Ballona Creek watersheds, to particularly consider an approach that would focus MS4 permittees' trash-control efforts on high-trash generation areas within their jurisdictions.

2. Prohibition of Discharge

The discharge of TRASH to surface waters of the State or the deposition of TRASH where it may be discharged into surface waters of the State is prohibited. Compliance with this prohibition of discharge shall be achieved as follows:

- a. Dischargers with NPDES permits that contain specific requirements for the control of TRASH that are consistent with these TRASH PROVISIONS shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.
- b. Dischargers with non-NPDES WDRs or waivers of WDRs that contain specific requirements for the control of TRASH shall be determined to be in compliance with this prohibition if the dischargers are in full compliance with such requirements.
- c. Dischargers with NPDES permits, WDRs, or waivers of WDRs that do not contain specific requirements for the control of TRASH are exempt from these TRASH PROVISIONS.
- d. Dischargers without NPDES permits, WDRs, or waivers of WDRs must comply with this prohibition of discharge.
- e. Chapter IV.A.2.b and Chapter IV.A.4 notwithstanding, this prohibition of discharge applies to the discharge of PREPRODUCTION PLASTIC by manufacturers of PREPRODUCTION PLASTICS, transporters of PREPRODUCTION PLASTICS, and manufacturers that use PREPRODUCTION PLASTICS in the manufacture of other products to surface waters of the State, or the deposition of PREPRODUCTION PLASTIC where it may be discharged into surface waters of the State, unless the discharger is subject to a NPDES permit for discharges of STORM WATER associated with industrial activity.

3. Dischargers Permitted Pursuant to Federal Clean Water Act Section 402(p)

PERMITTING AUTHORITIES shall include the following requirements in NPDES permits issued pursuant to Federal Clean Water Act section 402(p):

- a. MS4 permittees with regulatory authority over PRIORITY LAND USES shall be required to comply with the prohibition of discharge in Chapter IV.A.2.a herein by either of the following measures:
- (1) Track 1: Install, operate, and maintain FULL CAPTURE SYSTEMS for all storm drains that captures runoff from the PRIORITY LAND USES in their jurisdictions; or
 - (2) Track 2: Install, operate, and maintain any combination of FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS within either the jurisdiction of the MS4 permittee or within the jurisdiction of the MS4 permittee and contiguous MS4 permittees. The MS4 permittee may determine the locations or land uses within its jurisdiction to implement any combination of controls. The MS4 permittee shall demonstrate that such combination achieves FULL CAPTURE SYSTEM EQUIVALENCY. The MS4 permittee may determine which controls to implement to achieve compliance with the FULL CAPTURE SYSTEM EQUIVALENCY. It is, however, the State Water Board's expectation that the MS4 permittee will elect to install FULL CAPTURE SYSTEMS where such installation is not cost-prohibitive.
- b. The California Department of Transportation (Department) shall be required to comply with the prohibition of discharge in Chapter IV.A.2.a herein in all SIGNIFICANT TRASH GENERATING AREAS by installing, operating, and maintaining any combination of FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS for all storm drains that captures runoff from SIGNIFICANT TRASH GENERATING AREAS. The Department shall demonstrate that such combination achieves FULL CAPTURE SYSTEM EQUIVALENCY. In furtherance of this provision, the Department and MS4 permittees that are subject to the provisions of Chapter IV.A.3.a herein shall coordinate their efforts to install, operate, and maintain FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS in SIGNIFICANT TRASH GENERATING AREAS and/or PRIORITY LAND USES.
- c. Dischargers that are subject to NPDES permits for discharges of STORM WATER associated with industrial activity (including construction activity) shall be required to comply with the prohibition of discharge in Chapter IV.A.2.a herein by eliminating TRASH from all STORM WATER and authorized non-STORM WATER discharges consistent with an outright prohibition of the discharge of TRASH contained within the applicable NPDES permit regulating the industrial or construction facility. If the

discharger can satisfactorily demonstrate to the PERMITTING AUTHORITY its inability to comply with the outright prohibition of the discharge of TRASH contained within the applicable NPDES permit, then the PERMITTING AUTHORITY may require the discharger to either:

- (1) Install, operate, and maintain FULL CAPTURE SYSTEMS for all storm drains that captures runoff from the facility or site regulated by the NPDES permit; or,
- (2) Install, operate, and maintain any combination of FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS for the facility or site regulated by the NPDES permit. The discharger shall demonstrate that such combination achieves FULL CAPTURE SYSTEM EQUIVALENCY.

Termination of permit coverage for industrial and construction STORM WATER dischargers shall be conditioned upon the proper operation and maintenance of all controls (i.e., FULL CAPTURE SYSTEMS, other TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and/or MULTI-BENEFIT PROJECTS) used at their facility(ies).

- d. A PERMITTING AUTHORITY may determine that specific land uses or locations (e.g., parks, stadia, schools, campuses, or roads leading to landfills) generate substantial amounts of TRASH. In the event that the PERMITTING AUTHORITY makes that determination, the PERMITTING AUTHORITY may require the MS4 to comply with Chapter IV.A.3.a.1 or Chapter IV.A.3.a.2, as determined by the PERMITTING AUTHORITY, with respect to such land uses or locations.

4. Other Dischargers

A PERMITTING AUTHORITY may require dischargers, described in Chapter IV.A.2.c or Chapter IV.A.2.d, that are not subject to Chapter IV.A.3 herein, to implement any appropriate TRASH controls in areas or facilities that may generate TRASH. Such areas or facilities may include (but are not limited to) high usage campgrounds, picnic areas, beach recreation areas, parks not subject to an MS4 permit, or marinas.

5. Time Schedule

The PERMITTING AUTHORITY shall modify, re-issue, or newly adopt NPDES permits issued pursuant to section 402(p) of the Federal Clean Water Act that are subject to the provisions of Chapter IV.A.3 herein to include requirements consistent with these TRASH PROVISIONS. The PERMITTING AUTHORITIES shall abide by the following time schedules:

a. **NPDES Permits Regulating MS4 Permittees that have Regulatory Authority over Priority Land Uses.**²

(1) Within eighteen (18) months of the effective date of these TRASH PROVISIONS, for each permittee, each PERMITTING AUTHORITY shall either:

- A. Modify, re-issue, or adopt the applicable MS4 permit to add requirements to implement these TRASH PROVISIONS. The implementing permit shall require written notice from each MS4 permittee stating whether it has elected to comply under Chapter IV.A.3.a.1 (Track 1) or Chapter IV.A.3.a.2 (Track 2) and such notice shall be submitted to the PERMITTING AUTHORITY no later than three (3) months from the effective date of the implementing permit, or for MS4s designated after the effective date of these TRASH PROVISIONS, three (3) months from the effective date of that designation. The implementing permit shall also require that within eighteen (18) months of the effective date of the implementing permit or new designation, MS4 permittees that have elected to comply with Track 2 shall submit an implementation plan to the PERMITTING AUTHORITY. The implementation plan shall describe: (i) the combination of controls selected by the MS4 permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve FULL CAPTURE SYSTEM EQUIVALENCY, and (iii) how FULL CAPTURE SYSTEM EQUIVALENCY will be demonstrated. The implementation plan is subject to approval by the PERMITTING AUTHORITY.
- B. Issue an order pursuant to Water Code section 13267 or 13383 requiring the MS4 permittee to submit, within three (3) months from receipt of the order, written notice to the PERMITTING AUTHORITY stating whether such MS4 permittee will comply

² The time schedule requirement in Chapter IV.A.5.a.1 requiring MS4* permittees to elect Chapter IV.A.3.a.1 (Track 1) or Chapter IV.A.3.a.2 (Track 2) does not apply to MS4* permittees subject to the Municipal Regional Stormwater NPDES Permit (MRP) issued by the San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board) or the East Contra Costa Municipal Storm Water Permit issued by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) because those permits already require control requirements substantially equivalent to Track 2. The time schedule requirement in Chapter IV.A.5.a.1 requiring MS4 permittees to submit an implementation plan does not apply to the above permittees if the pertinent PERMITTING AUTHORITY determines that such permittee has already submitted an implementation plan prior to the effective date of the TRASH PROVISIONS that is equivalent to the implementation plan required by Chapter IV.A.5.a.1. In the aforementioned permits, the pertinent PERMITTING AUTHORITY may establish an earlier full compliance deadline than that specified in Chapter IV.A.5.a.3.

with the prohibition of discharge under Chapter IV.A.3.a.1 (Track 1) or Chapter IV.A.3.a.2 (Track 2). For MS4s designated after the effective date of these TRASH PROVISIONS, the order pursuant to Water Code section 13267 or 13383 shall be issued at the time of designation. Within eighteen (18) months of the receipt of the Water Code section 13267 or 13383 order, MS4 permittees that have elected to comply with Track 2 shall submit an implementation plan to the PERMITTING AUTHORITY that describes: (i) the combination of controls selected by the MS4 permittee and the rationale for the selection, (ii) how the combination of controls is designed to achieve FULL CAPTURE SYSTEM EQUIVALENCY, and (iii) how FULL CAPTURE SYSTEM EQUIVALENCY will be demonstrated. The implementation plan is subject to approval by the PERMITTING AUTHORITY.

- (2) For MS4 permittees that elect to comply with Chapter IV.A.3.a.1 (Track 1), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter IV.A.5.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these TRASH PROVISIONS.
- (3) For MS4 permittees that elect to comply with Chapter IV.A.3.a.2 (Track 2), the implementing permit shall state that full compliance shall occur within ten (10) years of the effective date of the first implementing permit except as specified in Chapter IV.A.5.a.5. The permit shall also require these permittees to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation. In no case may the final compliance date be later than fifteen (15) years from the effective date of these TRASH PROVISIONS.
- (4) The implementing permit shall state that for MS4 permittees designated after the effective date of the implementing permit, full compliance shall occur within ten (10) years of the effective date of the designation. The permit shall also require such designations to demonstrate achievement of interim milestones such as average load reductions of ten percent (10%) per year or other progress to full implementation.

- (5) Where a PERMITTING AUTHORITY makes a determination pursuant to Chapter IV.A.3.d that a specific land use generates a substantial amount of TRASH, that permitting authority has discretion to determine the time schedule for full compliance. In no case may the final compliance date be later than ten (10) years from the determination.

b. **NPDES Permits Regulating the Department.**

- (1) Within eighteen (18) months of the effective date of these TRASH PROVISIONS, the State Water Board shall issue an order pursuant to Water Code section 13267 or 13383 requiring the Department to submit an implementation plan to the Executive Director of the State Water Board that: (i) describes the specific locations of its SIGNIFICANT TRASH GENERATING AREAS, (ii) the combination of controls selected by the Department and the rationale for the selections, and (iii) how it will demonstrate FULL CAPTURE SYSTEM EQUIVALENCY.
- (2) The Department must demonstrate full compliance with Chapter IV.A.3.b herein within ten (10) years of the effective date of the first implementing NPDES permit, along with achievements of interim milestones such as average load reductions of ten percent (10%) per year. In no case may the final compliance date be later than fifteen (15) years from the effective date of these TRASH PROVISIONS.

c. **NPDES Permits Regulating the Discharges of Storm Water Associated with Industrial Activity (Including Construction Activity).**

Dischargers that are subject to the provisions of Chapter IV.A.3.c herein must demonstrate full compliance in accordance with the deadlines contained in the first implementing NPDES permits. Such deadlines may not exceed the terms of the first implementing permits.

6. **Monitoring and Reporting**

The PERMITTING AUTHORITY must include monitoring and reporting requirements in its implementing permits. The following monitoring and reporting provisions are the minimum requirements that must be included within the implementing permits:

- a. MS4 permittees that elect to comply with Chapter IV.A.3.a.1 (Track 1) shall provide a report to the applicable PERMITTING AUTHORITY demonstrating installation, operation, maintenance, and the Geographic Information System- (GIS-) mapped location and drainage area served by its full capture systems on an annual basis.

- b. MS4 permittees that elect to comply with Chapter IV.A.3.a.2 (Track 2) shall develop and implement monitoring plans that demonstrate the effectiveness of the FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS and compliance with FULL CAPTURE SYSTEM EQUIVALENCY. Monitoring reports shall be provided to the applicable PERMITTING AUTHORITY on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS installed or utilized by the MS4 permittee. In developing the monitoring reports the MS4* permittee should consider the following questions:
- (1) What type of and how many TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and/or MULTI-BENEFIT PROJECTS have been used and in what locations?
 - (2) How many FULL CAPTURE SYSTEMS have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?
 - (3) What is the effectiveness of the total combination of TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and MULTI-BENEFIT PROJECTS employed by the MS4 permittee?
 - (4) Has the amount of TRASH discharged from the MS4 decreased from the previous year? If so, by how much? If not, explain why.
 - (5) Has the amount of TRASH in the MS4's receiving water(s) decreased from the previous year? If so, by how much? If not, explain why.
- c. The Department, as subject to the provisions of Chapter IV.A.3.b, shall develop and implement monitoring plans that demonstrate the effectiveness of the controls and compliance with FULL CAPTURE SYSTEM EQUIVALENCY. Monitoring reports shall be provided to the State Water Board on an annual basis, and shall include GIS-mapped locations and drainage area served for each of the FULL CAPTURE SYSTEMS, MULTI-BENEFIT PROJECTS, other TREATMENT CONTROLS, and/or INSTITUTIONAL CONTROLS installed or utilized by the Department. In developing the monitoring report, the Department should consider the following questions:
- (1) What type of and how many TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and/or MULTI-BENEFIT PROJECTS have been used and in what locations?

- (2) How many FULL CAPTURE SYSTEMS have been installed (if any), in what locations have they been installed, and what is the individual and cumulative area served by them?
 - (3) What is the effectiveness of the total combination of TREATMENT CONTROLS, INSTITUTIONAL CONTROLS, and MULTI-BENEFIT PROJECTS employed by the Department?
 - (4) Has the amount of TRASH discharged from the Department's MS4 decreased from the previous year? If so, by how much? If not, explain why.
 - (5) Has the amount of TRASH in the receiving waters decreased from the previous year? If so, by how much? If not, explain why.
- d. Dischargers that are subject to the provisions of Chapter IV.A.3.c herein shall be required to report the measures used to comply with Chapter IV.A.3.c.

Text of the final Part 1 Trash Provisions proposed to Appendix A: Glossary of the ISWEBE Plan

FULL CAPTURE SYSTEM: A TREATMENT CONTROL, or series of TREATMENT CONTROLS, including but not limited to, a MULTI-BENEFIT PROJECT or a LOWIMPACT DEVELOPMENT CONTROL that traps all particles that are 5 mm or greater, and has a design treatment capacity that is either: a) of not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the subdrainage area, or b) appropriately sized to, and designed to carry at least the same flows as, the corresponding storm drain.

[Rational equation is used to compute the peak flow rate: $Q = C \cdot I \cdot A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map specific to each region, and A = subdrainage area (acres).]

Prior to installation, FULL CAPTURE SYSTEMS must be certified by the Executive Director, or designee, of the State Water Board. Uncertified FULL CAPTURE SYSTEMS will not satisfy the requirements of these TRASH PROVISIONS. To request certification, a permittee shall submit a certification request letter that includes all relevant supporting documentation to the State Water Board's Executive Director. The Executive Director, or designee, shall issue a written determination approving or denying the certification of the proposed FULL CAPTURE SYSTEM or conditions of approval, including a schedule to review and reconsider the certification. FULL CAPTURE SYSTEMS certified by the Los Angeles Regional Water Board prior to the effective date of these TRASH PROVISIONS and FULL CAPTURE SYSTEMS listed in Appendix I of the Bay Area-wide Trash Capture Demonstration Project, Final Project Report (May 8, 2014) will satisfy the requirements of these TRASH PROVISIONS,

unless the Executive Director, or designee, of the State Water Board determines otherwise.

FULL CAPTURE SYSTEM EQUIVALENCY: The TRASH load that would be reduced if FULL CAPTURE SYSTEMS were installed, operated, and maintained for all storm drains that capture runoff from the relevant areas of land (PRIORITY LAND USES, SIGNIFICANT TRASH GENERATING AREAS, facilities or sites regulated by NPDES permits for discharges of STORM WATER associated with industrial activity, or specific land uses or areas that generate substantial amounts of TRASH, as applicable). The FULL CAPTURE SYSTEM EQUIVALENCY is a TRASH load reduction target that the permittee quantifies by using an approach, and technically acceptable and defensible assumptions and methods for applying the approach, subject to the approval of PERMITTING AUTHORITY. Examples of such approaches include, but are not limited to, the following:

- (1) Trash Capture Rate Approach. Directly measure or otherwise determine the amount of TRASH captured by FULL CAPTURE SYSTEMS for representative samples of all similar types of land uses, facilities, or areas within the relevant areas of land over time to identify specific TRASH capture rates. Apply each specific TRASH capture rate across all similar types of land uses, facilities, or areas to determine FULL CAPTURE SYSTEM EQUIVALENCY. TRASH capture rates may be determined either through a pilot study or literature review. FULL CAPTURE SYSTEMS selected to evaluate TRASH capture rates may cover entire types of land uses, facilities, or areas, or a representative subset of types of land uses, facilities, or areas. With this approach, FULL CAPTURE SYSTEM EQUIVALENCY is the sum of the products of each type of land use, facility, or area multiplied by TRASH capture rates for that type of land use, facility, or area.
- (2) Reference Approach. Determine the amount of TRASH in a reference receiving water in a reference watershed where FULL CAPTURE SYSTEMS have been installed for all storm drains that capture runoff from all relevant areas of land. The reference watershed must be comprised of similar types and extent of sources of TRASH and land uses (including PRIORITY LAND USES and all other land uses), facilities, or areas as the permittee's watershed. With this approach, FULL CAPTURE SYSTEM EQUIVALENCY would be demonstrated when the amount of TRASH in the receiving water is equivalent to the amount of TRASH in the reference receiving water.

INSTITUTIONAL CONTROLS: Non-structural best management practices (i.e., no structures are involved) that may include, but not be limited to, street sweeping, sidewalk TRASH bins, collection of the TRASH, anti-litter educational and outreach programs, producer take-back for packaging, and ordinances.

LOW-IMPACT DEVELOPMENT CONTROLS: TREATMENT CONTROLS that employ natural and constructed features that reduce the rate of STORM WATER runoff, filter out pollutants, facilitate STORM WATER storage onsite, infiltrate STORM WATER into

the ground to replenish groundwater supplies, or improve the quality of receiving groundwater and surface water. (See Water Code § 10564.)

MULTI-BENEFIT PROJECT: A TREATMENT CONTROL project designed to achieve any of the benefits set forth in section 10562, subdivision (d) of the Water Code. Examples include projects designed to: infiltrate, recharge or store STORM WATER for beneficial reuse; develop or enhance habitat and open space through STORM WATER and non-STORM WATER management; and/or reduce STORM WATER and non-STORM WATER runoff volume.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4): Same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(8).

PREPRODUCTION PLASTIC: Same meaning set forth in section 13367(a) of the Water Code.

PRIORITY LAND USES: Those developed sites, facilities, or land uses (i.e., not simply zoned land uses) within the MS4 permittee's jurisdiction from which discharges of TRASH are regulated by these TRASH PROVISIONS as follows:

- (1) High-density residential: all land uses with at least ten (10) developed dwelling units/acre.
- (2) Industrial: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
- (3) Commercial: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.)
- (4) Mixed urban: land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
- (5) Public transportation stations: facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Equivalent alternate land uses: An MS4 permittee with regulatory authority over PRIORITY LAND USES may issue a request to the applicable PERMITTING AUTHORITY that the MS4 permittee be allowed to substitute one or more land uses identified above with alternate land uses within the MS4 permittee's jurisdiction that generates rates of TRASH that is equivalent to or greater than the PRIORITY LAND USE(S) being substituted. The land use area requested to substitute for a PRIORITY LAND USE need not be an acre-for-acre substitution but may involve one or more PRIORITY LAND USES, or a fraction of a PRIORITY LAND USE, or both, provided the total TRASH generated in the equivalent alternative land use is equivalent to or greater than the total TRASH generated from the PRIORITY LAND USE(S) for which substitution is requested. Comparative TRASH generation rates shall be established through the reporting of quantification measures such as street sweeping and catch basin cleanup records; mapping; visual trash presence surveys, such as the "Keep America

Beautiful Visible Litter Survey”; or other information as required by the PERMITTING AUTHORITY.

PERMITTING AUTHORITY: The State Water Board or Regional Water Board, whichever issues the permit.

SIGNIFICANT TRASH GENERATING AREAS: All locations or facilities within the Department’s jurisdiction where TRASH accumulates in substantial amounts, such as:

- (1) Highway on- and off-ramps in high density residential, commercial, and industrial land uses (as such land uses are defined under PRIORITY LAND USES herein).
- (2) Rest areas and park-and-rides.
- (3) State highways in commercial and industrial land uses (as such land uses are defined under PRIORITY LAND USES herein).
- (4) Mainline highway segments to be identified by the Department through pilot studies and/or surveys.

STORM WATER: Same meaning set forth in 40 Code of Federal Regulations section 122.26(b)(13) (Nov. 16, 1990).

TREATMENT CONTROLS: Structural best management practices to either (a) remove pollutants and/or solids from STORM WATER runoff, wastewater, or effluent, or (b) capture, infiltrate or reuse STORM WATER runoff, wastewater, or effluent. TREATMENT CONTROLS include FULL CAPTURE SYSTEMS and LOW-IMPACT DEVELOPMENT CONTROLS.

TRASH: All improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural materials.

TRASH PROVISIONS: The water quality objective for TRASH, as well as the prohibition of discharge and implementation requirements set forth in Chapter IV.A herein.

ATTACHMENT F-3

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES

ORDER
NPDES NO. CAS000001

This Order was adopted by the State Water Resources Control Board on:	April 1, 2014
This Order shall become effective on:	July 1, 2015
This Order shall expire on:	June 30, 2020

IT IS HEREBY ORDERED that as of July 1, 2015 this Order supersedes Order 97-03-DWQ except for Order 97-03-DWQ's requirement to submit annual reports by July 1, 2015 and except for enforcement purposes. As of July 1, 2015, a Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

CERTIFICATION

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order, including its fact sheet, attachments, and appendices is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on April 1, 2014.

AYE: Chair Felicia Marcus
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Steven Moore

NAY: None

ABSENT: Board Member Dorene D'Adamo

ABSTAIN: None



Jeanine Townsend
Clerk to the Board

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I. FINDINGS

A. General Findings

The State Water Resources Control Board (State Water Board) finds that:

1. The Federal Clean Water Act (Clean Water Act) prohibits certain discharges of storm water containing pollutants except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. (33 U.S.C. §§ 1311, 1342 (also referred to as Clean Water Act §§ 301, 402).) The United States Environmental Protection Agency (U.S. EPA) promulgates federal regulations to implement the Clean Water Act's mandate to control pollutants in storm water discharges. (40 C.F.R. § 122, et seq.) The NPDES permit must require implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges (NSWDs). The NPDES permit must also include additional requirements necessary to implement applicable water quality objectives or water quality standards (water quality standards, collectively).
2. On November 16, 1990, U.S. EPA promulgated Phase I storm water regulations in compliance with section 402(p) of the Clean Water Act. (55 Fed. Reg. 47990, codified at 40 C.F.R. § 122.26.) These regulations require operators of facilities subject to storm water permitting (Dischargers), that discharge storm water associated with industrial activity (industrial storm water discharges), to obtain an NPDES permit. Section 402(p)(3)(A) of the Clean Water Act also requires that permits for discharges associated with industrial activity include requirements necessary to meet water quality standards.
3. Phase II storm water regulations¹ require permitting for storm water discharges from facilities owned and operated by a municipality with a population of less than 100,000. The previous exemption from the Phase I permitting requirements under section 1068 of the Intermodal Surface Transportation Efficiency Act of 1991 was eliminated.
4. This Order (General Permit) is an NPDES General Permit issued in compliance with section 402 of the Clean Water Act and shall take effect on July 1, 2015, provided that the Regional Administrator of U.S. EPA has no objection. If the U.S. EPA Regional Administrator has an objection, this General Permit will not become effective until the objection is withdrawn.
5. This action to adopt an NPDES General Permit is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code, § 21000, et seq.) in accordance with section 13389 of the Water Code. (See *County of*

¹ U.S. EPA. Final NPDES Phase II Rule. <<http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm>>. [as of February 4, 2014]

Los Angeles v. California State Water Resources Control Bd. (2006) 143 Cal.App.4th 985.)

6. State Water Board Order 97-03-DWQ is rescinded as of the effective date of this General Permit (July 1, 2015) except for Order 97-03-DWQ's requirement that annual reports be submitted by July 1, 2015 and except for enforcement purposes.
7. Effective July 1, 2015, the State Water Board and the Regional Water Quality Control Boards (Regional Water Boards) (Water Boards, collectively) will enforce the provisions herein.
8. This General Permit authorizes discharges of industrial storm water to waters of the United States, so long as those discharges comply with all requirements, provisions, limitations, and prohibitions in this General Permit.
9. Industrial activities covered under this General Permit are described in Attachment A.
10. The Fact Sheet for this Order is incorporated as findings of this General Permit.
11. Acronyms are defined in Attachment B and terms used in this General Permit are defined in Attachment C.
12. This General Permit regulates industrial storm water discharges and authorized NSWDs from specific categories of industrial facilities identified in Attachment A hereto, and industrial storm water discharges and authorized NSWDs from facilities designated by the Regional Water Boards to obtain coverage under this General Permit. This General Permit does not apply to industrial storm water discharges and NSWDs that are regulated by other individual or general NPDES permits
13. This General Permit does not preempt or supersede the authority of municipal agencies to prohibit, restrict, or control industrial storm water discharges and authorized NSWDs that may discharge to storm water conveyance systems or other watercourses within their jurisdictions as allowed by state and federal law.
14. All terms defined in the Clean Water Act, U.S. EPA regulations, and the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000, et seq.) will have the same definition in this General Permit unless otherwise stated.
15. Pursuant to 40 Code of Federal Regulations section 131.12 and State Water Board Resolution 68-16, which incorporates the requirements of 40 Code of Federal Regulations section 131.12 where applicable, the State Water Board finds that discharges in compliance with this General Permit will not result in the lowering of water quality to a level that does not achieve water quality objectives and protect beneficial uses. Any degradation of water quality from existing high quality water to a level that achieves water quality objectives and

protects beneficial uses is appropriate to support economic development. This General Permit's requirements constitute best practicable treatment or control for discharges of industrial storm water and authorized non-storm water discharges, and are therefore consistent with those provisions.

16. Compliance with any specific limits or requirements contained in this General Permit does not constitute compliance with any other applicable permits.
17. This General Permit requires that the Discharger certify and submit all Permit Registration Documents (PRDs) for Notice of Intent (NOI) and No Exposure Certification (NEC) coverage via the State Water Board's Storm Water Multiple Application and Report Tracking System (SMARTS) website. (See Attachment D for an example of the information required to be submitted in the PRDs via SMARTS.) All other documents required by this General Permit to be electronically certified and submitted via SMARTS can be submitted by the Discharger or by a designated Duly Authorized Representative on behalf of the Discharger. Electronic reporting is required to reduce the state's reliance on paper, to improve efficiency, and to make such General Permit documents more easily accessible to the public and the Water Boards.
18. All information provided to the Water Boards shall comply with the Homeland Security Act and all other federal law that concerns security in the United States, as applicable.

B. Industrial Activities Not Covered Under this General Permit

19. Discharges of storm water from areas on tribal lands are not covered under this General Permit. Storm water discharges from industrial facilities on tribal lands are regulated by a separate NPDES permit issued by U.S. EPA.
20. Discharges of storm water regulated under another individual or general NPDES permit adopted by the State Water Board or Regional Water Board are not covered under this General Permit, including the State Water Board NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.
21. Storm water discharges to combined sewer systems are not covered under this General Permit. These discharges must be covered by an individual permit. (40 C.F.R. § 122.26(a)(7).)
22. Conveyances that discharge storm water runoff combined with municipal sewage are not covered under this General Permit.
23. Discharges of storm water identified in Clean Water Act section 402(l) (33 U.S.C. § 1342(l)) are not covered under this General Permit.
24. Facilities otherwise subject to this General Permit but for which a valid Notice of Non-Applicability (NONA) has been certified and submitted via SMARTS, by the Entity are not covered under this General Permit. Entities (See Section XX.C.1 of this General Permit) who are claiming "No Discharge"

through the NONA shall meet the eligibility requirements and provide a No Discharge Technical Report in accordance with Section XX.C.

25. This General Permit does not authorize discharges of dredged or fill material regulated by the US Army Corps of Engineers under section 404 of the Clean Water Act and does not constitute a water quality certification under section 401 of the Clean Water Act.

C. Discharge Prohibitions

26. Pursuant to section 13243 of the Water Code, the State Water Board may specify certain conditions or areas where the discharge of waste, or certain types of waste, is prohibited.
27. With the exception of certain authorized NSWDS as defined in Section IV, this General Permit prohibits NSWDS. The State Water Board recognizes that certain NSWDS should be authorized because they are not generated by industrial activity, are not significant sources of pollutants when managed appropriately, and are generally unavoidable because they are related to safety or would occur regardless of industrial activity. Prohibited NSWDS may be authorized under other individual or general NPDES permits, or waste discharge requirements issued by the Water Boards.
28. Prohibited NSWDS are referred to as unauthorized NSWDS in this General Permit. Unauthorized NSWDS shall be either eliminated or permitted by a separate NPDES permit. Unauthorized NSWDS may contribute significant pollutant loads to receiving waters. Measures to control sources of unauthorized NSWDS such as spills, leakage, and dumping, must be addressed through the implementation of Best Management Practices (BMPs).
29. This General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the Water Boards.
30. Direct discharges of waste, including industrial storm water discharges, to Areas of Special Biological Significance (ASBS) are prohibited unless the Discharger has applied for and the State Water Board has granted an exception to the State Water Board's 2009 Water Quality Control Plan for Ocean Waters of California as amended by State Water Board Resolution 2012-0056 (California Ocean Plan)² allowing the discharge.

² State Water Resources Control Board. Ocean Standards Web Page.

<http://www.waterboards.ca.gov/water_issues/programs/ocean/>. [as of February 4, 2014].

State Water Resources Control Board. Water Quality Control Plan for Ocean Waters of California 2009.

<http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/2009_cop_adoptedeffective_usepa.pdf>. [as of February 4, 2014].

State Water Resources Control Board. Resolution 2012-0056.

<http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0056.pdf>. [as of February 4, 2014].

D. Effluent Limitations

31. Section 301(b) of the Clean Water Act and 40 Code of Federal Regulations section require NPDES permits to include technology-based requirements at a minimum, and any more stringent effluent limitations necessary for receiving waters to meet applicable water quality standards. Clean Water Act section 402(p)(3)(A) requires that discharges of storm water runoff from industrial facilities comply with Clean Water Act section 301.
32. This General Permit requires control of pollutant discharges using BAT and BCT to reduce and prevent discharges of pollutants, and any more stringent effluent limitations necessary for receiving waters to meet applicable water quality standards.
33. It is not feasible for the State Water Board to establish numeric technology based effluent limitations for discharges authorized by this General Permit at this time. The rationale for this determination is discussed in detail in the Fact Sheet of this General Permit. Therefore, this General Permit requires Dischargers to implement minimum BMPs and applicable advanced BMPs as defined in Section X.H (collectively, BMPs) to comply with the requirements of this General Permit. This approach is consistent with U.S. EPA's 2008 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (2008 MSGP).
34. 40 Code of Federal Regulations section 122.44(d) requires that NPDES permits include Water Quality Based Effluent Limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality standards for receiving waters.
35. Where numeric water quality criteria have not been established, 40 Code of Federal Regulations section 122.44(d)(1)(vi) provides that WQBELs may be established using U.S. EPA criteria guidance under section 304(a) of the Clean Water Act, a proposed state criteria or policy interpreting narrative criteria supplemented with other relevant information, and/or an indicator parameter.
36. This General Permit requires Dischargers to implement BMPs when necessary, in order to support attainment of water quality standards. The use of BMPs to control or abate the discharge of pollutants is authorized by 40 Code of Federal Regulations section 122.44(k)(3) because numeric effluent limitations are infeasible and implementation of BMPs is reasonably necessary to achieve effluent limitations and water quality standards, and to carry out the purposes and intent of the Clean Water Act. (40 C.F.R. § 122.44(k)(4).)

E. Receiving Water Limitations

37. This General Permit requires compliance with receiving water limitations based on water quality standards. The primary receiving water limitation requires that industrial storm water discharges and authorized NSWDS not

cause or contribute to an exceedance of applicable water quality standards. Water quality standards apply to the quality of the receiving water, not the quality of the industrial storm water discharge. Therefore, compliance with the receiving water limitations generally cannot be determined solely by the effluent water quality characteristics. If any Discharger's storm water discharge causes or contributes to an exceedance of a water quality standard, that Discharger must implement additional BMPs or other control measures in order to attain compliance with the receiving water limitation. Compliance with water quality standards may, in some cases, require Dischargers to implement controls that are more protective than controls implemented solely to comply with the technology-based requirements in this General Permit.

F. Total Maximum Daily Loads (TMDLs)

38. TMDLs relate to the maximum amount of a pollutant that a water body can receive and still attain water quality standards. A TMDL is defined as the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations) and non-point sources (load allocations), plus the contribution from background sources. (40 C.F.R. § 130.2(i).) Discharges addressed by this General Permit are considered to be point source discharges, and therefore must comply with effluent limitations that are "consistent with the assumptions and requirements of any available waste load allocation for the discharge prepared by the state and approved by U.S. EPA pursuant to 40 Code of Federal Regulations section 130.7. (40 C.F.R. § 122.44 (d)(1)(vii).) In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. Many TMDLs contained in water quality control plans include implementation requirements in addition to waste load allocations. Attachment E of this General Permit lists the watersheds with U.S. EPA-approved and U.S. EPA-established TMDLs that include requirements, including waste load allocations, for Dischargers covered by this General Permit.

39. The State Water Board recognizes that it is appropriate to develop TMDL-specific permit requirements derived from each TMDL's waste load allocation and implementation requirements, in order to provide clarity to Dischargers regarding their responsibilities for compliance with applicable TMDLs. The development of TMDL-specific permit requirements is subject to public noticing requirements and a corresponding public comment period. Due to the number and variety of Dischargers subject to a wide range of TMDLs, development of TMDL-specific permit requirements for each TMDL listed in Attachment E will severely delay the reissuance of this General Permit. Because most of the TMDLs were established by the Regional Water Boards, and because some of the waste load allocations and/or implementation requirements may be shared by multiple Dischargers, the development of TMDL-specific permit requirements is best coordinated at the Regional Water Board level.

40. State and Regional Water Board staff will develop proposed TMDL-specific permit requirements (including monitoring and reporting requirements) for each of the TMDLs listed in Attachment E. After conducting a 30-day public comment period, the Regional Water Boards will submit to the State Water Board proposed TMDL-specific permit requirements for adoption by the State Water Board into this General Permit by July 1, 2016. The Regional Water Boards may also include proposed TMDL-specific monitoring requirements for inclusion in this General Permit, or may issue Regional Water Board orders pursuant to Water Code section 13383 requiring TMDL-specific monitoring. The proposed TMDL-specific permit requirements shall have no force or effect until adopted, with or without modification, by the State Water Board. Consistent with the 2008 MSGP, Dischargers are not required to take any additional actions to comply with the TMDLs listed in Attachment E until the State Water Board reopens this General Permit and includes TMDL-specific permit requirements, unless notified otherwise by a Regional Water Board.
41. The Regional Water Boards shall submit to the State Water Board the following information for each of the TMDLs listed in Attachment E:
- a. Proposed TMDL-specific permit, monitoring and reporting requirements applicable to industrial storm water discharges and NSWDS authorized under this General Permit, including compliance schedules and deliverables consistent with the TMDLs. TMDL-specific permit requirements are not limited by the BAT/BCT technology-based standards;
 - b. An explanation of how the proposed TMDL-specific permit requirements, compliance schedules, and deliverables are consistent with the assumptions and requirements of any applicable waste load allocation and implement each TMDL; and,
 - c. Where a BMP-based approach is proposed, an explanation of how the proposed BMPs will be sufficient to implement applicable waste load allocations.
42. Upon receipt of the information described in Finding 40, and no later than July 1, 2016, the State Water Board will issue a public notice and conduct a public comment period for the reopening of this General Permit to amend Attachment E, the Fact Sheet, and other provisions as necessary for incorporation of TMDL-specific permit requirements into this General Permit. Attachment E may also be subsequently reopened during the term of this General Permit to incorporate additional TMDL-specific permit requirements.

G. Discharges Subject to the California Ocean Plan

43. On October 16, 2012 the State Water Board amended the California Ocean Plan. The amended California Ocean Plan requires industrial storm water dischargers with outfalls discharging to ocean waters to comply with the

California Ocean Plan's model monitoring provisions. These provisions require Dischargers to: (a) monitor runoff for specific parameters at all outfalls from two storm events per year, and collect at least one representative receiving water sample per year, (b) conduct specified toxicity monitoring at certain types of outfalls at a minimum of once per year, and (c) conduct marine sediment monitoring for toxicity under specific circumstances. The California Ocean Plan provides conditions under which some of the above monitoring provisions may be waived by the Water Boards.

44. This General Permit requires Dischargers with outfalls discharging to ocean waters that are subject to the model monitoring provisions of the California Ocean Plan to develop and implement a monitoring plan in compliance with those provisions and any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers that have not developed and implemented a monitoring program in compliance with the California Ocean Plan's model monitoring provisions by July 1, 2015 (the effective date of this General Permit), or seven (7) days prior to commencing operations, whichever is later, are ineligible to obtain coverage under this General Permit.
45. The California Ocean Plan prohibits the direct discharge of waste to ASBS. ASBS are defined in California Ocean Plan as "those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable."
46. The California Ocean Plan authorizes the State Water Board to grant an exception to Ocean Plan provisions where the board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.
47. On March 20, 2012, the State Water Board adopted Resolution 2012-0012 which contains exceptions to the California Ocean Plan for specific discharges of storm water and non-point sources. This resolution also contains the special protections that are to be implemented for those discharges to ASBS.
48. This General Permit requires Dischargers who have been granted an exception to the Ocean Plan authorizing the discharges to ASBS by the State Water Board to comply with the requirements contained in Section VIII.B of this General Permit.

H. Training

49. To improve compliance and maintain consistent implementation of this General Permit, Dischargers are required to designate a Qualified Industrial Storm Water Practitioner (QISP) for each facility the Discharger operates that has entered Level 1 status in the Exceedance Response Action (ERA) process as described in Section XII of this General Permit. A QISP may be assigned to more than one facility. In order to qualify as a QISP, a State

Water Board-sponsored or approved training course must be completed. A competency exam may be required by the State Water Board to demonstrate sufficient knowledge of the QISP course material.

50. A QISP must assist the Discharger in completing the Level 1 status and Level 2 status ERA requirements as specified in Section XII of this General Permit. A QISP is also responsible for assisting New Dischargers that will be discharging to an impaired water body with a 303(d) listed impairment, demonstrate eligibility for coverage through preparing the data and/or information required in Section VII.B.
51. A Compliance Group Leader, as defined in Section XIV of this General Order must complete a State Water Board sponsored or approved training program for Compliance Group Leaders.
52. All engineering work subject to the Professional Engineers Act (Bus. & Prof. Code § 6700, et seq.) and required by this General Permit shall be performed by a California licensed professional engineer.
53. California licensed professional civil, industrial, chemical, and mechanical engineers and geologists have licenses that have professional overlap with the topics of this General Permit. The California Department of Consumer Affairs, Board for Professional Engineers, Land Surveyors and Geologists (CBPELSG) provides the licensure and regulation of professional civil, industrial, chemical, and mechanical engineers and professional geologists in California. The State Water Board is developing a specialized self-guided State Water Board-sponsored registration and training program specifically for these CPBELSG licensed engineers and geologists in good standing with CBPELSG.

I. Storm Water Pollution Prevention Plan (SWPPP) Requirements

54. This General Permit requires the development of a site-specific SWPPP in accordance with Section X of this General Permit. The SWPPP must include the information needed to demonstrate compliance with the requirements of this General Permit. The SWPPP must be submitted electronically via SMARTS, and a copy be kept at the facility. SWPPP revisions shall be completed in accordance with Section X.B of this General Permit

J. Sampling, Visual Observations, Reporting and Record Keeping

55. This General Permit complies with 40 Code of Federal Regulations section 122.44(i), which establishes monitoring requirements that must be included in storm water permits. Under this General Permit, Dischargers are required to:
 - (a) conduct an Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation) to identify areas of the facility contributing pollutants to industrial storm water discharges, (b) evaluate whether measures to reduce or prevent industrial pollutant loads identified in the Discharger's SWPPP are adequate and properly implemented in accordance with the terms of this

General Permit, and (c) determine whether additional control measures are needed.

56. This General Permit contains monitoring requirements that are necessary to determine whether pollutants are being discharged, and whether response actions are necessary. Data and information resulting from the monitoring will assist in Dischargers' evaluations of BMP effectiveness and compliance with this General Permit. Visual observations are one form of monitoring. This General Permit requires Dischargers to perform a variety of visual observations designed to identify pollutants in industrial storm water discharges and their sources. To comply with this General Permit Dischargers shall: (1) electronically self-report any violations via SMARTS, (2) comply with the Level 1 status and Level 2 status ERA requirements, when applicable, and (3) adequately address and respond to any Regional Water Board comments on the Discharger's compliance reports.

57. Dischargers that meet the requirements of the No Exposure Certification (NEC) Conditional Exclusion set forth in Section XVII of this General Permit are exempt from the SWPPP requirements, sampling requirements, and visual observation requirements in this General Permit.

K. Facilities Subject to Federal Storm Water Effluent Limitation Guidelines (ELGs)

58. U.S. EPA regulations at 40 Code of Federal Regulations Chapter I Subchapter N (Subchapter N) establish technology-based Effluent Limitation Guidelines and New Source Performance Standards (ELGs) for industrial storm water discharges from facilities in specific industrial categories. For these facilities, compliance with the BAT/BCT and ELG requirements constitutes compliance with technology-based requirements of this General Permit.

59. 40 Code of Federal Regulations section 122.44(i)(3) and (4) require storm water permits to require at least one Annual Evaluation and any monitoring requirements for applicable ELGs in Subchapter N. This General Permit requires Dischargers to comply with all applicable ELG requirements found in Subchapter N.

L. Sampling and Analysis Reduction

60. This General Permit reduces the number of qualifying sampling events required to be sampled each year when the Discharger demonstrates: (1) consistent compliance with this General Permit, (2) consistent effluent water quality sampling, and (3) analysis results that do not exceed numerical action levels.

M. Role of Numeric Action Levels (NALs) and Exceedance Response Actions (ERAs)

61. This General Permit incorporates a multiple objective performance measurement system that includes NALs, new comprehensive training requirements, Level 1 ERA Reports, Level 2 ERA Technical Reports, and Level 2 ERA Action Plans. Two objectives of the performance measurement system are to inform Dischargers, the public and the Water Boards on: (1) the overall pollutant control performance at any given facility, and (2) the overall performance of the industrial statewide storm water program. Additionally, the State Water Board expects that this information and assessment process will provide information necessary to determine the feasibility of numeric effluent limitations for industrial dischargers in the next reissuance of this General Permit, consistent with the State Water Board Storm Water Panel of Experts' June 2006 Recommendations.³
62. This General Permit contains annual and instantaneous maximum NALs. The annual NALs are established as the 2008 MSGP benchmark values, and are applicable for all parameters listed in Table 2. The instantaneous maximum NALs are calculated from a Water Board dataset, and are only applicable for Total Suspended Solids (TSS), Oil and Grease (O&G), and pH. An NAL exceedance is determined as follows:
- a. For annual NALs, an exceedance occurs when the average of all analytical results from all samples taken at a facility during a reporting year for a given parameter exceeds an annual NAL value listed in Table 2 of this General Permit; or,
 - b. For the instantaneous maximum NALs, an exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the instantaneous maximum NAL value (for Total Suspended Solids, and Oil and Grease), or are outside of the instantaneous maximum NAL range (for pH) listed in Table 2 of this General Permit. For the purposes of this General Permit, the reporting year is July 1 through June 30.
63. The NALs are not intended to serve as technology-based or water quality-based numeric effluent limitations. The NALs are not derived directly from either BAT/BCT requirements or receiving water objectives. NAL exceedances defined in this General Permit are not, in and of themselves, violations of this General Permit. A Discharger that does not fully comply with the Level 1 status and/or Level 2 status ERA requirements, when required by the terms of this General Permit, is in violation of this General Permit.
64. ERAs are designed to assist Dischargers in complying with this General Permit. Dischargers subject to ERAs must evaluate the effectiveness of their

³ State Water Board Storm Water Panel of Experts, The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 19, 2006) <http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/numeric/swpanel_final_report.pdf> [as of February 4, 2014].

BMPs being implemented to ensure they are adequate to achieve compliance with this General Permit.

65. U.S. EPA regulations at Subchapter N establish ELGs for storm water discharges from facilities in 11 industrial categories. Dischargers subject to these ELGs are required to comply with the applicable requirements.
66. Exceedances of the NALs that are attributable solely to pollutants originating from non-industrial pollutant sources (such as run-on from adjacent facilities, non-industrial portions of the Discharger's property, or aerial deposition) are not a violation of this General Permit because the NALs are designed to provide feedback on industrial sources of pollutants. Dischargers may submit a Non-Industrial Source Pollutant Demonstration as part of their Level 2 ERA Technical Report to demonstrate that the presence of a pollutant causing an NAL exceedance is attributable solely to pollutants originating from non-industrial pollutant sources.
67. A Discharger who has designed, installed, and implemented BMPs to reduce or prevent pollutants in industrial storm water discharges in compliance with this General Permit may submit an Industrial Activity BMPs Demonstration, as part of their Level 2 ERA Technical Report.
68. This General Permit establishes design storm standards for all treatment control BMPs. These design standards are directly based on the standards in State Water Board Order 2000-0011 regarding Standard Urban Storm Water Mitigation Plans (SUSMPs). These design standards are generally expected to be consistent with BAT/BCT, to be protective of water quality, and to be effective for most pollutants. The standards are intended to eliminate the need for most Dischargers to further treat/control industrial storm water discharges that are unlikely to contain pollutant loadings that exceed the NALs set forth in this General Permit.

N. Compliance Groups

69. Compliance Groups are groups of Dischargers (Compliance Group Participants) that share common types of pollutant sources and industrial activity characteristics. Compliance Groups provide an opportunity for the Compliance Group Participants to combine resources and develop consolidated Level 1 ERA Reports for Level 1 NAL exceedances and appropriate BMPs for implementation in response to Level 2 status ERA requirements that are representative of the entire Compliance Group. Compliance Groups also provide the Water Boards and the public with valuable information as to how industrial storm water discharges are affected by non-industrial background pollutant sources (including natural background) and geographic locations. When developing the next reissuance of this General Permit, the State Water Board expects to have a better understanding of the feasibility and benefits of sector-specific and watershed-based permitting alternatives, which may include technology- or water quality-based numeric effluent limitations. The effluent data, BMP performance data

and other information provided from Compliance Groups' consolidated reporting will further assist the State Water Board in addressing sector-specific and watershed-based permitting alternatives.

O. Conditional Exclusion – No Exposure Certification (NEC)

70. Pursuant to U.S. EPA Phase II regulations, all Dischargers subject to this General Permit may qualify for a conditional exclusion from specific requirements if they submit a NEC demonstrating that their facilities have no exposure of industrial activities and materials to storm water discharges.
71. This General Permit requires Dischargers who seek the NEC conditional exclusion to obtain coverage in accordance with Section XVII of this General Permit. Dischargers that meet the requirements of the NEC are exempt from the SWPPP, sampling requirements, and monitoring requirements in this General Permit.
72. Dischargers seeking NEC coverage are required to certify and submit the applicable permit registration documents. Annual inspections, re-certifications, and fees are required in subsequent years. Light industry facility Dischargers excluded from coverage under the previous permit (Order 97-03-DWQ) must obtain the appropriate coverage under this General Permit. Failure to comply with the Conditional Exclusion conditions listed in this General Permit may lead to enforcement for discharging without a permit pursuant to sections 13385 or 13399.25, et seq., of the Water Code. A Discharger with NEC coverage that anticipates a change (or changes) in circumstances that would lead to exposure should register for permit coverage prior to the anticipated changes.

P. Special Requirements for Facilities Handling Plastic Materials

73. Section 13367 of the Water Code requires facilities handling preproduction plastic to implement specific BMPs aimed at minimizing discharges of such materials. The definition of Plastic Materials for the purposes of this General Permit includes the following types of sources of Plastic Materials: virgin and recycled plastic resin pellets, powders, flakes, powdered additives, regrind, dust, and other types of preproduction plastics with the potential to discharge or migrate off-site.

Q. Regional Water Board Authorities

74. Regional Water Boards are primarily responsible for enforcement of this General Permit. This General Permit recognizes that Regional Water Boards have the authority to protect the beneficial uses of receiving waters and prevent degradation of water quality in their region. As such, Regional Water Boards may modify monitoring requirements and review, comment, approve or disapprove certain Discharger submittals required under this General Permit.

IT IS HEREBY ORDERED that all Dischargers subject to this General Permit shall comply with the following conditions and requirements.

II. RECEIVING GENERAL PERMIT COVERAGE

A. Certification

1. For Storm Water Multiple Application and Report Tracking System (SMARTS) electronic account management and security reasons, as well as enforceability of this General Permit, the Discharger's Legally Responsible Person (LRP) of an industrial facility seeking coverage under this General Permit shall certify and submit all Permit Registration Documents (PRDs) for Notice of Intent (NOI) or No Exposure Certification (NEC) coverage. All other documents shall be certified and submitted via SMARTS by the Discharger's (LRP) or by their Duly Authorized Representative in accordance with the Electronic Signature and Certification Requirements in Section XXI.K. All documents required by this General Permit that are certified and submitted via SMARTS shall be in accordance with Section XXI.K.
2. Hereinafter references to certifications and submittals by the Discharger refer to the Discharger's LRP and their Duly Authorized Representative.

B. Coverages

This General Permit includes requirements for two (2) types of permit coverage, NOI coverage and NEC coverage. State Water Board Order 97-03-DWQ (previous permit) remains in effect until July 1, 2015. When PRDs are certified and submitted and the annual fee is received, the State Water Board will assign the Discharger a Waste Discharger Identification (WDID) number.

1. General Permit Coverage (NOI Coverage)
 - a. Dischargers that discharge storm water associated with industrial activity to waters of the United States are required to meet all applicable requirements of this General Permit.
 - b. The Discharger shall register for coverage under this General Permit by certifying and submitting PRDs via SMARTS (<http://smarts.waterboards.ca.gov>), which consist of:
 - i. A completed NOI and signed certification statement;
 - ii. A copy of a current Site Map from the Storm Water Pollution Prevention Plan (SWPPP) in Section X.E;
 - iii. A SWPPP (see Section X); and,

- c. The Discharger shall pay the appropriate Annual Fee in accordance with California Code of Regulations, title 23, section 2200 et seq.⁴
2. General Permit Coverage (NEC Coverage)
 - a. Dischargers that certify their facility has no exposure of industrial activities or materials to storm water in accordance with Section XVII qualify for NEC coverage and are not required to comply with the SWPPP or monitoring requirements of this General Permit.
 - b. Dischargers who qualify for NEC coverage shall conduct one Annual Facility Comprehensive Compliance Evaluation (Annual Evaluation) as described in Section XV, pay an annual fee, and certify annually that their facilities continue to meet the NEC requirements.
 - c. The Discharger shall submit the following PRDs on or before October 1, 2015 for NEC coverage via SMARTS:
 - i. A completed NEC Form (Section XVII.F.1) and signed certification statement (Section XVII.H);
 - ii. A completed NEC Checklist (Section XVII.F.2); and
 - iii. A current Site Map consistent with requirements in Section X.E.;
 - d. The Discharger shall pay the appropriate annual fee in accordance with California Code of Regulations, title 23, section 2200 et seq.⁵
 3. General PRD Requirements
 - a. Site Maps

Dischargers registering for NOI or NEC coverage shall prepare a site map(s) as part of their PRDs in accordance with Section X.E. A separate copy of the site map(s) is required to be in the SWPPP. If there is a significant change in the facility layout (e.g., new building, change in storage locations, boundary change, etc.) a revision to the site map is required and shall be certified and submitted via SMARTS.
 - b. A Discharger shall submit a single set of PRDs for coverage under this General Permit for multiple industrial activities occurring at the same facility.
 - c. Any information provided to the Water Boards by the Discharger shall comply with the Homeland Security Act and other federal law that

⁴ Annual fees must be mailed or sent electronically using the State Water Boards' Electronic Funds Transfer (EFT) system in SMARTS.

⁵ See footnote 4.

addresses security in the United States; any information that does not comply should not be submitted in the PRDs. The Discharger must provide justification to the Regional Water Board regarding redacted information within any submittal.

- d. Dischargers may redact trade secrets from information that is submitted via SMARTS. Dischargers who certify and submit redacted information via SMARTS must include a general description of the redacted information and the basis for the redaction in the version that is submitted via SMARTS. Dischargers must submit complete and un-redacted versions of the information that are clearly labeled "CONFIDENTIAL" to the Regional Water Board within 30 days of the submittal of the redacted information. All information labeled "CONFIDENTIAL" will be maintained by the Water Boards in a separate, confidential file.
4. Schedule for Submitting PRDs - Existing Dischargers Under the Previous Permit.
- a. Existing Dischargers⁶ with coverage under the previous permit shall continue coverage under the previous permit until July 1, 2015. All waste discharge requirements and conditions of the previous permit are in effect until July 1, 2015.
 - b. Existing Dischargers with coverage under the previous permit shall register for NOI coverage by July 1, 2015 or for NEC coverage by October 1, 2015. Existing Dischargers previously listed in Category 10 (Light Industry) of the previous permit, and continue to have no exposure to industrial activities and materials, have until October 1, 2015 to register for NEC coverage.
 - c. Existing Dischargers with coverage under the previous permit, that do not register for NOI coverage by July 1, 2015, may have their permit coverage administratively terminated as soon as July 1, 2015.
 - d. Existing Dischargers with coverage under the previous permit that are eligible for NEC coverage but do not register for NEC coverage by October 1, 2015 may have their permit coverage administratively terminated as soon as October 1, 2015.
 - e. Existing Dischargers shall continue to comply with the SWPPP requirements in State Water Board Order 97-03-DWQ up to, but no later than, June 30, 2015.

⁶ Existing Dischargers are Dischargers with an active Notice of Intent (permit coverage) under the previous permit (97-03-DWQ) prior to the effective date of this General Permit.

- f. Existing Dischargers shall implement an updated SWPPP in accordance with Section X by July 1, 2015.
 - g. Existing Dischargers that submit a Notice of Termination (NOT) under the previous permit prior to July 1, 2015 and that receive NOT approval from the Regional Water Board are not subject to this General Permit unless they subsequently submitted new PRDs.
5. Schedule for Submitting PRDs - New Dischargers Obtaining Coverage On or After July 1, 2015
- New Dischargers registering for NOI coverage on or after July 1, 2015 shall certify and submit PRDs via SMARTS at least seven (7) days prior to commencement of industrial activities or on July 1, 2015, whichever comes later.
- a. New Dischargers registering for NEC coverage shall electronically certify and submit PRDs via SMARTS by October 1, 2015, or at least seven (7) days prior to commencement of industrial activities, whichever is later.

C. Termination and Changes to General Permit Coverage

1. Dischargers with NOI or NEC coverage shall request termination of coverage under this General Permit when either (a) operation of the facility has been transferred to another entity, (b) the facility has ceased operations, completed closure activities, and removed all industrial related pollutants, or (c) the facility's operations have changed and are no longer subject to the General Permit. Dischargers shall certify and submit a Notice of Termination via SMARTS. Until a valid NOT is received, the Discharger remains responsible for compliance with this General Permit and payment of accrued annual fees.
2. Whenever there is a change to the facility location, the Discharger shall certify and submit new PRDs via SMARTS. When ownership changes, the prior Discharger (seller) must inform the new Discharger (buyer) of the General Permit applications and regulatory coverage requirements. The new Discharger must certify and submit new PRDs via SMARTS to obtain coverage under this General Permit.
3. Dischargers with NOI coverage where the facility qualifies for NEC coverage in accordance with Section XVII of this General Permit, may register for NEC coverage via SMARTS. Such Dischargers are not required to submit an NOT to cancel NOI coverage.
4. Dischargers with NEC coverage, where changes in the facility and/or facility operations occur, which result in NOI coverage instead of NEC coverage, shall register for NOI coverage via SMARTS. Such Dischargers are not required to submit an NOT to cancel NEC coverage.

5. Dischargers shall provide additional information supporting an NOT, or revise their PRDs via SMARTS, upon request by the Regional Water Board.
6. Dischargers that are denied approval of a submitted NOT or registration for NEC coverage by the Regional Water Board, shall continue compliance with this General Permit under their existing NOI coverage.
7. New Dischargers (Dischargers with no previous NOI or NEC coverage) shall register for NOI coverage if the Regional Water Board denies NEC coverage.

D. Preparation Requirements

1. The following documents shall be certified and submitted by the Discharger via SMARTS:
 - a. Annual Reports (Section XVI) and SWPPPs (Section X);
 - b. NOTs;
 - c. Sampling Frequency Reduction Certification (Section XI.C.7);
 - d. Level 1 ERA Reports (Section XII.C) prepared by a QISP;
 - e. Level 2 ERA Technical Reports and Level 2 ERA Action Plans (Sections XII.D.1-2) prepared by a QISP; and,
 - f. SWPPPs for inactive mining operations as described in Section XIII, signed (wet signature and license number) by a California licensed professional engineer.
2. The following documents shall be signed (wet signature and license number) by a California licensed professional engineer:
 - a. Calculations for Dischargers subject to Subchapter N in accordance with Section XI.D;
 - b. Notice of Non-Applicability (NONA) Technical Reports described in Section XX.C for facilities that are engineered and constructed to have contained the maximum historic precipitation event (or series of events) using the precipitation data collected from the National Oceanic and Atmospheric Agency's website;
 - c. NONA Technical Reports described in Section XX.C for facilities located in basins or other physical locations that are not tributaries or hydrologically connected to waters of the United States; and,
 - d. SWPPPs for inactive mines described in Section XIII.

III. DISCHARGE PROHIBITIONS

- A. All discharges of storm water to waters of the United States are prohibited except as specifically authorized by this General Permit or another NPDES permit.
- B. Except for non-storm water discharges (NSWDs) authorized in Section IV, discharges of liquids or materials other than storm water, either directly or indirectly to waters of the United States, are prohibited unless authorized by another NPDES permit. Unauthorized NSWDs must be either eliminated or authorized by a separate NPDES permit.
- C. Industrial storm water discharges and authorized NSWDs that contain pollutants that cause or threaten to cause pollution, contamination, or nuisance as defined in section 13050 of the Water Code, are prohibited.
- D. Discharges that violate any discharge prohibitions contained in applicable Regional Water Board Water Quality Control Plans (Basin Plans), or statewide water quality control plans and policies are prohibited.
- E. Discharges to ASBS are prohibited in accordance with the California Ocean Plan, unless granted an exception by the State Water Board and in compliance with the Special Protections contained in Resolution 2012-0012.
- F. Industrial storm water discharges and NSWDs authorized by this General Permit that contain hazardous substances equal to or in excess of a reportable quantity listed in 40 Code of Federal Regulations sections 110.6, 117.21, or 302.6 are prohibited.

IV. AUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

- A. The following NSWDs are authorized provided they meet the conditions of Section IV.B:
 - 1. Fire-hydrant and fire prevention or response system flushing;
 - 2. Potable water sources including potable water related to the operation, maintenance, or testing of potable water systems;
 - 3. Drinking fountain water and atmospheric condensate including refrigeration, air conditioning, and compressor condensate;
 - 4. Irrigation drainage and landscape watering provided all pesticides, herbicides and fertilizers have been applied in accordance with the manufacturer's label;
 - 5. Uncontaminated natural springs, groundwater, foundation drainage, footing drainage;

6. Seawater infiltration where the seawater is discharged back into the source:
and,
 7. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of your facility, but not intentional discharges from the cooling tower (e.g., “piped” cooling tower blowdown or drains).
- B.** The NSWDs identified in Section IV.A are authorized by this General Permit if the following conditions are met:
1. The authorized NSWDs are not in violation of any Regional Water Board Water Quality Control Plans (Basin Plans) or other requirements, or statewide water quality control plans or policies requirement;
 2. The authorized NSWDs are not in violation of any municipal agency ordinance or requirements;
 3. BMPs are included in the SWPPP and implemented to:
 - a. Reduce or prevent the contact of authorized NSWDs with materials or equipment that are potential sources of pollutants;
 - b. Reduce, to the extent practicable, the flow or volume of authorized NSWDs;
 - c. Ensure that authorized NSWDs do not contain quantities of pollutants that cause or contribute to an exceedance of a water quality standards;
and,
 - d. Reduce or prevent discharges of pollutants in authorized NSWDs in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.
 4. The Discharger conducts monthly visual observations (Section XI.A.1) of NSWDs and sources to ensure adequate BMP implementation and effectiveness; and,
 5. The Discharger reports and describes all authorized NSWDs in the Annual Report.
- C.** Firefighting related discharges are not subject to this General Permit and are not subject to the conditions of Section IV.B. These discharges, however, may be subject to Regional Water Board enforcement actions under other sections of the Water Code. Firefighting related discharges that are contained and are later discharged may be subject to municipal agency ordinances and/or Regional Water Board requirements.

V. EFFLUENT LIMITATIONS

- A.** Dischargers shall implement BMPs that comply with the BAT/BCT requirements of this General Permit to reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.
- B.** Industrial storm water discharges from facilities subject to storm water ELGs in Subchapter N shall not exceed those storm water ELGs. The ELGs for industrial storm water discharges subject to Subchapter N are in Attachment F of this General Permit.
- C.** Dischargers located within a watershed for which a Total Maximum Daily Load (TMDL) has been approved by U.S. EPA, shall comply with any applicable TMDL-specific permit requirements that have been incorporated into this General Permit in accordance with Section VII.A. Attachment E contains a reference list of potential TMDLs that may apply to Dischargers subject to this General Permit.

VI. RECEIVING WATER LIMITATIONS

- A.** Dischargers shall ensure that industrial storm water discharges and authorized NSWDS do not cause or contribute to an exceedance of any applicable water quality standards in any affected receiving water.
- B.** Dischargers shall ensure that industrial storm water discharges and authorized NSWDS do not adversely affect human health or the environment.
- C.** Dischargers shall ensure that industrial storm water discharges and authorized NSWDS do not contain pollutants in quantities that threaten to cause pollution or a public nuisance.

VII. TOTAL MAXIMUM DAILY LOADS (TMDLs)

A. Implementation

1. The State Water Board shall reopen and amend this General Permit, including Attachment E, the Fact Sheet and other applicable Permit provisions as necessary, in order to incorporate TMDL-specific permit requirements, as described in Findings 38 through 42. Once this General Permit is amended, Dischargers shall comply with the incorporated TMDL-specific permit requirements in accordance with any specified compliance schedule(s). TMDL-specific compliance dates that exceed the term of this General Permit may be included for reference, and are enforceable in the event that this General Permit is administratively extended or reissued.
2. The State Water Board may, at its discretion, reopen this General Permit to add TMDL-specific permit requirements to Attachment E, or to incorporate new TMDLs adopted during the term of this General Permit that include requirements applicable to Dischargers covered by this General Permit.

- B.** New Dischargers applying for NOI coverage under this General Permit that will be discharging to a water body with a 303(d) listed impairment are ineligible for coverage unless the Discharger submits data and/or information, prepared by a QISP, demonstrating that:
1. The Discharger has eliminated all exposure to storm water of the pollutant(s) for which the water body is impaired, has documented the procedures taken to prevent exposure onsite, and has retained such documentation with the SWPPP at the facility;
 2. The pollutant for which the water body is impaired is not present at the Discharger's facility, and the Discharger has retained documentation of this finding with the SWPPP at the facility; or,
 3. The discharge of any listed pollutant will not cause or contribute to an exceedance of a water quality standard. This is demonstrated if: (1) the discharge complies with water quality standard at the point of discharge, or (2) if there are sufficient remaining waste load allocations in an approved TMDL and the discharge is controlled at least as stringently as similar discharges subject to that TMDL.

VIII. DISCHARGES SUBJECT TO THE CALIFORNIA OCEAN PLAN

A. Discharges to Ocean Waters

1. Dischargers with outfalls discharging to ocean waters that are subject to the model monitoring provisions of the California Ocean Plan shall develop and implement a monitoring plan in compliance with those provisions and any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers who have not developed and implemented a monitoring program in compliance with the California Ocean Plan's model monitoring provisions by July 1, 2015, or seven (7) days prior to commencing of operations, whichever is later, are ineligible to obtain coverage under this General Permit.
2. Dischargers are ineligible for the methods and exceptions provided in Section XI.C of this General permit for any of the outfalls discharging to ocean waters subject to the model monitoring provisions of the California Ocean Plan.

B. Discharge Granted an Exceptions for Areas of Special Biological Significance (ASBS)

Dischargers who were granted an exception to the California Ocean Plan prohibition against direct discharges of waste to an ASBS pursuant to Resolution 2012-0012⁷ amended by Resolution 2012-0031⁸ shall comply with the conditions and requirements set forth in Attachment G of this General Permit. Any Discharger that applies for and is granted an exception to the California Ocean Plan prohibition after July 1, 2013 shall comply with the conditions and requirements set forth in the granted exception.

IX. TRAINING QUALIFICATIONS

A. General

1. A Qualified Industrial Storm Water Practitioner (QISP) is a person (either the Discharger or a person designated by the Discharger) who has completed a State Water Board-sponsored or approved QISP training course⁹, and has registered as a QISP via SMARTS. Upon completed registration the State Water Board will issue a QISP identification number.
2. The Executive Director of the State Water Board or an Executive Officer of a Regional Water Board may rescind any QISP's registration if it is found that the QISP has repeatedly demonstrated an inadequate level of performance in completing the QISP requirements in this General Permit. An individual whose QISP registration has been rescinded may request that the State Water Board review the rescission. Any request for review must be received by the State Water Board no later than 30 days of the date that the individual received written notice of the rescission.
3. Dischargers with Level 1 status shall:
 - a. Designate a person to be the facility's QISP and ensure that this person has attended and satisfactorily completed the State Water Board-sponsored or approved QISP training course.
 - b. Ensure that the facility's designated QISP provides sufficient training to the appropriate team members assigned to perform activities required by this General Permit.

⁷ State Water Resources Control Board. Resolution 2012-0012. <http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0012.pdf>. [as of February 4, 2014].

⁸ State Water Resources Control Board. Resolution 2012-0031. <http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0031.pdf>. [as of February 4, 2014].

⁹ A specialized self-guided State Water Board-sponsored registration and training program will be available as an option for CPBELSG licensed professional civil, mechanical, industrial, and chemical engineers and professional geologists by the effective date of this General Permit.

X. Storm Water Pollution Prevention Plan (SWPPP)**A. SWPPP Elements**

Dischargers shall develop and implement a site-specific SWPPP for each industrial facility covered by this General Permit that shall contain the following elements, as described further in this Section¹⁰:

1. Facility Name and Contact Information;
2. Site Map;
3. List of Industrial Materials;
4. Description of Potential Pollution Sources;
5. Assessment of Potential Pollutant Sources;
6. Minimum BMPs;
7. Advanced BMPs, if applicable;
8. Monitoring Implementation Plan;
9. Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation); and,
10. Date that SWPPP was Initially Prepared and the Date of Each SWPPP Amendment, if Applicable.

B. SWPPP Implementation and Revisions

All Dischargers are required to implement their SWPPP by July 1, 2015 or upon commencement of industrial activity. The Discharger shall:

1. Revise their on-site SWPPP whenever necessary;
2. Certify and submit via SMARTS their SWPPP within 30 days whenever the SWPPP contains significant revision(s); and,
3. With the exception of significant revisions, the Discharger is not required to certify and submit via SMARTS their SWPPP revisions more than once every three (3) months in the reporting year.

¹⁰ Appendix 1 (SWPPP Checklist) of this General Permit is provided to assist the Discharger in including information required in the SWPPP. This checklist is not required to be used.

C. SWPPP Performance Standards

1. The Discharger shall ensure a SWPPP is prepared to:
 - a. Identify and evaluate all sources of pollutants that may affect the quality of industrial storm water discharges and authorized NSWDDs;
 - b. Identify and describe the minimum BMPs (Section X.H.1) and any advanced BMPs (Section X.H.2) implemented to reduce or prevent pollutants in industrial storm water discharges and authorized NSWDDs. BMPs shall be selected to achieve compliance with this General Permit; and,
 - c. Identify and describe conditions or circumstances which may require future revisions to be made to the SWPPP.
2. The Discharger shall prepare a SWPPP in accordance with all applicable SWPPP requirements of this Section. A copy of the SWPPP shall be maintained at the facility.

D. Planning and Organization

1. Pollution Prevention Team

Each facility must have a Pollution Prevention Team established and responsible for assisting with the implementation of the requirements in this General Permit. The Discharger shall include in the SWPPP detailed information about its Pollution Prevention Team including:

- a. The positions within the facility organization (collectively, team members) who assist in implementing the SWPPP and conducting all monitoring requirements in this General Permit;
- b. The responsibilities, duties, and activities of each of the team members; and,
- c. The procedures to identify alternate team members to implement the SWPPP and conduct required monitoring when the regularly assigned team members are temporarily unavailable (due to vacation, illness, out of town business, or other absences).

2. Other Requirements and Existing Facility Plans

- a. The Discharger shall ensure its SWPPP is developed, implemented, and revised as necessary to be consistent with any applicable municipal, state, and federal requirements that pertain to the requirements in this General Permit.
- b. The Discharger may include in their SWPPP the specific elements of existing plans, procedures, or regulatory compliance documents that

contain storm water-related BMPs or otherwise relate to the requirements of this General Permit.

- c. The Discharger shall properly reference the original sources for any elements of existing plans, procedures, or regulatory compliance documents included as part of their SWPPP and shall maintain a copy of the documents at the facility as part of the SWPPP.
- d. The Discharger shall document in their SWPPP the facility's scheduled operating hours as defined in Attachment C. Scheduled facility operating hours that would be considered irregular (temporary, intermittent, seasonal, weather dependent, etc.) shall also be documented in the SWPPP.

E. Site Map

1. The Discharger shall prepare a site map that includes notes, legends, a north arrow, and other data as appropriate to ensure the map is clear, legible and understandable.
2. The Discharger may provide the required information on multiple site maps.
3. The Discharger shall include the following information on the site map:
 - a. The facility boundary, storm water drainage areas within the facility boundary, and portions of any drainage area impacted by discharges from surrounding areas. Include the flow direction of each drainage area, on-facility surface water bodies, areas of soil erosion, and location(s) of nearby water bodies (such as rivers, lakes, wetlands, etc.) or municipal storm drain inlets that may receive the facility's industrial storm water discharges and authorized NSWDS;
 - b. Locations of storm water collection and conveyance systems, associated discharge locations, and direction of flow. Include any sample locations if different than the identified discharge locations;
 - c. Locations and descriptions of structural control measures¹¹ that affect industrial storm water discharges, authorized NSWDS, and/or run-on;
 - d. Identification of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures;

¹¹ Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

- e. Locations where materials are directly exposed to precipitation and the locations where identified significant spills or leaks (Section X.G.1.d) have occurred; and
- f. Areas of industrial activity subject to this General Permit. Identify all industrial storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and material reuse areas, and other areas of industrial activity that may have potential pollutant sources.

F. List of Industrial Materials

The Discharger shall ensure the SWPPP includes a list of industrial materials handled at the facility, and the locations where each material is stored, received, shipped, and handled, as well as the typical quantities and handling frequency.

G. Potential Pollutant Sources

1. Description of Potential Pollutant Sources

a. Industrial Processes

The Discharger shall ensure the SWPPP describes each industrial process including: manufacturing, cleaning, maintenance, recycling, disposal, and any other activities related to the process. The type, characteristics, and approximate quantity of industrial materials used in or resulting from the process shall be included. Areas protected by containment structures and the corresponding containment capacity shall be identified and described.

b. Material Handling and Storage Areas

The Discharger shall ensure the SWPPP describes each material handling and storage area, including: the type, characteristics, and quantity of industrial materials handled or stored; the shipping, receiving, and loading procedures; the spill or leak prevention and response procedures; and the areas protected by containment structures and the corresponding containment capacity.

c. Dust and Particulate Generating Activities

The Discharger shall ensure the SWPPP describes all industrial activities that generate a significant amount of dust or particulate that may be deposited within the facility boundaries. The SWPPP shall describe such industrial activities, including the discharge locations, the source type, and the characteristics of the dust or particulate pollutant.

d. Significant Spills and Leaks

The Discharger shall:

- i. Evaluate the facility for areas where spills and leaks can likely occur;
- ii. Ensure the SWPPP includes:
 - a) A list of any industrial materials that have spilled or leaked in significant quantities and have discharged from the facility's storm water conveyance system within the previous five-year period;
 - b) A list of any toxic chemicals identified in 40 Code of Federal Regulations section 302 that have been discharged from the facilities' storm water conveyance system as reported on U.S. EPA Form R, as well as oil and hazardous substances in excess of reportable quantities (40 C.F.R. §§ 110, 117, and 302) that have discharged from the facility's storm water conveyance system within the previous five-year period;
 - c) A list of any industrial materials that have spilled or leaked in significant quantities and had the potential to be discharged from the facility's storm water conveyance system within the previous five-year period; and,
- iii. Ensure that for each discharge or potential discharge listed above the SWPPP includes the location, characteristics, and approximate quantity of the materials spilled or leaked; approximate quantity of the materials discharged from the facility's storm water conveyance system; the cleanup or remedial actions that have occurred or are planned; the approximate remaining quantity of materials that have the potential to be discharged; and the preventive measures taken to ensure spills or leaks of the material do not reoccur.

e. NSWDS

The Discharger shall:

- i. Ensure the SWPPP includes an evaluation of the facility that identifies all NSWDS, sources, and drainage areas;
- ii. Ensure the SWPPP includes an evaluation of all drains (inlets and outlets) that identifies connections to the storm water conveyance system;
- iii. Ensure the SWPPP includes a description of how all unauthorized NSWDS have been eliminated; and,

- iv. Ensure all NSWDs are described in the SWPPP. This description shall include the source, quantity, frequency, and characteristics of the NSWDs, associated drainage area, and whether it is an authorized or unauthorized NSWD in accordance with Section IV.

f. Erodible Surfaces

The Discharger shall ensure the SWPPP includes a description of the facility locations where soil erosion may be caused by industrial activity, contact with storm water, authorized and unauthorized NSWDs, or run-on from areas surrounding the facility.

2. Assessment of Potential Pollutant Sources

- a. The Discharger shall ensure that the SWPPP includes a narrative assessment of all areas of industrial activity with potential industrial pollutant sources. At a minimum, the assessment shall include:
 - i. The areas of the facility with likely sources of pollutants in industrial storm water discharges and authorized NSWDs;
 - ii. The pollutants likely to be present in industrial storm water discharges and authorized NSWDs;
 - iii. The approximate quantity, physical characteristics (e.g., liquid, powder, solid, etc.), and locations of each industrial material handled, produced, stored, recycled, or disposed;
 - iv. The degree to which the pollutants associated with those materials may be exposed to, and mobilized by contact with, storm water;
 - v. The direct and indirect pathways by which pollutants may be exposed to storm water or authorized NSWDs;
 - vi. All sampling, visual observation, and inspection records;
 - vii. The effectiveness of existing BMPs to reduce or prevent pollutants in industrial storm water discharges and authorized NSWDs;
 - viii. The estimated effectiveness of implementing, to the extent feasible, minimum BMPs to reduce or prevent pollutants in industrial storm water discharges and authorized NSWDs; and,
 - ix. The identification of the industrial pollutants related to the receiving waters with 303(d) listed impairments identified in Appendix 3 or approved TMDLs that may be causing or contributing to an exceedance of a water quality standard in the receiving waters.
- b. Based upon the assessment above, Dischargers shall identify in the SWPPP any areas of the facility where the minimum BMPs described in

subsection H.1 below will not adequately reduce or prevent pollutants in storm water discharges in compliance with Section V.A. Dischargers shall identify any advanced BMPs, as described in subsection H.2 below, for those areas.

- c. Based upon the assessment above, Dischargers shall identify any drainage areas with no exposure to industrial activities and materials in accordance with the definitions in Section XVII.
- d. Based upon the assessment above, Dischargers shall identify any additional parameters, beyond the required parameters in Section XI.B.6 that indicate the presence of pollutants in industrial storm water discharges.

H. Best Management Practices (BMPs)

1. Minimum BMPs

The Discharger shall, to the extent feasible, implement and maintain all of the following minimum BMPs to reduce or prevent pollutants in industrial storm water discharges.¹²

a. Good Housekeeping

The Discharger shall:

- i. Observe all outdoor areas associated with industrial activity; including storm water discharge locations, drainage areas, conveyance systems, waste handling/disposal areas, and perimeter areas impacted by off-facility materials or storm water run-on to determine housekeeping needs. Any identified debris, waste, spills, tracked materials, or leaked materials shall be cleaned and disposed of properly;
- ii. Minimize or prevent material tracking;
- iii. Minimize dust generated from industrial materials or activities;
- iv. Ensure that all facility areas impacted by rinse/wash waters are cleaned as soon as possible;
- v. Cover all stored industrial materials that can be readily mobilized by contact with storm water;

¹² For the purposes of this General Permit, the requirement to implement BMPs "to the extent feasible" requires Dischargers to select, design, install and implement BMPs that reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.

- vi. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with storm water;
 - vii. Prevent disposal of any rinse/wash waters or industrial materials into the storm water conveyance system;
 - viii. Minimize storm water discharges from non-industrial areas (e.g., storm water flows from employee parking area) that contact industrial areas of the facility; and,
 - ix. Minimize authorized NSWDS from non-industrial areas (e.g., potable water, fire hydrant testing, etc.) that contact industrial areas of the facility.
- b. Preventive Maintenance
- The Discharger shall:
- i. Identify all equipment and systems used outdoors that may spill or leak pollutants;
 - ii. Observe the identified equipment and systems to detect leaks, or identify conditions that may result in the development of leaks;
 - iii. Establish an appropriate schedule for maintenance of identified equipment and systems; and,
 - iv. Establish procedures for prompt maintenance and repair of equipment, and maintenance of systems when conditions exist that may result in the development of spills or leaks.
- c. Spill and Leak Prevention and Response
- The Discharger shall:
- i. Establish procedures and/or controls to minimize spills and leaks;
 - ii. Develop and implement spill and leak response procedures to prevent industrial materials from discharging through the storm water conveyance system. Spilled or leaked industrial materials shall be cleaned promptly and disposed of properly;
 - iii. Identify and describe all necessary and appropriate spill and leak response equipment, location(s) of spill and leak response equipment, and spill or leak response equipment maintenance procedures; and,
 - iv. Identify and train appropriate spill and leak response personnel.
- d. Material Handling and Waste Management

The Discharger shall:

- i. Prevent or minimize handling of industrial materials or wastes that can be readily mobilized by contact with storm water during a storm event;
- ii. Contain all stored non-solid industrial materials or wastes (e.g., particulates, powders, shredded paper, etc.) that can be transported or dispersed by the wind or contact with storm water;
- iii. Cover industrial waste disposal containers and industrial material storage containers that contain industrial materials when not in use;
- iv. Divert run-on and storm water generated from within the facility away from all stockpiled materials;
- v. Clean all spills of industrial materials or wastes that occur during handling in accordance with the spill response procedures (Section X.H.1.c); and,
- vi. Observe and clean as appropriate, any outdoor material or waste handling equipment or containers that can be contaminated by contact with industrial materials or wastes.

e. Erosion and Sediment Controls

For each erodible surface facility location identified in the SWPPP (Section X.G.1.f), the Discharger shall:

- i. Implement effective wind erosion controls;
- ii. Provide effective stabilization for inactive areas, finished slopes, and other erodible areas prior to a forecasted storm event;
- iii. Maintain effective perimeter controls and stabilize all site entrances and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site;
- iv. Divert run-on and storm water generated from within the facility away from all erodible materials; and,
- v. If sediment basins are implemented, ensure compliance with the design storm standards in Section X.H.6.

f. Employee Training Program

The Discharger shall:

- i. Ensure that all team members implementing the various compliance activities of this General Permit are properly trained to implement the requirements of this General Permit, including but not limited to: BMP implementation, BMP effectiveness evaluations, visual observations,

and monitoring activities. If a Discharger enters Level 1 status, appropriate team members shall be trained by a QISP;

- ii. Prepare or acquire appropriate training manuals or training materials;
 - iii. Identify which personnel need to be trained, their responsibilities, and the type of training they shall receive;
 - iv. Provide a training schedule; and,
 - v. Maintain documentation of all completed training classes and the personnel that received training in the SWPPP.
- g. Quality Assurance and Record Keeping

The Discharger shall:

- i. Develop and implement management procedures to ensure that appropriate staff implements all elements of the SWPPP, including the Monitoring Implementation Plan;
- ii. Develop a method of tracking and recording the implementation of BMPs identified in the SWPPP; and
- iii. Maintain the BMP implementation records, training records, and records related to any spills and clean-up related response activities for a minimum of five (5) years (Section XXI.J.4).

2. Advanced BMPs

- a. In addition to the minimum BMPs described in Section X.H.1, the Discharger shall, to the extent feasible, implement and maintain any advanced BMPs identified in Section X.G.2.b, necessary to reduce or prevent discharges of pollutants in its storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.
- b. Advanced BMPs may include one or more of the following BMPs:

- i. Exposure Minimization BMPs

These include storm resistant shelters (either permanent or temporary) that prevent the contact of storm water with the identified industrial materials or area(s) of industrial activity.

- ii. Storm Water Containment and Discharge Reduction BMPs

These include BMPs that divert, infiltrate, reuse, contain, retain, or reduce the volume of storm water runoff. Dischargers are

encouraged to utilize BMPs that infiltrate or reuse storm water where feasible.

iii. Treatment Control BMPs

This is the implementation of one or more mechanical, chemical, biologic, or any other treatment technology that will meet the treatment design standard.

iv. Other Advanced BMPs

Any additional BMPs not described in subsections b.i through iii above that are necessary to meet the effluent limitations of this General Permit.

3. Temporary Suspension of Industrial Activities

For facilities that plan to temporarily suspend industrial activities for ten (10) or more consecutive calendar days during a reporting year, the Discharger may also suspend monitoring if it is infeasible to conduct monitoring while industrial activities are suspended (e.g., the facility is not staffed, or the facility is remote or inaccessible) and the facility has been stabilized. The Discharger shall include in the SWPPP the BMPs necessary to achieve compliance with this General Permit during the temporary suspension of the industrial activity. Once all necessary BMPs have been implemented to stabilize the facility, the Discharger is not required to:

- a. Perform monthly visual observations (Section XI.A.1.a.); or,
- b. Perform sampling and analysis (Section XI.B.) if it is infeasible to do so (e.g. facility is remotely located).

The Discharger shall upload via SMARTS (7) seven calendar days prior to the planned temporary suspension of industrial activities:

- a. SWPPP revisions specifically addressing the facility stabilization BMPs;
- b. The justification for why monitoring is infeasible at the facility during the period of temporary suspension of industrial activities;
- c. The date the facility is fully stabilized for temporary suspension of industrial activities; and,
- d. The projected date that industrial activities will resume at the facility.

Upon resumption of industrial activities at the facility, the Discharger shall, via SMARTS, confirm and/or update the date the facility's industrial activities have resumed. At this time, the Discharger is required to resume all compliance activities under this General Permit.

The Regional Water Boards may review the submitted information pertaining to the temporary suspension of industrial activities. Upon review, the Regional Water Board may request revisions or reject the Discharger's request to temporarily suspend monitoring.

4. BMP Descriptions

- a. The Discharger shall ensure that the SWPPP identifies each BMP being implemented at the facility, including:
 - i. The pollutant(s) that the BMP is designed to reduce or prevent in industrial storm water discharges;
 - ii. The frequency, time(s) of day, or conditions when the BMP is scheduled for implementation;
 - iii. The locations within each area of industrial activity or industrial pollutant source where the BMP shall be implemented;
 - iv. The individual and/or position responsible for implementing the BMP;
 - v. The procedures, including maintenance procedures, and/or instructions to implement the BMP effectively;
 - vi. The equipment and tools necessary to implement the BMP effectively; and,
 - vii. The BMPs that may require more frequent visual observations beyond the monthly visual observations as described in Section XI.A.1.
- b. The Discharger shall ensure that the SWPPP identifies and justifies each minimum BMP or applicable advanced BMP not being implemented at the facility because they do not reflect best industry practice considering technological availability and economic practicability and achievability.
- c. The Discharger shall identify any BMPs described in subsection a above that are implemented in lieu of any of the minimum or applicable advanced BMPs.

5. BMP Summary Table

The Discharger shall prepare a table summarizing each identified area of industrial activity, the associated industrial pollutant sources, the industrial pollutants, and the BMPs being implemented.

6. Design Storm Standards for Treatment Control BMPs

All new treatment control BMPs employed by the Discharger to comply with Section X.H.2 Advanced BMPs and new sediment basins installed after the effective date of this order shall be designed to comply with design storm standards in this Section, except as provided in an Industrial Activity BMP Demonstration (Section XII.D.2.a). A Factor of Safety shall be incorporated into the design of all treatment control BMPs to ensure that storm water is sufficiently treated throughout the life of the treatment control BMPs. The design storm standards for treatment control BMPs are as follows:

- a. Volume-based BMPs: The Discharger, at a minimum, shall calculate¹³ the volume to be treated using one of the following methods:
 - i. The volume of runoff produced from an 85th percentile 24-hour storm event, as determined from local, historical rainfall records;
 - ii. The volume of runoff produced by the 85th percentile 24-hour storm event, determined as the maximized capture runoff volume for the facility, from the formula recommended in the Water Environment Federation's Manual of Practice;¹⁴ or,
 - iii. The volume of annual runoff required to achieve 80% or more treatment, determined in accordance with the methodology set forth in the latest edition of California Stormwater Best Management Practices Handbook¹⁵, using local, historical rainfall records.
- b. Flow-based BMPs: The Discharger shall calculate the flow needed to be treated using one of the following methods:
 - i. The maximum flow rate of runoff produced from a rainfall intensity of at least 0.2 inches per hour for each hour of a storm event;
 - ii. The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from local historical rainfall records, multiplied by a factor of two; or,
 - iii. The maximum flow rate of runoff, as determined using local historical rainfall records, that achieves approximately the same reduction in total pollutant loads as would be achieved by treatment of the 85th percentile hourly rainfall intensity multiplied by a factor of two.

¹³ All hydrologic calculations shall be certified by a California licensed professional engineer in accordance with the Professional Engineers Act (Bus. & Prof. Code § 6700, et seq).

¹⁴ Water Environment Federation (WEF). Manual of Practice No. 23/ ASCE Manual of Practice No. 87, cited in chapter 5 (1998 Edition) and Cited in Chapter 3 (2012 Edition) .

¹⁵ California Stormwater Quality Association. Stormwater Best Management Practice New Development and Redevelopment Handbook. < <http://www.casqa.org/> >. [as of July 3, 2013].

I. MONITORING IMPLEMENTATION PLAN

The Discharger shall prepare a Monitoring Implementation Plan in accordance with the requirements of this General Permit. The Monitoring Implementation Plan shall be included in the SWPPP and shall include the following items:

1. An identification of team members assigned to conduct the monitoring requirements;
2. A description of the following in accordance with Attachment H:
 - a. Discharge locations;
 - b. Visual observation procedures; and,
 - c. Visual observation response procedures related to monthly visual observations and sampling event visual observations.
3. Justifications for any of the following that are applicable to the facility:
 - a. Alternative discharge locations in accordance with Section XI.C.3;
 - b. Representative Sampling Reduction in accordance with Section XI.C.4; or,
 - c. Qualified Combined Samples in accordance with Section XI.C.5.
4. Procedures for field instrument calibration instructions, including calibration intervals specified by the manufacturer; and,
5. An example Chain of Custody form used when handling and shipping water quality samples to the lab.

XI. MONITORING

A. Visual Observations

1. Monthly Visual Observations
 - a. At least once per calendar month, the Discharger shall visually observe each drainage area for the following:
 - i. The presence or indications of prior, current, or potential unauthorized NSWDS and their sources;
 - ii. Authorized NSWDS, sources, and associated BMPs to ensure compliance with Section IV.B.3; and,

- iii. Outdoor industrial equipment and storage areas, outdoor industrial activities areas, BMPs, and all other potential source of industrial pollutants.
- b. The monthly visual observations shall be conducted during daylight hours of scheduled facility operating hours and on days without precipitation.
- c. The Discharger shall provide an explanation in the Annual Report for uncompleted monthly visual observations.

2. Sampling Event Visual Observations

Sampling event visual observations shall be conducted at the same time sampling occurs at a discharge location. At each discharge location where a sample is obtained, the Discharger shall observe the discharge of storm water associated with industrial activity.

- a. The Discharger shall ensure that visual observations of storm water discharged from containment sources (e.g. secondary containment or storage ponds) are conducted at the time that the discharge is sampled.
- b. Any Discharger employing volume-based or flow-based treatment BMPs shall sample any bypass that occurs while the visual observations and sampling of storm water discharges are conducted.
- c. The Discharger shall visually observe and record the presence or absence of floating and suspended materials, oil and grease, discolorations, turbidity, odors, trash/debris, and source(s) of any discharged pollutants.
- d. In the event that a discharge location is not visually observed during the sampling event, the Discharger shall record which discharge locations were not observed during sampling or that there was no discharge from the discharge location.
- e. The Discharger shall provide an explanation in the Annual Report for uncompleted sampling event visual observations.

3. Visual Observation Records

The Discharger shall maintain records of all visual observations. Records shall include the date, approximate time, locations observed, presence and probable source of any observed pollutants, name of person(s) that conducted the observations, and any response actions and/or additional SWPPP revisions necessary in response to the visual observations.

4. The Discharger shall revise BMPs as necessary when the visual observations indicate pollutant sources have not been adequately addressed in the SWPPP.

B. Sampling and Analysis

1. A Qualifying Storm Event (QSE) is a precipitation event that:
 - a. Produces a discharge for at least one drainage area; and,
 - b. Is preceded by 48 hours with no discharge from any drainage area.
2. The Discharger shall collect and analyze storm water samples from two (2) QSEs within the first half of each reporting year (July 1 to December 31), and two (2) QSEs within the second half of each reporting year (January 1 to June 30).
3. Compliance Group Participants are only required to collect and analyze storm water samples from one (1) QSE within the first half of each reporting year (July 1 to December 31) and one (1) QSE within the second half of the reporting year (January 1 to June 30).
4. Except as provided in Section XI.C.4 (Representative Sampling Reduction), samples shall be collected from each drainage area at all discharge locations. The samples must be:
 - a. Representative of storm water associated with industrial activities and any commingled authorized NSWDS; or,
 - b. Associated with the discharge of contained storm water.
5. Samples from each discharge location shall be collected within four (4) hours of:
 - a. The start of the discharge; or,
 - b. The start of facility operations if the QSE occurs within the previous 12-hour period (e.g., for storms with discharges that begin during the night for facilities with day-time operating hours). Sample collection is required during scheduled facility operating hours and when sampling conditions are safe in accordance with Section XI.C.6.a.ii.
6. The Discharger shall analyze all collected samples for the following parameters:
 - a. Total suspended solids (TSS) and oil and grease (O&G);
 - b. pH (see Section XI.C.2);

- c. Additional parameters identified by the Discharger on a facility-specific basis that serve as indicators of the presence of all industrial pollutants identified in the pollutant source assessment (Section X.G.2). These additional parameters may be modified (added or removed) in accordance with any updated SWPPP pollutant source assessment;
 - d. Additional applicable parameters listed in Table 1 below. These parameters are dependent on the facility Standard Industrial Classification (SIC) code(s);
 - e. Additional applicable industrial parameters related to receiving waters with 303(d) listed impairments or approved TMDLs based on the assessment in Section X.G.2.a.ix. Test methods with lower detection limits may be necessary when discharging to receiving waters with 303(d) listed impairments or TMDLs;
 - f. Additional parameters required by the Regional Water Board. The Discharger shall contact its Regional Water Board to determine appropriate analytical test methods for parameters not listed in Table 2 below. These analytical test methods will be added to SMARTS; and
 - g. For discharges subject to Subchapter N, additional parameters specifically required by Subchapter N. If the discharge is subject to ELGs, the Dischargers shall contact the Regional Water Board to determine appropriate analytical methods for parameters not listed in Table 2 below.
7. The Discharger shall select corresponding NALs, analytical test methods,, and reporting units from the list provided in Table 2 below. SMARTS will be updated over time to add additional acceptable analytical test methods. Dischargers may propose an analytical test method for any parameter or pollutant that does not have an analytical test method specified in Table 2 or in SMARTS. Dischargers may also propose analytical test methods with substantially similar or more stringent method detection limits than existing approved analytical test methods. Upon approval, the analytical test method will be added to SMARTS.
 8. The Discharger shall ensure that the collection, preservation and handling of all storm water samples are in accordance with Attachment H, Storm Water Sample Collection and Handling Instructions.
 9. Samples from different discharge locations shall not be combined or composited except as allowed in Section XI.C.5 (Qualified Combined Samples).
 10. The Discharger shall ensure that all laboratory analyses are conducted according to test procedures under 40 Code of Federal Regulations part 136, including the observation of holding times, unless other test procedures have been specified in this General Permit or by the Regional Water Board.

11. Sampling Analysis Reporting

- a. The Discharger shall submit all sampling and analytical results for all individual or Qualified Combined Samples via SMARTS within 30 days of obtaining all results for each sampling event.
- b. The Discharger shall provide the method detection limit when an analytical result from samples taken is reported by the laboratory as a "non-detect" or less than the method detection limit. A value of zero shall not be reported.
- c. The Discharger shall provide the analytical result from samples taken that is reported by the laboratory as below the minimum level (often referred to as the reporting limit) but above the method detection limit.

Reported analytical results will be averaged automatically by SMARTS. For any calculations required by this General Permit, SMARTS will assign a value of zero (0) for all results less than the minimum level as reported by the laboratory.

TABLE 1: Additional Analytical Parameters

SIC code	SIC code Description	Parameters*
102X	Copper Ores	COD; N+N
12XX	Coal Mines	Al; Fe
144X	Sand and Gravel	N+N
207X	Fats and Oils	BOD; COD; N+N
2421	Sawmills & Planning Mills	COD; Zn
2426	Hardwood Dimension	COD
2429	Special Product Sawmills	COD
243X	Millwork, Veneer, Plywood	COD
244X	Wood Containers	COD
245X	Wood Buildings & Mobile Homes	COD
2491	Wood Preserving	As; Cu
2493	Reconstituted Wood Products	COD
263X	Paperboard Mills	COD
281X	Industrial Inorganic Chemicals	Al; Fe; N+N
282X	Plastic Materials, Synthetics	Zn
284X	Soaps, Detergents, Cosmetics	N+N; Zn
287X	Fertilizers, Pesticides, etc.	Fe; N+N; Pb; Zn; P
301X	Tires, Inner Tubes	Zn
302X	Rubber and Plastic Footwear	Zn
305X	Rubber & Plastic Sealers & Hoses	Zn
306X	Misc. Fabricated Rubber Products	Zn
325X	Structural Clay Products	Al
326X	Pottery & Related Products	Al
3297	Non-Clay Refractories	Al
327X	Concrete, Gypsum, Plaster Products (Except 3274)	Fe
3295	Minerals & Earths	Fe
331X	Steel Works, Blast Furnaces, Rolling and Finishing Mills	Al; Zn
332X	Iron and Steel Foundries	Al; Cu; Fe; Zn
335X	Metal Rolling, Drawing, Extruding	Cu; Zn

336X	Nonferrous Foundries (Castings)	Cu; Zn
34XX	Fabricated Metal Products (Except 3479)	Zn; N+N; Fe; Al
3479	Coating and Engraving	Zn; N+N
4953	Hazardous Waste Facilities	NH ₃ ; Mg; COD; As; Cn; Pb; HG; Se; Ag
44XX	Water Transportation	Al; Fe; Pb; Zn
45XX	Air Transportation Facilities ¹⁶	BOD; COD; NH ₃
4911	Steam Electric Power Generating Facilities	Fe
4953	Landfills and Land Application Facilities	Fe
5015	Dismantling or Wrecking Yards	Fe; Pb; Al
5093	Scrap and Waste Materials (not including source-separated recycling)	Fe; Pb; Al; Zn; COD

*Table 1 Parameter Reference	
Ag – Silver	Mg – Magnesium
Al – Aluminum	N+N - Nitrate & Nitrite Nitrogen
As – Arsenic	NH – Ammonia
BOD – Biochemical Oxygen Demand	Ni – Nickel
Cd - Cadmium	P – Phosphorus
Cn – Cyanide	Se – Selenium
COD – Chemical Oxygen Demand	TSS – Total Suspended Solids
Cu – Copper	Zn – Zinc
Fe – Iron	Pb – Lead
Hg – Mercury	

¹⁶ Only airports (SIC 4512-4581) where a single Discharger, or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, are required to monitor these parameters for those outfalls that collect runoff from areas where deicing activities occur.

TABLE 2: Parameter NAL Values, Test Methods, and Reporting Units

PARAMETER	TEST METHOD	REPORTING UNITS	ANNUAL NAL	INSTANTANEOUS MAXIMUM NAL
pH*	See Section XI.C.2	pH units	N/A	Less than 6.0 Greater than 9.0
Suspended Solids (TSS)*, Total	SM 2540-D	mg/L	100	400
Oil & Grease (O&G)*, Total	EPA 1664A	mg/L	15	25
Zinc, Total (H)	EPA 200.8	mg/L	0.26**	
Copper, Total (H)	EPA 200.8	mg/L	0.0332**	
Cyanide, Total	SM 4500–CN C, D, or E	mg/L	0.022	
Lead, Total (H)	EPA 200.8	mg/L	0.262**	
Chemical Oxygen Demand (COD)	SM 5220C	mg/L	120	
Aluminum, Total	EPA 200.8	mg/L	0.75	
Iron, Total	EPA 200.7	mg/L	1.0	
Nitrate + Nitrite Nitrogen	SM 4500-NO3- E	mg/L as N	0.68	
Total Phosphorus	SM 4500-P B+E	mg/L as P	2.0	
Ammonia (as N)	SM 4500-NH3 B+ C or E	mg/L	2.14	
Magnesium, total	EPA 200.7	mg/L	0.064	
Arsenic, Total (c)	EPA 200.8	mg/L	0.15	
Cadmium, Total (H)	EPA 200.8	mg/L	0.0053**	
Nickel, Total (H)	EPA 200.8	mg/l	1.02**	
Mercury, Total	EPA 245.1	mg/L	0.0014	
Selenium, Total	EPA 200.8	mg/L	0.005	
Silver, Total (H)	EPA 200.8	mg/L	0.0183**	
Biochemical Oxygen Demand (BOD)	SM 5210B	mg/L	30	

SM – Standard Methods for the Examination of Water and Wastewater, 18th edition

EPA – U.S. EPA test methods

(H) – Hardness dependent

* Minimum parameters required by this General Permit

**The NAL is the highest value used by U.S. EPA based on their hardness table in the 2008 MSGP.

C. Methods and Exceptions

1. The Discharger shall comply with the monitoring methods in this General Permit and Attachment H.
2. pH Methods
 - a. Dischargers that are not subject to Subchapter N ELGs mandating pH analysis related to acidic or alkaline sources and have never entered Level 1 status for pH, are eligible to screen for pH using wide range litmus pH paper or other equivalent pH test kits. The pH screen shall be performed as soon as practicable, but no later than 15 minutes after the sample is collected.
 - b. Dischargers subject to Subchapter N ELGs shall either analyze samples for pH using methods in accordance with 40 Code of Federal Regulations 136 for testing storm water or use a calibrated portable instrument for pH.
 - c. Dischargers that enter Level 1 status (see Section XII.C) for pH shall, in the subsequent reporting years, analyze for pH using methods in accordance with 40 Code of Federal Regulations 136 or use a calibrated portable instrument for pH.
 - d. Dischargers using a calibrated portable instrument for pH shall ensure that all field measurements are conducted in accordance with the accompanying manufacturer's instructions.
3. Alternative Discharge Locations
 - a. The Discharger is required to identify, when practicable, alternative discharge locations for any discharge locations identified in accordance with Section XI.B.4 if the facility's discharge locations are:
 - i. Affected by storm water run-on from surrounding areas that cannot be controlled; and/or,
 - ii. Difficult to observe or sample (e.g. submerged discharge outlets, dangerous discharge location accessibility).
 - b. The Discharger shall submit and certify via SMARTS any alternative discharge location or revisions to the alternative discharge locations in the Monitoring Implementation Plan.
4. Representative Sampling Reduction
 - a. The Discharger may reduce the number of locations to be sampled in each drainage area (e.g., roofs with multiple downspouts, loading/unloading areas with multiple storm drains) if the industrial

activities, BMPs, and physical characteristics (grade, surface materials, etc.) of the drainage area for each location to be sampled are substantially similar to one another. To qualify for the Representative Sampling Reduction, the Discharger shall provide a Representative Sampling Reduction justification in the Monitoring Implementation Plan section of the SWPPP.

- b. The Representative Sampling Reduction justification shall include:
 - i. Identification and description of each drainage area and corresponding discharge location(s);
 - ii. A description of the industrial activities that occur throughout the drainage area;
 - iii. A description of the BMPs implemented in the drainage area;
 - iv. A description of the physical characteristics of the drainage area;
 - v. A rationale that demonstrates that the industrial activities and physical characteristics of the drainage area(s) are substantially similar; and,
 - vi. An identification of the discharge location(s) selected for representative sampling, and rationale demonstrating that the selected location(s) to be sampled are representative of the discharge from the entire drainage area.
- c. A Discharger that satisfies the conditions of subsection 4.b.i through v above shall submit and certify via SMARTS the revisions to the Monitoring Implementation Plan that includes the Representative Sampling Reduction justification.
- d. Upon submittal of the Representative Sampling Reduction justification, the Discharger may reduce the number of locations to be sampled in accordance with the Representative Sampling Reduction justification. The Regional Water Board may reject the Representative Sampling Reduction justification and/or request additional supporting documentation. In such instances, the Discharger is ineligible for the Representative Sampling Reduction until the Regional Water Board approves the Representative Sampling Reduction justification.

5. Qualified Combined Samples

- a. The Discharger may authorize an analytical laboratory to combine samples of equal volume from as many as four (4) discharge locations if the industrial activities, BMPs, and physical characteristics (grade, surface materials, etc.) within each of the drainage areas are substantially similar to one another.

- b. The Qualified Combined Samples justification shall include:
 - i. Identification and description of each drainage area and corresponding discharge locations;
 - ii. A description of the BMPs implemented in the drainage area;
 - iii. A description of the industrial activities that occur throughout the drainage area;
 - iv. A description of the physical characteristics of the drainage area; and,
 - v. A rationale that demonstrates that the industrial activities and physical characteristics of the drainage area(s) are substantially similar.
 - c. A Discharger that satisfies the conditions of subsection 5.b.i through iv above shall submit and certify via SMARTS the revisions to the Monitoring Implementation Plan that includes the Qualified Combined Samples justification.
 - d. Upon submittal of the Qualified Combined Samples justification revisions in the Monitoring Implementation Plan, the Discharger may authorize the lab to combine samples of equal volume from as many as four (4) drainage areas. The Regional Water Board may reject the Qualified Combined Samples justification and/or request additional supporting documentation. In such instances, the Discharger is ineligible for the Qualified Combined Samples justification until the Regional Water Board approves the Qualified Combined Samples justification.
 - e. Regional Water Board approval is necessary to combine samples from more than four (4) discharge locations.
6. Sample Collection and Visual Observation Exceptions
- a. Sample collection and visual observations are not required under the following conditions:
 - i. During dangerous weather conditions such as flooding or electrical storms; or,
 - ii. Outside of scheduled facility operating hours. The Discharger is not precluded from collecting samples or conducting visual observations outside of scheduled facility operating hours.
 - b. In the event that samples are not collected, or visual observations are not conducted in accordance with Section XI.B.5 due to these exceptions, an explanation shall be included in the Annual Report.

- c. Sample collection is not required for drainage areas with no exposure to industrial activities and materials in accordance with the definitions in Section XVII.
7. Sampling Frequency Reduction Certification
- a. Dischargers are eligible to reduce the number of QSEs sampled each reporting year in accordance with the following requirements:
 - i. Results from four (4) consecutive QSEs that were sampled (QSEs may be from different reporting years) did not exceed any NALs as defined in Section XII.A; and
 - ii. The Discharger is in full compliance with the requirements of this General Permit and has updated, certified and submitted via SMARTS all documents, data, and reports required by this General Permit during the time period in which samples were collected.
 - b. The Regional Water Board may notify a Discharger that it may not reduce the number of QSEs sampled each reporting year if the Discharger is subject to an enforcement action.
 - c. An eligible Discharger shall certify via SMARTS that it meets the conditions in subsection 7.a above.
 - d. Upon Sampling Frequency Reduction certification, the Discharger shall collect and analyze samples from one (1) QSE within the first half of each reporting year (July 1 to December 31), and one (1) QSE within the second half of each reporting year (January 1 to June 30). All other monitoring, sampling, and reporting requirements remain in effect.
 - e. Dischargers who participate in a Compliance Group and certify a Sampling Frequency Reduction are only required to collect and analyze storm water samples from one (1) QSE within each reporting year.
 - f. A Discharger may reduce sampling per the Sampling Frequency Reduction certification unless notified by the Regional Water Board that: (1) the Sampling Frequency Reduction certification has been rejected or (2) additional supporting documentation must be submitted. In such instances, a Discharger is ineligible for the Sampling Frequency Reduction until the Regional Water Board provides Sampling Frequency Reduction certification approval. Revised Sampling Frequency Reduction certifications shall be certified and submitted via SMARTS by the Discharger.
 - g. A Discharger loses its Sampling Frequency Reduction certification if an NAL exceedance occurs (Section XII.A).

D. Facilities Subject to Federal Storm Water Effluent Limitation Guidelines (ELGs)

1. In addition to the other requirements in this General Permit, Dischargers with facilities subject to storm water ELGs in Subchapter N shall:
 - a. Collect and analyze samples from QSEs for each regulated pollutant specified in the appropriate category in Subchapter N as specified in Section XI.B;
 - b. For Dischargers with facilities subject to 40 Code of Federal Regulations parts 419¹⁷ and 443¹⁸, estimate or calculate the volume of industrial storm water discharges from each drainage area subject to the ELGs and the mass of each regulated pollutant as defined in parts 419 and 443; and,
 - c. Ensure that the volume/mass estimates or calculations required in subsection b are completed by a California licensed professional engineer.
2. Dischargers subject to Subchapter N shall submit the information in Section XI.D.1.a through c in their Annual Report.
3. Dischargers with facilities subject to storm water ELGs in Subchapter N are ineligible for the Representative Sampling Reduction in Section XI.C.4.

XII. EXCEEDANCE RESPONSE ACTIONS (ERAs)

A. NALs and NAL Exceedances

The Discharger shall perform sampling, analysis and reporting in accordance with the requirements of this General Permit and shall compare the results to the two types of NAL values in Table 2 to determine whether either type of NAL has been exceeded for each applicable parameter. The two types of potential NAL exceedances are as follows:

1. Annual NAL exceedance: The Discharger shall determine the average concentration for each parameter using the results of all the sampling and analytical results for the entire facility for the reporting year (i.e., all "effluent" data). The Discharger shall compare the average concentration for each parameter to the corresponding annual NAL values in Table 2. For Dischargers using composite sampling or flow-weighted measurements in accordance with standard practices, the average concentrations shall be calculated in accordance with the U.S. EPA's NPDES Storm Water

¹⁷ Part 419 - Petroleum refining point source category

¹⁸ Part 443 - Effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources for the paving and roofing materials (tars and asphalt) point source category

Sampling Guidance Document.¹⁹ An annual NAL exceedance occurs when the average of all the analytical results for a parameter from samples taken within a reporting year exceeds the annual NAL value for that parameter listed in Table 2; and,

2. Instantaneous maximum NAL exceedance: The Discharger shall compare all sampling and analytical results from each distinct sample (individual or combined as authorized by XI.C.5) to the corresponding instantaneous maximum NAL values in Table 2. An instantaneous maximum NAL exceedance occurs when two (2) or more analytical results from samples taken for any single parameter within a reporting year exceed the instantaneous maximum NAL value (for TSS and O&G) or are outside of the instantaneous maximum NAL range for pH.

B. Baseline Status

At the beginning of a Discharger's NOI Coverage, all Dischargers have Baseline status for all parameters.

C. Level 1 Status

A Discharger's Baseline status for any given parameter shall change to Level 1 status if sampling results indicate an NAL exceedance for that same parameter. Level 1 status will commence on July 1 following the reporting year during which the exceedance(s) occurred.²⁰

1. Level 1 ERA Evaluation

- a. By October 1 following commencement of Level 1 status for any parameter with sampling results indicating an NAL exceedance, the Discharger shall:
 - b. Complete an evaluation, with the assistance of a QISP, of the industrial pollutant sources at the facility that are or may be related to the NAL exceedance(s); and,
 - c. Identify in the evaluation the corresponding BMPs in the SWPPP and any additional BMPs and SWPPP revisions necessary to prevent future NAL exceedances and to comply with the requirements of this General Permit. Although the evaluation may focus on the drainage areas where the NAL exceedance(s) occurred, all drainage areas shall be evaluated.

2. Level 1 ERA Report

¹⁹ U.S. EPA. NPDES Storm Water Sampling Guidance Document. <<http://www.epa.gov/npdes/pubs/owm0093.pdf>>. [as of February 4, 2014]

²⁰ For all sampling results reported before June 30th of the preceding reporting year. If sample results indicating an NAL exceedance are submitted after June 30th, the Discharger will change status once those results have been reported.

- a. Based upon the above evaluation, the Discharger shall, as soon as practicable but no later than January 1 following commencement of Level 1 status :
 - i. Revise the SWPPP as necessary and implement any additional BMPs identified in the evaluation;
 - ii. Certify and submit via SMARTS a Level 1 ERA Report prepared by a QISP that includes the following:
 - 1) A summary of the Level 1 ERA Evaluation required in subsection C.1 above; and,
 - 2) A detailed description of the SWPPP revisions and any additional BMPs for each parameter that exceeded an NAL.
 - iii. Certify and submit via SMARTS the QISP's identification number, name, and contact information (telephone number, e-mail address).
 - b. A Discharger's Level 1 status for a parameter will return to Baseline status once a Level 1 ERA report has been completed, all identified additional BMPs have been implemented, and results from four (4) consecutive QSEs that were sampled subsequent to BMP implementation indicate no additional NAL exceedances for that parameter.
3. NAL Exceedances Prior to Implementation of Level 1 Status BMPs.

Prior to the implementation of an additional BMP identified in the Level 1 ERA Evaluation or October 1, whichever comes first, sampling results for any parameter(s) being addressed by that additional BMP will not be included in the calculations of annual average or instantaneous NAL exceedances in SMARTS.

D. Level 2 Status

A Discharger's Level 1 status for any given parameter shall change to Level 2 status if sampling results indicate an NAL exceedance for that same parameter while the Discharger is in Level 1. Level 2 status will commence on July 1 following the reporting year during which the NAL exceedance(s) occurred.²¹

1. Level 2 ERA Action Plan

²¹ For all sampling results reported before June 30th of the preceding reporting year. If sample results indicating an NAL exceedance are submitted after June 30th, the Discharger will change status upon the date those results have been reported into SMARTS.

- a. Dischargers with Level 2 status shall certify and submit via SMARTS a Level 2 ERA Action Plan prepared by a QISP that addresses each new Level 2 NAL exceedance by January 1 following the reporting year during which the NAL exceedance(s) occurred. For each new Level 2 NAL exceedance, the Level 2 Action Plan will identify which of the demonstrations in subsection D.2.a through c the Discharger has selected to perform. A new Level 2 NAL exceedance is any Level 2 NAL exceedance for 1) a new parameter in any drainage area, or 2) the same parameter that is being addressed in an existing Level 2 ERA Action Plan in a different drainage area.
- b. The Discharger shall certify and submit via SMARTS the QISP's identification number, name, and contact information (telephone number, e-mail address) if this information has changed since previous certifications.
- c. The Level 2 ERA Action Plan shall at a minimum address the drainage areas with corresponding Level 2 NAL exceedances.
- d. All elements of the Level 2 ERA Action Plan shall be implemented as soon as practicable and completed no later than 1 year after submitting the Level 2 ERA Action Plan.
- e. The Level 2 ERA Action Plan shall include a schedule and a detailed description of the tasks required to complete the Discharger's selected demonstration(s) as described below in Section D.2.a through c.

2. Level 2 ERA Technical Report

On January 1 of the reporting year following the submittal of the Level 2 ERA Action Plan, a Discharger with Level 2 status shall certify and submit a Level 2 ERA Technical Report prepared by a QISP that includes one or more of the following demonstrations:

a. Industrial Activity BMPs Demonstration

This shall include the following requirements, as applicable:

- i. Shall include a description of the industrial pollutant sources and corresponding industrial pollutants that are or may be related to the NAL exceedance(s);
- ii. Shall include an evaluation of all pollutant sources associated with industrial activity that are or may be related to the NAL exceedance(s);
- iii. Where all of the Discharger's implemented BMPs, including additional BMPs identified in the Level 2 ERA Action Plan, achieve

compliance with the effluent limitations of this General Permit and are expected to eliminate future NAL exceedance(s), the Discharger shall provide a description and analysis of all implemented BMPs;

- iv. In cases where all of the Discharger's implemented BMPs, including additional BMPs identified in the Level 2 ERA Action Plan, achieve compliance with the effluent limitations of this General Permit but are not expected to eliminate future NAL exceedance(s), the Discharger shall provide, in addition to a description and analysis of all implemented BMPs:
 - 1) An evaluation of any additional BMPs that would reduce or prevent NAL exceedances;
 - 2) Estimated costs of the additional BMPs evaluated; and,
 - 3) An analysis describing the basis for the selection of BMPs implemented in lieu of the additional BMPs evaluated but not implemented.
 - v. The description and analysis of BMPs required in subsection a.iii above shall specifically address the drainage areas where the NAL exceedance(s) responsible for the Discharger's Level 2 status occurred, although any additional Level 2 ERA Action Plan BMPs may be implemented for all drainage areas; and,
 - vi. If an alternative design storm standard for treatment control BMPs (in lieu of the design storm standard for treatment control BMPs in Section X.H.6 in this General Permit) will achieve compliance with the effluent limitations of this General Permit, the Discharger shall provide an analysis describing the basis for the selection of the alternative design storm standard.
- b. Non-Industrial Pollutant Source Demonstration

This shall include:

- i. A statement that the Discharger has determined that the exceedance of the NAL is attributable solely to the presence of non-industrial pollutant sources. (The pollutant may also be present due to industrial activities, in which case the Discharger must demonstrate that the pollutant contribution from the industrial activities by itself does not result in an NAL exceedance.) The sources shall be identified as either run-on from adjacent properties, aerial deposition from man-made sources, or as generated by on-site non-industrial sources;

- ii. A statement that the Discharger has identified and evaluated all potential pollutant sources that may have commingled with storm water associated with the Discharger's industrial activity and may be contributing to the NAL exceedance;
 - iii. A description of any on-site industrial pollutant sources and corresponding industrial pollutants that are contributing to the NAL exceedance;
 - iv. An assessment of the relative contributions of the pollutant from (1) storm water run-on to the facility from adjacent properties or non-industrial portions of the Discharger's property or from aerial deposition and (2) the storm water associated with the Discharger's industrial activity;
 - v. A summary of all existing BMPs for that parameter; and,
 - vi. An evaluation of all on-site/off-site analytical monitoring data demonstrating that the NAL exceedances are caused by pollutants in storm water run-on to the facility from adjacent properties or non-industrial portions of the Discharger's property or from aerial deposition.
- c. Natural Background Pollutant Source Demonstration

This shall include:

- i. A statement that the Discharger has determined that the NAL exceedance is attributable solely to the presence of the pollutant in the natural background that has not been disturbed by industrial activities. (The pollutant may also be present due to industrial activities, in which case the Discharger must demonstrate that the pollutant contribution from the industrial activities by itself does not result in an NAL exceedance);
- ii. A summary of all data previously collected by the Discharger, or other identified data collectors, that describes the levels of natural background pollutants in the storm water discharge;
- iii. A summary of any research and published literature that relates the pollutants evaluated at the facility as part of the Natural Background Source Demonstration;
- iv. Map showing the reference site location in relation to facility along with available land cover information;
- v. Reference site and test site elevation;

- vi. Available geology and soil information for reference and test sites;
- vii. Photographs showing site vegetation;
- viii. Site reconnaissance survey data regarding presence of roads, outfalls, or other human-made structures; and,
- ix. Records from relevant state or federal agencies indicating no known mining, forestry, or other human activities upstream of the proposed reference site.

3. Level 2 ERA Technical Report Submittal

- a. The Discharger shall certify and submit via SMARTS the Level 2 ERA Technical Report described in Section D.2 above.
- b. The State Water Board and Regional Boards (Water Boards) may review the submitted Level 2 ERA Technical Reports. Upon review of a Level 2 ERA Technical Report, the Water Boards may reject the Level 2 ERA Technical Report and direct the Discharger to take further action(s) to comply with this General Permit.
- c. Dischargers with Level 2 status who have submitted the Level 2 ERA Technical Report are only required to annually update the Level 2 ERA Technical Report based upon additional NAL exceedances of the same parameter and same drainage area (if the original Level 2 ERA Technical Report contained an Industrial Activity BMP Demonstration and the implemented BMPs were expected to eliminate future NAL exceedances in accordance with Section XII.D.2.a.ii), facility operational changes, pollutant source(s) changes, and/or information that becomes available via compliance activities (monthly visual observations, sampling results, annual evaluation, etc.). The Level 2 ERA Technical Report shall be prepared by a QISP and be certified and submitted via SMARTS by the Discharger with each Annual Report. If there are no changes prompting an update of the Level 2 ERA Technical Report, as specified above, the Discharger will provide this certification in the Annual Report that there have been no changes warranting re-submittal of the Level 2 ERA Technical Report.
- d. Dischargers are not precluded from submitting a Level 2 ERA Action Plan or ERA Technical Report prior to entering Level 2 status if information is available to adequately prepare the report and perform the demonstrations described above. A Discharger who chooses to submit a Level 2 ERA Action Plan or ERA Technical Report prior to entering Level 2 status will automatically be placed in Level 2 in accordance to the Level 2 ERA schedule.

4. Eligibility for Returning to Baseline Status

- a. Dischargers with Level 2 status who submit an Industrial Activity BMPs Demonstration in accordance with subsection 2.a.i through iii above and have implemented BMPs to prevent future NAL exceedance(s) for the Level 2 parameter(s) shall return to baseline status for that parameter, if results from four (4) subsequent consecutive QSEs sampled indicate no additional NAL exceedance(s) for that parameter(s). If future NAL exceedances occur for the same parameter(s), the Discharger's Baseline status will return to Level 2 status on July 1 in the subsequent reporting year during which the NAL exceedance(s) occurred. These Dischargers shall update the Level 2 ERA Technical Report as required above in Section D.3.c.
- b. Dischargers are ineligible to return to baseline status if they submit any of the following:
 - i. A industrial activity BMP demonstration in accordance with subsection 2.a.iv above;
 - ii. An non-industrial pollutant source demonstration; or,
 - iii. A natural background pollutant source demonstration.

5. Level 2 ERA Implementation Extension

- a. Dischargers that need additional time to submit the Level 2 ERA Technical Report shall be automatically granted a single time extension for up to six (6) months upon submitting the following items into SMARTS, as applicable:
 - i. Reasons for the time extension;
 - ii. A revised Level 2 ERA Action Plan including a schedule and a detailed description of the necessary tasks still to be performed to complete the Level 2 ERA Technical Report; and
 - iii. A description of any additional temporary BMPs that will be implemented while permanent BMPs are being constructed.
- b. The Regional Water Boards will review Level 2 ERA Implementation Extensions for completeness and adequacy. Requests for extensions that total more than six (6) months are not granted unless approved in writing by the Water Boards. The Water Boards may (1) reject or revise the time allowed to complete Level 2 ERA Implementation Extensions, (2) identify additional tasks necessary to complete the Level 2 ERA Technical Report, and/or (3) require the Discharger to implement additional temporary BMPs.

XIII. INACTIVE MINING OPERATION CERTIFICATION

- A.** Inactive mining operations are defined in Part 3 of Attachment A of this General Permit. The Discharger may, in lieu of complying with the General Permit requirements described in subsection B below, certify and submit via SMARTS that their inactive mining operation meets the following conditions:
1. The Discharger has determined and justified in the SWPPP that it is impracticable to implement the monitoring requirements in this General Permit for the inactive mining operation;
 2. A SWPPP has been signed (wet signature and license number) by a California licensed professional engineer and is being implemented in accordance with the requirements of this General Permit; and,
 3. The facility is in compliance with this General Permit, except as provided in subsection B below.
- B.** The Discharger who has certified and submitted that they meet the conditions in subsection A above, are not subject to the following General Permit requirements:
1. Monitoring Implementation Plan in Section X.I;
 2. Monitoring Requirements in Section XI;
 3. Exceedance Response Actions (ERAs) in Section XII; and,
 4. Annual Report Requirements in Section XVI.
- C.** Inactive Mining Operation Certification Submittal Schedule
1. The Discharger shall certify and submit via SMARTS NOI coverage PRDs listed in Section II.B.1 and meet the conditions in subsection A above.
 2. The Discharger shall annually inspect the inactive mining site and certify via SMARTS no later than July 15th of each reporting year, that their inactive mining operation continues to meet the conditions in subsection A above.
 3. The Discharger shall have a California licensed professional engineer review and update the SWPPP if there are changes to their inactive mining operation or additional BMPs are needed to comply with this General Permit. Any significant updates to the SWPPP shall be signed (wet signature and license number) by a California license professional engineer.
 4. The Discharger shall certify and submit via SMARTS any significantly revised SWPPP within 30 days of the revision(s).

XIV. COMPLIANCE GROUPS AND COMPLIANCE GROUP LEADERS

A. Compliance Group Qualification Requirements

1. Any group of Dischargers of the same industry type or any QISP representing Dischargers of the same industry type may form a Compliance Group. A Compliance Group shall consist of Dischargers that operate facilities with similar types of industrial activities, pollutant sources, and pollutant characteristics (e.g., scrap metals recyclers would join a different group than paper recyclers, truck vehicle maintenance facilities would join a different group than airplane vehicle maintenance facilities, etc.). A Discharger participating in a Compliance Group is termed a Compliance Group Participant. Participation in a Compliance Group is not required. Compliance Groups may be formed at any time.
2. Each Compliance Group shall have a Compliance Group Leader.
3. To establish a Compliance Group, the Compliance Group Leader shall register as a Compliance Group Leader via SMARTS. The registration shall include documentation demonstrating compliance with the Compliance Group qualification requirements above and a list of the Compliance Group Participants.
4. Each Compliance Group Participant shall register as a member of an established Compliance Group via SMARTS.
5. The Executive Director of the State Water Board may review Compliance Group registrations and/or activities for compliance with the requirements of this General Permit. The Executive Director may reject the Compliance Group, the Compliance Group Leader, or individual Compliance Group Participants within the Compliance Group.

B. Compliance Group Leader Responsibilities

1. A Compliance Group Leader must complete a State Water Board sponsored or approved training program for Compliance Group Leaders.
2. The Compliance Group Leader shall assist Compliance Group Participants with all compliance activities required by this General Permit.
3. A Compliance Group Leader shall prepare a Consolidated Level 1 ERA Report for all Compliance Group Participants with Level 1 status for the same parameter. Compliance Group Participants who certify and submit these Consolidated Level 1 ERA Reports are subject to the same provisions as individual Dischargers with Level 1 status, as described in Section XII.C. A Consolidated Level 1 ERA Report is equivalent to a Level 1 ERA Report.

4. The Compliance Group Leader shall update the Consolidated Level 1 ERA Report as needed to address additional Compliance Group Participants with ERA Level 1 status.
5. A Compliance Group Leader shall prepare a Level 2 ERA Action Plan specific to each Compliance Group Participant with Level 2 status. Compliance Group Participants who certify and submit these Level 2 ERA Action Plans are subject to the same provisions as individual Dischargers with Level 2 status, as described in Section XII.D.
6. A Compliance Group Leader shall prepare a Level 2 ERA Technical Report specific to each Compliance Group Participant with Level 2 status. Compliance Group Participants who certify and submit these Level 2 ERA Technical Reports are subject to the same provisions as individual Dischargers with Level 2 status, as described in Section XII.D.
7. The Compliance Group Leader shall inspect all the facilities of the Compliance Group Participants that have entered Level 2 status prior to preparing the individual Level 2 ERA Technical Report.
8. The Compliance Group Leader shall revise the Consolidated Level 1 ERA Report, individual Level 2 ERA Action Plans, or individual Level 2 Technical Reports in accordance with any comments received from the Water Boards.
9. The Compliance Group Leader shall inspect all the facilities of the Compliance Group Participants at a minimum of once per reporting year (July 1 to June 30).

C. Compliance Group Participant Responsibilities

1. Each Compliance Group Participant is responsible for permit compliance for the Compliance Group Participant's facility and for ensuring that the Compliance Group Leader's activities related to the Compliance Group Participant's facility comply with this General Permit.
2. Compliance Group Participants with Level 1 status shall certify and submit via SMARTS the Consolidated Level 1 ERA Report. The Compliance Group Participants shall certify that they have reviewed the Consolidated Level 1 ERA Report and have implemented any required additional BMPs. Alternatively, the Compliance Group Participant may submit an individual Level 1 ERA Report in accordance with the provisions in Section XII.C.2.
3. Compliance Group Participants with Level 2 status shall certify and submit via SMARTS their individual Level 2 ERA Action Plan and Technical Report prepared by their Compliance Group Leader. Each Compliance Group Participant shall certify that they have reviewed the Level 2 ERA Action Plan and Technical Report and will implement any required additional BMPs.

4. Compliance Group Participants can at any time discontinue their participation in their associated Compliance Group via SMARTS. Upon discontinuation, the former Compliance Group Participant is immediately subject to the sampling and analysis requirements described in Section XI.B.2.

XV. ANNUAL COMPREHENSIVE FACILITY COMPLIANCE EVALUATION (ANNUAL EVALUATION)

The Discharger shall conduct one Annual Evaluation for each reporting year (July 1 to June 30). If the Discharger conducts an Annual Evaluation fewer than eight (8) months, or more than sixteen (16) months, after it conducts the previous Annual Evaluation, it shall document the justification for doing so. The Discharger shall revise the SWPPP, as appropriate, and implement the revisions within 90 days of the Annual Evaluation. At a minimum, Annual Evaluations shall consist of:

- A. A review of all sampling, visual observation, and inspection records conducted during the previous reporting year;
- B. An inspection of all areas of industrial activity and associated potential pollutant sources for evidence of, or the potential for, pollutants entering the storm water conveyance system;
- C. An inspection of all drainage areas previously identified as having no exposure to industrial activities and materials in accordance with the definitions in Section XVII;
- D. An inspection of equipment needed to implement the BMPs;
- E. An inspection of any BMPs;
- F. A review and effectiveness assessment of all BMPs for each area of industrial activity and associated potential pollutant sources to determine if the BMPs are properly designed, implemented, and are effective in reducing and preventing pollutants in industrial storm water discharges and authorized NSWDS; and,
- G. An assessment of any other factors needed to comply with the requirements in Section XVI.B.

XVI. ANNUAL REPORT

- A. The Discharger shall certify and submit via SMARTS an Annual Report no later than July 15th following each reporting year using the standardized format and checklists in SMARTS.
- B. The Discharger shall include in the Annual Report:
 1. A Compliance Checklist that indicates whether a Discharger complies with, and has addressed all applicable requirements of this General Permit;

2. An explanation for any non-compliance of requirements within the reporting year, as indicated in the Compliance Checklist;
3. An identification, including page numbers and/or sections, of all revisions made to the SWPPP within the reporting year; and,
4. The date(s) of the Annual Evaluation.

XVII. CONDITIONAL EXCLUSION - NO EXPOSURE CERTIFICATION (NEC)

A. Discharges composed entirely of storm water that has not been exposed to industrial activity are not industrial storm water discharges. Dischargers are conditionally excluded from complying with the SWPPP and monitoring requirements of this General Permit if all of the following conditions are met:

1. There is no exposure of Industrial Materials and Activities to rain, snow, snowmelt, and/or runoff;
2. All unauthorized NSWDS have been eliminated and all authorized NSWDS meet the conditions of Section IV;
3. The Discharger has certified and submitted via SMARTS PRDs for NEC coverage pursuant to the instructions in Section II.B.2; and,
4. The Discharger has satisfied all other requirements of this Section.

B. NEC Specific Definitions

1. No Exposure - all Industrial Materials and Activities are protected by a Storm-Resistant Shelter to prevent all exposure to rain, snow, snowmelt, and/or runoff.
2. Industrial Materials and Activities - includes, but is not limited to, industrial material handling activities or equipment, machinery, raw materials, intermediate products, by-products, final products, and waste products.
3. Material Handling Activities - includes the storage, loading and unloading, transportation, or conveyance of any industrial raw material, intermediate product, final product, or waste product.
4. Sealed - banded or otherwise secured, and without operational taps or valves.
5. Storm-Resistant Shelters - includes completely roofed and walled buildings or structures. Also includes structures with only a top cover supported by permanent supports but with no side coverings, provided material within the structure is not subject to wind dispersion (sawdust, powders, etc.), or track-out, and there is no storm water discharged from within the structure that comes into contact with any materials.

C. NEC Qualifications

To qualify for an NEC, a Discharger shall:

1. Except as provided in subsection D below, provide a Storm-Resistant Shelter to protect Industrial Materials and Activities from exposure to rain, snow, snowmelt, run-on, and runoff;
2. Inspect and evaluate the facility annually to determine that storm water exposed to industrial materials or equipment has not and will not be discharged to waters of the United States. Evaluation records shall be maintained for five (5) years in accordance with Section XXI.J.4;
3. Register for NEC coverage by certifying that there are no discharges of storm water contaminated by exposure to Industrial Materials and Activities from areas of the facility subject to this General Permit, and certify that all unauthorized NSWDs have been eliminated and all authorized NSWDs meet the conditions of Section IV (Authorized NSWDs). NEC coverage and annual renewal requires payment of an annual fee in accordance with California Code of Regulations, title 23, section 2200 et seq.; and,
4. Submit PRDs for NEC coverage shall be prepared and submitted in accordance with the:
 - a. Certification requirements in Section XXI.K; and,
 - b. Submittal schedule in accordance with Section II.B.2.

D. NEC Industrial Materials and Activities - Storm-Resistant Shelter Not Required

To qualify for NEC coverage, a Storm-Resistant Shelter is not required for the following:

1. Drums, barrels, tanks, and similar containers that are tightly Sealed, provided those containers are not deteriorated, do not contain residual industrial materials on the outside surfaces, and do not leak;
2. Adequately maintained vehicles used in material handling;
3. Final products, other than products that would be mobilized in storm water discharge (e.g., rock salt);
4. Any Industrial Materials and Activities that are protected by a temporary shelter for a period of no more than ninety (90) days due to facility construction or remodeling; and,
5. Any Industrial Materials and Activities that are protected within a secondary containment structure that will not discharge storm water to waters of the United States.

E. NEC Limitations

1. NEC coverage is available on a facility-wide basis only, not for individual outfalls. If a facility has industrial storm water discharges from one or more drainage areas that require NOI coverage, Dischargers shall register for NOI coverage for the entire facility through SMARTS in accordance with Section II.B.2. Any drainage areas on that facility that would otherwise qualify for NEC coverage may be specially addressed in the facility SWPPP by including an NEC Checklist and a certification statement demonstrating that those drainage areas of the facility have been evaluated; and that none of the Industrial Materials or Activities listed in subsection C above are, or will be in the foreseeable future, exposed to precipitation.
2. If circumstances change and Industrial Materials and Activities become exposed to rain, snow, snowmelt, and/or runoff, the conditions for this exclusion shall no longer apply. In such cases, the Discharger may be subject to enforcement for discharging without a permit. A Discharger with NEC coverage that anticipates changes in circumstances should register for NOI coverage at least seven (7) days before anticipated exposure.
3. The Regional Water Board may deny NEC coverage and require NOI coverage upon determining that:
 - a. Storm water is exposed to Industrial Materials and Activities; and/or
 - b. The discharge has a reasonable potential to cause or contribute to an exceedance of an applicable water quality standards.

F. NEC Permit Registration Documents Required for Initial NEC Coverage

A Discharger shall submit via SMARTS the following PRDs for NEC coverage to document the applicability of the conditional exclusion:

1. The NEC form, which includes:
 - a. The legal name, postal address, telephone number, and e-mail address of the Discharger;
 - b. The facility business name and physical mailing address, the county name, and a description of the facility location if the facility does not have a physical mailing address; and,
 - c. Certification by the Discharger that all PRDs submitted are correct and true and the conditions of no exposure have been met.
2. An NEC Checklist prepared by the Discharger demonstrating that the facility has been evaluated; and that none of the following industrial materials or activities are, or will be in the foreseeable future, exposed to precipitation:

- a. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed;
- b. Materials or residuals on the ground or in storm water inlets from spills/leaks;
- c. Materials or products from past industrial activity;
- d. Material handling equipment (except adequately maintained vehicles);
- e. Materials or products during loading/unloading or transporting activities;
- f. Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);
- g. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
- h. Materials or products handled/stored on roads or railways owned or maintained by the Discharger;
- i. Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);
- j. Application or disposal of processed wastewater (unless already covered by an NPDES permit); and,
- k. Particulate matter or visible deposits of residuals from roof stacks/vents evident in the storm water outflow.

3. Site Map (see Section X.E).

G. Requirements for Annual NEC Coverage Recertification

By October 1 of each reporting year beginning in 2015, any Discharger who has previously registered for NEC coverage shall either submit and certify an NEC demonstrating that the facility has been evaluated, and that none of the Industrial Materials or Activities listed above are, or will be in the foreseeable future, exposed to precipitation, or apply for NOI coverage.

H. NEC Certification Statement

All NEC certifications and re-certifications shall include the following certification statement:

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of 'no exposure' and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities

or materials from the industrial facility identified in this document (except as allowed in subsection C above). I understand that I am obligated to submit a no exposure certification form annually to the State Water Board and, if requested, to the operator of the local Municipal Separate Storm Sewer System (MS4) into which this facility discharges (where applicable). I understand that I must allow the Water Board staff, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

XVIII. SPECIAL REQUIREMENTS - PLASTIC MATERIALS

- A.** Facilities covered under this General Permit that handle Plastic Materials are required to implement BMPs to eliminate discharges of plastic in storm water in addition to the other requirements of this General Permit that are applicable to all other Industrial Materials and Activities. Plastic Materials are virgin and recycled plastic resin pellets, powders, flakes, powdered additives, regrind, dust, and other similar types of preproduction plastics with the potential to discharge or migrate off-site. Any Dischargers' facility handling Plastic Materials will be referred to as Plastics Facilities in this General Permit. Any Plastics Facility covered under this General Permit that manufactures, transports, stores, or consumes these materials shall submit information to the State Water Board in their PRDs, including the type and form of plastics, and which BMPs are implemented at the facility to prevent illicit discharges. Pursuant to Water Code section 13367, Plastics Facilities are subject to mandatory, minimum BMPs.
1. At a minimum, Plastics Facilities shall implement and include in the SWPPP:
 - a. Containment systems at each on-site storm drain discharge location down gradient of areas containing plastic material. The containment system shall be designed to trap all particles retained by a 1mm mesh screen, with a treatment capacity of no less than the peak flow rate from a one-year, one-hour storm.
 - b. When a containment system is infeasible, or poses the potential to cause an illicit discharge, the facility may propose a technically feasible

alternative BMP or suite of BMPs. The alternative BMPs shall be designed to achieve the same or better performance standard as a 1mm mesh screen with a treatment capacity of the peak flow rate from a one-year, one-hour storm. Alternative BMPs shall be submitted to the Regional Water Board for approval.

- c. Plastics Facilities shall use durable sealed containers designed not to rupture under typical loading and unloading activities at all points of plastic transfer and storage.
 - d. Plastics Facilities shall use capture devices as a form of secondary containment during transfers, loading, or unloading Plastic Materials. Examples of capture devices for secondary containment include, but are not limited to catch pans, tarps, berms or any other device that collects errant material.
 - e. Plastics Facilities shall have a vacuum or vacuum-type system for quick cleanup of fugitive plastic material available for employees.
 - f. Pursuant to Water Code section 13367(e)(1), Plastics Facilities that handle Plastic Materials smaller than 1mm in size shall develop a containment system designed to trap the smallest plastic material handled at the facility with a treatment capacity of at least the peak flow rate from a one-year, one-hour storm, or develop a feasible alternative BMP or suite of BMPs that are designed to achieve a similar or better performance standard that shall be submitted to the Regional Water Board for approval.
2. Plastics Facilities are exempt from the Water Code requirement to install a containment system under section 13367 of the Water Code if they meet one of the following requirements that are determined to be equal to, or exceed the performance requirements of a containment system:
- a. The Discharger has certified and submitted via SMARTS a valid No Exposure Certification (NEC) in accordance with Section XVII; or
 - b. Plastics Facilities are exempt from installing a containment system, if the following suite of eight (8) BMPs is implemented. This combination of BMPs is considered to reduce or prevent the discharge of plastics at a performance level equivalent to or better than the 1mm mesh and flow standard in Water Code section 13367(e)(1).
 - i. Plastics Facilities shall annually train employees handling Plastic Materials. Training shall include environmental hazards of plastic discharges, employee responsibility for corrective actions to prevent errant Plastic Materials, and standard procedures for containing, cleaning, and disposing of errant Plastic Materials.

- ii. Plastics Facilities shall immediately fix any Plastic Materials containers that are punctured or leaking and shall clean up any errant material in a timely manner.
- iii. Plastics Facilities shall manage outdoor waste disposal of Plastic Materials in a manner that prevents the materials from leaking from waste disposal containers or during waste hauling.
- iv. Plastics Facilities that operate outdoor conveyance systems for Plastic Materials shall maintain the system in good operating condition. The system shall be sealed or filtered in such a way as to prevent the escape of materials when in operation. When not in operation, all connection points shall be sealed, capped, or filtered so as to not allow material to escape. Employees operating the conveyance system shall be trained how to operate in a manner that prevents the loss of materials such as secondary containment, immediate spill response, and checks to ensure the system is empty during connection changes.
- v. Plastics Facilities that maintain outdoor storage of Plastic Materials shall do so in a durable, permanent structure that prevents exposure to weather that could cause the material to migrate or discharge in storm water.
- vi. Plastics Facilities shall maintain a schedule for regular housekeeping and routine inspection for errant Plastic Materials. The Plastics Facility shall ensure that their employees follow the schedule.
- vii. PRDs shall include the housekeeping and routine inspection schedule, spill response and prevention procedures, and employee training materials regarding plastic material handling.
- viii. Plastics Facilities shall correct any deficiencies in the employment of the above BMPs that result in errant Plastic Materials that may discharge or migrate off-site in a timely manner. Any Plastic Materials that are discharged or that migrate off-site constitute an illicit discharge in violation of this General Permit.

XIX. REGIONAL WATER BOARD AUTHORITIES

- A.** The Regional Water Boards may review a Discharger's PRDs for NOI or NEC coverage and administratively reject General Permit coverage if the PRDs are deemed incomplete. The Regional Water Boards may take actions that include rescinding General Permit coverage, requiring a Discharger to revise and re-submit their PRDs (certified and submitted by the Discharger) within a specified time period, requiring the Discharger to apply for different General Permit coverage or a different individual or general permit, or taking no action.
- B.** The Regional Water Boards have the authority to enforce the provisions and requirements of this General Permit. This includes, but is not limited to,

reviewing SWPPPs, Monitoring Implementation Plans, ERA Reports, and Annual Reports, conducting compliance inspections, and taking enforcement actions.

- C. As appropriate, the Regional Water Boards may issue NPDES storm water general or individual permits to a Discharger, categories of Dischargers, or Dischargers within a watershed or geographic area. Upon issuance of such NPDES permits, this General Permit shall no longer regulate the affected Discharger(s).
- D. The Regional Water Boards may require a Discharger to revise its SWPPP, ERA Reports, or monitoring programs to achieve compliance with this General Permit. In this case, the Discharger shall implement these revisions in accordance with a schedule provided by the Regional Water Board.
- E. The Regional Water Boards may approve requests from a Discharger to include co-located, but discontinuous, industrial activities within the same facility under a single NOI or NEC coverage.
- F. Consistent with 40 Code of Federal Regulations section 122.26(a)(9)(i)(D), the Regional Water Boards may require any discharge that is not regulated by this General Permit, that is determined to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States, to be covered under this General Permit as appropriate. Upon designation, the Discharger responsible for the discharge shall obtain coverage under this General Permit.
- G. The Regional Water Boards may review a Discharger's Inactive Mining Operation Certification and reject it at any time if the Regional Water Board determines that access to the facility for monitoring purposes is practicable or that the facility is not in compliance with the applicable requirements of this General Permit.
- H. All Regional Water Board actions that modify a Discharger's obligations under this General Permit must be in writing and should also be submitted in SMARTS.

XX. SPECIAL CONDITIONS

A. Reopener Clause

This General Permit may be reopened and amended to incorporate TMDL-related provisions. This General Permit may also be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, water quality control plans or water quality control policies, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations sections 122.62, 122.63, 122.64, and 124.5.

B. Water Quality Based Corrective Actions

1. Upon determination by the Discharger or written notification by the Regional Water Board that industrial storm water discharges and/or authorized NSWDS contain pollutants that are in violation of Receiving Water Limitations (Section VI), the Discharger shall:
 - a. Conduct a facility evaluation to identify pollutant source(s) within the facility that are associated with industrial activity and whether the BMPs described in the SWPPP have been properly implemented;
 - b. Assess the facility's SWPPP and its implementation to determine whether additional BMPs or SWPPP implementation measures are necessary to reduce or prevent pollutants in industrial storm water discharges to meet the Receiving Water Limitations (Section VI); and,
 - c. Certify and submit via SMARTS documentation based upon the above facility evaluation and assessment that:
 - i. Additional BMPs and/or SWPPP implementation measures have been identified and included in the SWPPP to meet the Receiving Water Limitations (Section VI); or
 - ii. No additional BMPs or SWPPP implementation measures are required to reduce or prevent pollutants in industrial storm water discharges to meet the Receiving Water Limitations (Section VI).
2. The Regional Water Board may reject the Dischargers water quality based corrective actions and/or request additional supporting documentation.

C. Requirements for Dischargers Claiming “No Discharge” through the Notice of Non-Applicability (NONA)

1. For the purpose of the NONA, the Entity (Entities) is referring to the person(s) defined in section 13399.30 of the Water Code.
2. Entities who are claiming “No Discharge” through the NONA shall meet the following eligibility requirements:
 - a. The facility is engineered and constructed to have contained the maximum historic precipitation event (or series of events) using the precipitation data collected from the National Oceanic and Atmospheric Agency's website (or other nearby precipitation data available from other government agencies) so that there will be no discharge of industrial storm water to waters of the United States; or,
 - b. The facility is located in basins or other physical locations that are not hydrologically connected to waters of the United States.
3. When claiming the “No Discharge” option, Entities shall submit and certify via SMARTS both the NONA and a No Discharge Technical Report. The No

Discharge Technical Report shall demonstrate the facility meets the eligibility requirements described above.

4. The No Discharge Technical Report shall be signed (wet signature and license number) by a California licensed professional engineer.

XXI. STANDARD CONDITIONS

A. Duty to Comply

Dischargers shall comply with all standard conditions in this General Permit. Permit noncompliance constitutes a violation of the Clean Water Act and the Water Code and is grounds for enforcement action and/or removal from General Permit coverage.

Dischargers shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions.

B. Duty to Reapply

Dischargers that wish to continue an activity regulated under this General Permit after the expiration date of this General Permit shall apply for and obtain authorization from the Water Boards as required by the new general permit once it is issued.

C. General Permit Actions

1. This General Permit may be modified, revoked and reissued, or terminated for cause. Submittal of a request by the Discharger for General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.
2. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge, and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition.

D. Need to Halt or Reduce Activity Not a Defense

In an enforcement action, it shall not be a defense for a Discharger that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

E. Duty to Mitigate

Dischargers shall take all responsible steps to reduce or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Proper Operation and Maintenance

Dischargers shall at all times properly operate and maintain any facilities and systems of treatment and control (and related equipment and apparatuses) which are installed or used by the Discharger to achieve compliance with the conditions of this General Permit. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a Discharger when necessary to achieve compliance with the conditions of this General Permit.

G. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges. It also does not authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of federal, state, or local laws and regulations.

H. Duty to Provide Information

Upon request by the relevant agency, Dischargers shall provide information to determine compliance with this General Permit to the Water Boards, U.S. EPA, or local Municipal Separate Storm Sewer System (MS4) within a reasonable time. Dischargers shall also furnish, upon request by the relevant agency, copies of records that are required to be kept by this General Permit.

I. Inspection and Entry

Dischargers shall allow the Water Boards, U.S. EPA, and local MS4 (including any authorized contractor acting as their representative), to:

1. Enter upon the premises at reasonable times where a regulated industrial activity is being conducted or where records are kept under the conditions of this General Permit;
2. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;
3. Inspect the facility at reasonable times; and,
4. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

J. Monitoring and Records

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. If Dischargers monitor any pollutant more frequently than required, the results of such monitoring shall be included in the calculation and reporting of the data submitted.
3. Records of monitoring information shall include:
 - a. The date, exact location, and time of sampling or measurement;
 - b. The date(s) analyses were performed;
 - c. The individual(s) that performed the analyses;
 - d. The analytical techniques or methods used; and,
 - e. The results of such analyses.
4. Dischargers shall retain, for a period of at least five (5) years, either a paper or electronic copy of all storm water monitoring information, records, data, and reports required by this General Permit. Copies shall be available for review by the Water Board's staff at the facility during scheduled facility operating hours.
5. Upon written request by U.S. EPA or the local MS4, Dischargers shall provide paper or electronic copies of Annual Reports or other requested records to the Water Boards, U.S. EPA, or local MS4 within ten (10) days from receipt of the request.

K. Electronic Signature and Certification Requirements

1. All Permit Registration Documents (PRDs) for NOI and NEC coverage shall be certified and submitted via SMARTS by the Discharger's Legally Responsible Person (LRP). All other documents may be certified and submitted via SMARTS by the LRP or by their designated Duly Authorized Representative.
2. When a new LRP or Duly Authorized Representative is designated, the Discharger shall ensure that the appropriate revisions are made via SMARTS. In unexpected or emergency situations, it may be necessary for the Discharger to directly contact the State Water Board's Storm Water Section to register for SMARTS account access in order to designate a new LRP.
3. Documents certified and submitted via SMARTS by an unauthorized or ineligible LRP or Duly Authorized Representative are invalid.

4. LRP eligibility is as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - i. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function; or
 - ii. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
 - c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. This includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).
5. Duly Authorized Representative eligibility is as follows:
 - a. The Discharger must authorize via SMARTS any person designated as a Duly Authorized Representative;
 - b. The authorization shall specify that a person designated as a Duly Authorized Representative has responsibility for the overall operation of the regulated facility or activity, such as a person that is a manager, operator, superintendent, or another position of equivalent responsibility, or is an individual who has overall responsibility for environmental matters for the company; and,
 - c. The authorization must be current (it has been updated to reflect a different individual or position) prior to any report submittals, certifications, or records certified by the Duly Authorized Representative.

L. Certification

Any person signing, certifying, and submitting documents under Section XXI.K above shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

M. Anticipated Noncompliance

Dischargers shall give advance notice to the Regional Water Board and local MS4 of any planned changes in the industrial activity that may result in noncompliance with this General Permit.

N. Penalties for Falsification of Reports

Clean Water Act section 309(c)(4) provides that any person that knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years or by both.

O. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the initiation of any legal action or relieve the Discharger from any responsibilities, liabilities, or penalties to which the Discharger is or may be subject to under section 311 of the Clean Water Act.

P. Severability

The provisions of this General Permit are severable; if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

Q. Penalties for Violations of Permit Conditions

1. Clean Water Act section 309 provides significant penalties for any person that violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act or any permit condition or limitation implementing any such section in a permit issued under section 402. Any

person that violates any permit condition of this General Permit is subject to a civil penalty not to exceed \$37,500²² per calendar day of such violation, as well as any other appropriate sanction provided by section 309 of the Clean Water Act.

2. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which may be greater than penalties under the Clean Water Act.

R. Transfers

Coverage under this General Permit is non-transferrable. When operation of the facility has been transferred to another entity, or a facility is relocated, new PRDs for NOI and NEC coverage must be certified and submitted via SMARTS prior to the transfer, or at least seven (7) days prior to the first day of operations for a relocated facility.

S. Continuation of Expired General Permit

If this General Permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 40 Code of Federal Regulations 122.6 and remain in full force and effect.

²² May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act.

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FACT SHEET FOR
STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
NPDES NO. CAS000001**

*The factsheet to the IGP was updated in January 2015 to correct typographical errors. The deadline listed in Section I.D.13 (page 8) and Section II.G.1 (page 27) of the factsheet for dischargers with outfalls to ocean waters to develop and implement a monitoring program in compliance with the California Ocean Plan model monitoring provisions was corrected to July 1, 2015, which is the deadline listed in finding 44 in the general order.

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I. BACKGROUND

A. Purpose

The purpose of this Fact Sheet is to explain the legal requirements and technical rationale that serve as the basis for the requirements of this Order 2014-0057-DWQ (General Permit), adopted by the State Water Resources Control Board (State Water Board) on April 1, 2014. This General Permit regulates operators of facilities subject to storm water permitting (Dischargers), that discharge storm water associated with industrial activity (industrial storm water discharges). This General Permit replaces Water Quality Order 97-03-DWQ. This Fact Sheet does not contain any independently-enforceable requirements; the General Permit contains all of the actual requirements applicable to Dischargers. In case of any conflict between the Fact Sheet and the General Permit, the terms of the General Permit govern.

B. History

The Federal Clean Water Act (CWA)¹ prohibits discharges from point sources to waters of the United States, unless the discharges are in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. (CWA § 301(a).) In 1987, the CWA was amended to establish a framework for regulating municipal storm water discharges and discharges of storm water associated with industrial activity (industrial storm water discharges) under the NPDES program. (CWA § 402(p).) In 1990, the United States Environmental Protection Agency (U.S. EPA) promulgated regulations, commonly known as Phase I, establishing application requirements for storm water permits for specified categories of industries. (40 C.F.R. § 122.26.) In 1992, U.S. EPA revised the monitoring requirements for industrial storm water discharges. (40 C.F.R. § 122.44(i)(2), (4), (5).) In 1999, U.S. EPA adopted additional storm water regulations, known as Phase II. (64 Fed. Reg. 68722.) The Phase II regulations provide for, among other things, a conditional exclusion from NPDES permitting requirements for industrial activities that have no exposure to storm water.

Industrial storm water discharges are regulated pursuant to CWA section 402(p)(3)(A). This provision requires NPDES permits for industrial storm water discharges to implement CWA section 301, which includes requirements for Dischargers to comply with technology-based effluent limitations, and any more stringent water quality-based limitations necessary to meet water quality standards. Technology-based effluent limitations applicable to industrial activities are based on best conventional pollutant control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. (CWA § 301(b)(1)(A) and (2)(A).) To ensure compliance with water quality standards, NPDES permits may also require a Discharger to implement best management practices (BMPs). 40 Code of Federal Regulations section 122.44(k)(4) requires the use of BMPs to control or abate the discharge of pollutants when numeric effluent limitations (NELs) are infeasible. The State Water Board has concluded that it is infeasible to establish

¹ Federal Water Pollution Control Act of 1970 (also referred to as the Clean Water Act or CWA), 33 U.S.C. § 1201 et seq. All further statutory references herein are to the CWA unless otherwise indicated.

NELs for storm water discharges associated with industrial activity due to insufficient information at the time of adoption of this General Permit.

On April 17, 1997, the State Water Board issued NPDES General Permit for Industrial Storm Water Discharges, Excluding Construction Activities, Water Quality Order 97-03-DWQ (previous permit). This General Permit, Order 2014-0057-DWQ rescinds the previous permit and serves as the statewide general permit for industrial storm water discharges. The State Water Board concludes that significant revisions to the previous permit requirements are necessary for implementation, consistency and objective enforcement. As discussed in this Fact Sheet, this General Permit requires Dischargers to:

- Eliminate unauthorized non-storm water discharges (NSWDs);
- Develop and implement storm water pollution prevention plans (SWPPPs) that include best management practices (BMPs);
- Implement minimum BMPs, and advanced BMPs as necessary, to achieve compliance with the effluent and receiving water limitations of this General Permit;
- Conduct monitoring, including visual observations and analytical storm water monitoring for indicator parameters;
- Compare monitoring results for monitored parameters to applicable numeric action levels (NALs) derived from the U.S. EPA 2008 Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (2008 MSGP) and other industrial storm water discharge monitoring data collected in California;
- Perform the appropriate Exceedance Response Actions (ERAs) when there are exceedances of the NALs; and,
- Certify and submit all permit-related compliance documents via the Storm Water Multiple Application and Report Tracking System (SMARTS). Dischargers shall certify and submit these documents which include, but are not limited to, Permit Registration Documents (PRDs) including Notices of Intent (NOIs), No Exposure Certifications (NECs), and Storm Water Pollution Prevention Plans (SWPPPs), as well as Annual Reports, Notices of Termination (NOTs), Level 1 ERA Reports, and Level 2 ERA Technical Reports.

C. Blue Ribbon Panel of Experts (Panel)

In 2005 and 2006, the State Water Board convened a Blue Ribbon Panel of Experts (Panel) to address the feasibility of NELs in California's storm water permits. Specifically, the Panel was charged with answering the following questions:

Is it technically feasible to establish numeric effluent limitations, or some other quantifiable limit, for inclusion in storm water permits?

How would such limitations or criteria be established, and what information and data would be required?²

The Panel was directed to answer these questions for industrial storm water discharge general permits, construction storm water discharge general permits, and area-wide municipal storm water discharge permits. The Panel was also directed to address both technology-based and water quality based limitations and criteria.

In evaluating the establishment of numeric limitations and criteria, the Panel was directed to consider all of the following:

- The ability of the State Water Board to establish appropriate objective limitations or criteria;
- How compliance is to be determined;
- The ability of Dischargers and inspectors to monitor for compliance; and
- The technical and financial ability of Dischargers to comply with the limitations or criteria.

Following an opportunity for public comment, the Panel identified several water quality concerns, public process and program effectiveness issues. A summary of the Panel's recommendations regarding industrial storm water discharges follows:³

- Current data are inadequate; accordingly, the State Water Board should improve monitoring requirements to collect useful data for establishing NALs and NELs.
- Required parameters for further monitoring should be consistent with the type of industrial activity (i.e., monitor for heavy metals when there is a reasonable expectation that the industrial activity will contribute to increased heavy metals concentrations in storm water).
- Insofar as possible, the use of California data (or national data applicable to California) is preferred when setting NELs and NALs.
- Industrial facilities that do not discharge to Municipal Separate Storm Sewer Systems (MS4s) should implement BMPs for their non-industrial exposure (e.g., parking lots, roof runoff) similar to BMPs implemented by commercial facilities in MS4 jurisdictions.

² State Water Board Storm Water Panel of Experts, The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities (June 19, 2006). <http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/numeric/swpanel_final_report.pdf>. [as of February 4, 2014].

³ See footnote 2.

- In all cases, Dischargers should implement a suite of minimum BMPs, including, but not limited to, good housekeeping practices, employee training, and preventing exposure of materials to rain.
- Standard Industrial Classification (SIC) code categories are not a satisfactory way of identifying industrial activities at any given site. The State Water Board should develop an improved method of characterizing industrial activities that will improve water quality in storm water.
- Recognizing that implementing the Panel’s suggested changes is a large task, the State Water Board should set priorities for implementation of the Panel’s suggested approach in order to achieve the greatest reduction of pollutants statewide.
- Recognizing that an increasing number of industries have moved industrial activities indoors to prevent storm water pollution, such facilities should be granted regulatory relief from NALs and/or NELs , but should still be required to comply with any applicable MS4 permit requirements.
- Recognizing the need for improved monitoring and reduction of pollutants in industrial storm water discharges, the State Water Board should consider the total economic impact of its requirements to not economically penalize California industries when compared to industries outside of California.

With regard to the industrial activities component of its charge, the Panel limited its focus to the question of whether sampling data can be used to derive technology-based NELs. The Panel did not address other factors or approaches that may relate to the task of determining technology- and water quality-based NELs consistent with the regulations and law. Examples of these other factors are discussed in more detail in this Fact Sheet. Additionally, in its final report the Panel did not clearly differentiate between the role of numeric and non-numeric effluent limitations, nor did it consider U.S. EPA procedures used to promulgate effluent limitation guidelines (ELGs) in 40 Code of Federal Regulations, Chapter I, Subchapter N (Subchapter N).

D. Summary of Significant Changes in this General Permit

The previous permit issued by the State Water Board on April 17, 1997, had been administratively extended since 2002 until the adoption of this General Permit. Significant revisions to the previous permit were necessary to update permit requirements consistent with recent regulatory changes pertaining to industrial storm water under the CWA. This General Permit differs from the previous permit in the following areas:

1. Minimum Best Management Practices (BMPs)

This General Permit requires Dischargers to implement a set of minimum BMPs. Implementation of the minimum BMPs, in combination with any advanced BMPs (BMPs, collectively,) necessary to reduce or prevent pollutants in industrial storm water discharges, serve as the basis for compliance with this General Permit’s

technology-based effluent limitations and water quality based receiving water limitations. Although there is great variation in industrial activities and pollutant sources between industrial sectors and, in some cases between operations within the same industrial sector, the minimum BMPs specified in this General Permit represent common practices that can be implemented by most facilities.

The previous permit did not require a minimum set of BMPs but rather allowed Dischargers to consider which non-structural BMPs should be implemented and which structural BMPs should be considered for implementation when non-structural BMPs are ineffective.

This General Permit requires Dischargers to implement minimum BMPs (which are mostly non-structural BMPs), and advanced BMPs (which are mostly structural BMPs) when implementation of the minimum BMPs do not meet the requirements of the General Permit. Advanced BMPs consists of treatment control BMPs, exposure reduction BMPs, and storm water containment and discharge reduction BMPs. BMPs that exceed the performance expectation of minimum BMPs are considered advanced BMPs. Dischargers are encouraged to utilize advanced BMPs that infiltrate or reuse storm water where feasible.

The minimum and advanced BMPs required in this General Permit are consistent with U.S. EPA's 2008 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (2008 MSGP), guidance developed by the California Stormwater Quality Association, and recommendations by Regional Water Quality Control Board (Regional Water Board) inspectors. Dischargers are required to evaluate BMPs being implemented and determine an appropriate interval for the implementation and inspection of these BMPs.

2. Conditional Exclusion - No Exposure Certification (NEC)

This General Permit applies U.S. EPA Phase II regulations regarding a conditional exclusion for facilities that have no exposure of industrial activities and materials to storm water. (40 C.F.R. § 122.26(g).) (The previous permit required light industries to obtain coverage only if their activities were exposed to storm water.) This General Permit implements current U.S. EPA rules allowing any type of industry to claim a conditional exclusion. The NEC requires enrollment for coverage prior to conditionally excluding a Discharger from a majority of this General Permit's requirements.

3. Electronic Reporting Requirements

This General Permit requires Dischargers to submit and certify all reports electronically via SMARTS. The previous permit used a paper reporting process with electronic reporting as an option.

4. Training Expectations and Roles

This General Permit requires that Dischargers arrange to have appropriately trained personnel implementing this General Permit's requirements at each facility. In

addition, if a Discharger's facility enters Level 1 status, the Level 1 ERA Report must be prepared by a Qualified Industrial Storm Water Practitioner (QISP). All Action Plans and Technical Reports required in Level 2 status must also be prepared by a QISP.

Dischargers may appoint a staff person to complete the QISP training or may contract with an outside QISP. QISP training is tailored to persons with a high degree of technical knowledge and environmental experience. Although QISPs do not need to be California licensed professional engineers, it may be necessary to involve a California licensed professional engineer to perform certain aspects of the Technical Reports.

5. Numeric Action Levels (NALs) and NAL Exceedances

This General Permit contains two types of NAL exceedances. An annual NAL exceedance occurs when the average of all sampling results within a reporting year for a single parameter (except pH) exceeds the applicable annual NAL. The annual NALs are derived from, and function similarly to, the benchmark values provided in the 2008 MSGP. Instantaneous maximum NALs target hot spots or episodic discharges of pollutants. An instantaneous maximum NAL exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the applicable instantaneous maximum NAL value. Instantaneous maximum NALs for Total Suspended Solids (TSS) and Oil and Grease (O&G) are based on previously gathered California industrial storm water discharge monitoring data. The instantaneous maximum NAL for pH is derived from the benchmark value provided in the 2008 MSGP.

6. Exceedance Response Actions (ERA)

This General Permit requires Dischargers to develop and implement ERAs, when an annual NAL or instantaneous maximum NAL exceedance occurs during a reporting year. The first time an annual NAL or instantaneous maximum NAL exceedance occurs for any one parameter, a Discharger's status is changed from Baseline to Level 1 status, and the Discharger is required to evaluate and revise, as necessary, its BMPs (with the assistance of a QISP) and submit a report prepared by a QISP. The second time an annual NAL or instantaneous maximum NAL exceedance occurs for the same parameter in a subsequent reporting year, the Discharger's status is changed from Level 1 to Level 2 status, and Dischargers are required to submit a Level 2 ERA Action Plan and a Level 2 ERA Technical Report. Unless the demonstration is not accepted by the State Water Board or a Regional Water Board, the Discharger is not required to perform additional ERA requirements for the parameter(s) involved if the Discharger demonstrates that:

- a. Additional BMPs required to eliminate NAL exceedances are not technologically available or economically practicable and achievable; or,
- b. NAL exceedances are solely caused by non-industrial pollutant sources; or,

- c. NAL exceedances are solely attributable to pollutants from natural background sources.

Information supporting the above demonstrations must be included in QISP-prepared Level 2 ERA Technical Reports.

7. CWA section 303(d) Impairment

This General Permit requires a Discharger to monitor additional parameters if the discharge(s) from its facility contributes pollutants to receiving waters that are listed as impaired for those pollutants (CWA section 303(d) listings). This General Permit lists the receiving waters that are 303(d) listed as impaired for pollutants that are likely to be associated with industrial storm water in Appendix 3. For example, if a Discharger discharges to a water body that is listed as impaired for copper, and the discharge(s) from its facility has the potential sources of copper, the Discharger must add copper to the list of parameters to monitor in its storm water discharge.

8. Design Storm Standards for Treatment Control BMPs

This General Permit includes design storm standards for Dischargers implementing treatment control BMPs. The design storm standards include both volume- and flow-based criteria. Dischargers are not required to retrofit existing treatment control BMPs unless required to meet the technology-based effluent limitations and receiving water limitations in this General Permit.

9. Qualifying Storm Event (QSE)

This General Permit defines a QSE as a precipitation event that:

- a. Produces a discharge for at least one drainage area; and,
- b. Is preceded by 48 hours with no discharge from any drainage area.

The definition above differs from the definition in the previous permit, resulting in an increase number of QSEs eligible for sample collection. Therefore, most Dischargers will be able to collect the required number of samples, regardless of their facility location.

10. Sampling Protocols

This General Permit requires Dischargers to collect samples during scheduled facility operating hours from each drainage location within four hours of: (1) the start of the discharge from a QSE occurring during scheduled facility operating hours, or (2) the start of scheduled facility operating hours if the QSE occurred in the previous twelve (12) hours. The benefits of this sampling protocol: (a) allows a more reasonable amount of time to collect samples, (b) increases the likelihood for samples collected at discharge locations to be representative of the drainage area discharge characteristics, (c) increases the number of QSEs eligible for sample collection, and, (d) reduces the likelihood of Dischargers collecting samples with short-term concentration spikes.

The previous permit required that Dischargers collect grab samples during the first hour of discharge that commenced during scheduled facility operating hours. These sample collection requirements were widely considered to be too rigid and out of step with other states' sample collection requirements. Since many storm events begin in the evening or early morning hours, numerous opportunities to collect samples were lost because Dischargers could not obtain samples during the first hour of discharge. Dischargers with facilities that have multiple discharge locations had difficulties collecting samples within such a short timeframe therefore affecting data quality.

11. Sampling Frequency

This General Permit increases the sampling frequency by requiring the Discharger to collect and analyze storm water samples from each discharge location for two (2) QSEs within the first half of each reporting year (July 1 to December 31), and two (2) QSEs within the second half of each reporting year (January 1 to June 30). The increased sampling, compared to the previous permit's two samples during the wet season, is consistent with the 2008 MSGP and other states' permit requirements and will improve compliance determination with this General Permit. The State Water Board expects that the elimination of the wet season sampling requirements will increase the number of possible QSEs eligible for monitoring.

12. Compliance Groups

To allow industrial facilities to efficiently share knowledge, skills and resources towards achieving General Permit compliance, this General Permit allows the formation of Compliance Groups and Compliance Group Leaders. Dischargers participating in a Compliance Group (Compliance Group Participants) are collectively required to sample twice a year. Compliance Group Leaders are required to be approved through the State Water Board-approved training program process, inspect each facility once within each reporting year, and prepare Level 1 and Level 2 ERA reports as necessary. The Compliance Group option is described in more detail in General Permit section XIV and in this Fact Sheet in the Section titled "Compliance Groups."

13. Discharges to Ocean Waters

This General Permit requires Dischargers with ocean-discharging outfalls subject to model monitoring provisions of the California Ocean Plan to develop and implement a monitoring plan in compliance with those provisions and any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers who have not developed and implemented a monitoring program in compliance with the California Ocean Plan model monitoring provisions by July 1, 2015 or seven (7) days prior to commencing operations, whichever is later, are ineligible to obtain coverage under this General Permit.

II. TECHNICAL RATIONALE FOR REQUIREMENTS IN THIS GENERAL PERMIT

A. Receiving General Permit Coverage

1. This General Permit provides regulatory coverage for new and existing industrial storm water discharges and authorized NSWs from:
 - a. Facilities required by federal regulations to obtain an NPDES permit;
 - b. Facilities designated by the Regional Water Boards to obtain an NPDES permit; and,
 - c. Facilities directed by the Regional Water Boards to obtain coverage specifically under this General Permit. The Regional Water Board typically directs a Discharger to change General Permit coverage under two circumstances:
 - (1) switch from an individual NPDES permit to this General Permit, or
 - (2) switch from the NPDES General Permit for Storm Water Discharges Associated with Construction And Land Disturbance Activities, (Order 2009-0009-DWQ, NPDES No CAS000002) to this General Permit for long-term construction related activities that are similar to industrial activities (e.g. concrete batch plants).

40 Code of Federal Regulations section 122.26(b)(14) defines "storm water discharge associated with industrial activity" and describes the types of facilities subject to permitting (primarily by Standard Industrial Classification (SIC) code). This General Permit provides regulatory coverage for all facilities with industrial activities described in Attachment A where the covered industrial activity is the Discharger's primary industrial activity. In some instances, a Discharger may have more than one primary industrial activity occurring at a facility.

The 1987 SIC manual uses the term "establishment" to determine the primary economic activity of a facility. The manual instructs that where distinct and separate economic activities are performed at a single location, each activity should be treated as a separate establishment (and, therefore, separate primary activity). For example, the United States Navy (primary SIC code 9711) may conduct industrial activities subject to permitting under this General Permit, such as landfill operations (SIC code 4953), ship and boat building and repair (SIC code 3731, and flying field operations (SIC code 4581).

The SIC manual also discusses "auxiliary" functions of establishments. Auxiliary functions provide management or support services to the establishment. Examples of auxiliary functions are warehouses and storage facilities for the establishment's own materials, maintenance and repair shops of the establishment's own machinery, automotive repair shops or storage garages of the establishment's own vehicles, administrative offices, research, development, field engineering support, and testing conducted for the establishment. When auxiliary functions are performed at physically separate facilities from the establishment they serve, they generally are not subject to General Permit coverage. If

auxiliary functions are performed at the same physical location as the establishment, then they are subject to General Permit coverage if they are associated with industrial activities.

This clarification does not change the scope of which facilities are subject to permitting relative to the 1997 IGP. The 1997 IGP Fact Sheet had used the term “auxiliary” to describe a facility’s separate primary activities, which has caused confusion.

In 1997, the North American Industrial Classification System (NAICS) was published, replacing the SIC code system. The U.S. EPA has indicated that it intends to incorporate the NAICS codes into the federal storm water regulations but has not done so yet. The State Water Board recognizes that many Dischargers in newer industries were not included in the 1987 SIC code manual and may have difficulty determining their SIC code information. To address this transition, SMARTS has been modified to accept both SIC codes and NAICS codes, and NAICS codes are automatically translated into SIC codes. There may be instances of conflict between SIC and NAICS codes. The use of NAICS codes shall not expand or reduce the types of industries subject to this General Permit as compared to the SIC codes listed in the General Permit. State Water Board staff will work closely with the applicant to resolve these conflicts in SMARTS as they are identified. Dischargers should be aware that the use of an NAICS code which results in failure to submit any of the required PRDs under this General Permit remains a violation of the terms of this General Permit.

The facilities included in category one of Attachment A (facilities subject to Subchapter N) are subject to storm water ELGs that are incorporated into the requirements of this General Permit. Dischargers whose facilities are included in this category must examine the appropriate federal ELGs to determine the applicability of those guidelines. This General Permit contains additional requirements (Section XI.D) that apply only to facilities with storm water ELGs.

2. Types of Discharges Not Covered by this General Permit
 - a. Discharges from construction and land disturbance activities that are subject to the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit).
 - b. Discharges covered by an individual or general storm water NPDES permit. Some industrial storm water discharges may be regulated by other individual or general NPDES permits issued by the State Water Board or the Regional Water Boards (Water Boards, collectively,). This General Permit shall not regulate these discharges. When the individual or general NPDES permits for such discharges expire, the Water Boards may authorize coverage under this General Permit or another general NPDES permit, or may issue a new individual NPDES permit consistent with the federal and state storm water regulations. Interested parties may request that the State Water Board or appropriate Regional Water Board issue individual or general NPDES permits for specific discharges that, in their view are not properly regulated through this General Permit. General permits may be issued for a particular industrial group or watershed area which

would supersede this General Permit. To date, two Regional Water Board have issued such permits:

- i. The Lahontan Regional Water Board has adopted an NPDES permit and general Waste Discharge Requirements to regulate discharges from marinas and maintenance dredging (Regional Water Board Order R6T-2005-0015 - NPDES Permit No. CAG616003) in the Lake Tahoe Hydrologic Unit.
 - ii. The Santa Ana Regional Water Board adopted the Sector Specific General Permit for Stormwater Runoff Associated with Industrial Activities from Scrap Metal Recycling Facilities within the Santa Ana Region, Order R8-2012-0012, NPDES Permit No. CAG 618001 (Scrap Metal Recycling Permit). The Scrap Metal Recycling Permit is applicable to facilities within the Santa Ana Region that are listed under Standard Industrial Classification (SIC) Code 5093 and engaged in the following types of activities: (1) automotive wrecking for scrap-wholesale (this category does not include facilities engaged in automobile dismantling for the primary purpose of selling second hand parts); (2) iron and steel scrap - wholesale; (3) junk and scrap metal - wholesale; (4) metal waste and scrap - wholesale; and (5) non-ferrous metals scrap - wholesale. Other types of facilities listed under SIC Code 5093 and engaged in waste recycling are not required to get coverage under the Scrap Metal Recycling Permit. A list of covered facilities as of February 8, 2011 was included in Attachment A of the Scrap Metal Recycling Permit.
- c. Discharges that the Regional Water Boards determine to be ineligible for coverage under this General Permit. In such cases, a Regional Water Board will require the discharges be covered by another individual or general NPDES permit. The applicability of this General Permit to such discharges is terminated when the discharge is subject to another individual or general NPDES permit.
- d. Discharges that do not enter waters of the United States. These include:
- i. Discharges to municipal separate sanitary sewer systems;
 - ii. Discharges to evaporation ponds, discharges to percolation ponds, and/or any other methods used to retain and prevent industrial storm water discharges from entering waters of the United States;
 - iii. Discharges to combined sewer systems. In California, the only major combined sewer systems are located in San Francisco and downtown Sacramento. Dischargers who believe they discharge into a combined sewer system should contact the local Regional Water Board to verify discharge location; and,
 - iv. Dischargers Claiming the “No Discharge” Option in the Notice of Non-Applicability (NONA) (Fact Sheet Section II.S).
- e. Discharges from mining operations or oil and gas facilities composed entirely of flows that are from conveyances or systems of conveyances used for collecting and conveying precipitation runoff and do not come into contact with any overburden, raw materials, intermediate products, finished products, by-products, or waste products located at the facility. (33 U.S.C. § 1342(l)(2).)
- f. Discharges from facilities on Tribal Lands regulated by U.S. EPA.

3. Obtaining General Permit Coverage (Section II of this General Permit)

The State Water Board has developed the SMARTS online database system to handle registration and reporting under this General Permit. More information regarding SMARTS and access to the database is available online at <https://smarts.waterboards.ca.gov>. The State Water Board has determined that all documents related to general storm water enrollment and compliance must be certified and submitted via SMARTS by Dischargers.

This General Permit requires all Dischargers to electronically certify and submit PRDs via SMARTS to obtain: (1) regulatory coverage, or (2) to certify that there are no industrial activities exposed to storm water at the facility and obtain regulatory coverage under the NEC provision of this General Permit. Facilities that were eligible to self-certify no exposure under the previous permit (see category 10 in Attachment 1 of the previous permit) are required to certify and submit via SMARTS PRDs for NOI coverage under this General Permit by July 1, 2015 or for NEC coverage by October 1, 2015. The Water Board is estimating that 10,000 – 30,000 Dischargers may be registering for NOI or NEC coverage under this General Permit. Separate registration deadlines, one for NOI coverage and one for NEC coverage, provides Dischargers better assistance from Storm Water Helpdesk and staff.

Dischargers shall electronically certify and submit the PRDs via SMARTS for each individual facility. This requirement is intended to establish a clear accounting of the name, address, and contact information for each Discharger, as well as a description of each Discharger's facility.

The Water Boards recognize that certain information pertaining to an industrial facility may be confidential. Many Stakeholders were asking for clarification on the process the Water Boards would use to manage confidential information or the process Dischargers could use to redact such information. Dischargers may redact trade secrets information from required submittals (Section II.B.3.d). Dischargers are required to include a general description of the redacted information and the basis for the redaction. Dischargers are still required to submit complete and un-redacted versions of the information to the Water Boards within 30 days, however these versions should be clearly labeled "CONFIDENTIAL" so that the confidentiality of these documents is clear to Regional Water Board staff, even when there is a change in staff. This General Permit requires that all information provided to the Water Boards by the Discharger comply with the Homeland Security Act and other federal law that addresses security in the United States.

All Dischargers who certify and submit PRDs via SMARTS for NOI coverage on or after July 1, 2015 or for NEC coverage on or after October 1, 2015, shall immediately comply with the provisions in this General Permit.

4. General Permit Coverage for Landfills

This General Permit covers storm water discharges from landfills, land application sites, and open dumps that receive or have received industrial waste from any facility covered by this General Permit. Industrial storm water discharges from these

facilities must be covered by this General Permit unless (1) they are already covered by another NPDES permit, or (2) the Regional Water Board has determined that an NPDES permit is not required because the site has been stabilized or required closure activities have been completed.

In most cases, it is appropriate for new landfill construction or final closure to be covered by the Construction General Permit, rather than this General Permit. Questions have arisen as to what constitutes new landfill construction at an existing landfill versus the normal planned expansion of a landfill. Similarly, questions have arisen about the type of closure activities that may be subject to the Construction General Permit versus the normal closure of “cells” that occurs during continued landfill operations and are not subject to the Construction General Permit. Other questions such as whether temporary or permanent newly graded/paved roads disturbing greater than one acre at a landfill are subject to the Construction General Permit. Landfill Dischargers have asked for clarity regarding these questions. The previous permit required Dischargers to contact the Regional Water Boards to determine permit appropriateness. Site specific circumstances continue to require Dischargers to contact Regional Water Boards for final determinations.

Based upon the State Water Board’s storm water program history, there are only a handful of instances where an operating landfill has been simultaneously subject to both the construction and industrial permitting requirements. Typically a landfill is subject to the construction permitting requirements during the time the landfill is initially constructed and prior to operation. A landfill is subject to the industrial permitting requirements during landfill operations, and subject to the construction permitting requirements during final landfill closure activities.

Once a landfill begins operations, continued expansion or closure of incremental landfill cells is authorized under the industrial permitting requirements since these are normal aspects of landfill operations. These expansion/closure activities occur within a limited timeframe (often taking less than 90 days from beginning to end) and are not separately subject to additional local approval (e.g., a new building permit). Any construction or demolition of temporary non-impervious roads directly related to landfill operations are subject to the industrial permitting requirements.

Construction or closure of a separate section of the landfill that is either subject to additional permitting by the local authorities and/or lasts more than 90 days requires coverage under the Construction General Permit. Construction of permanent facility structures such as buildings and impervious parking lots or roads that disturb greater than one acre are also subject to the Construction General Permit. (Permanent facility structures are defined as any structural improvements designed to remain until the landfill is closed.)

Site specific circumstances such as proximity to nearby waterways, extent of activities, pollutants of concern, and other considerations can impact any decision as to whether a particular activity is to be regulated under this General Permit or the Construction General Permit. Regional Water Boards will continue to exercise their discretion as necessary to protect the beneficial uses of the receiving water(s).

5. General Permit Coverage for Small Municipal Separate Storm Sewer Systems (MS4s)

Section 1068 of the Intermodal Surface Transportation Efficiency Act of 1991 exempted municipal agencies serving populations of less than 100,000 from Phase I permit requirements other than sanitary landfills, power plants, and airports facilities. U.S. EPA's Phase II regulations eliminated the above exemption as of March 10, 2003. All facilities in Attachment A of this General Permit that are operated by a small municipal agency are subject to NPDES storm water permitting requirements and this General Permit.

6. Changes to General Permit Coverage

Dischargers who no longer operate a facility required to be covered under this General Permit (either NOI or NEC coverage) are required to electronically certify and submit via SMARTS a Notice of Termination (NOT). An NOT is required when there is a change in ownership of the industrial activities subject to permitting or when industrial activities subject to permitting are permanently discontinued by the Discharger at the site. When terminating NOI coverage, Dischargers may only submit an NOT once all exposure of industrial materials and equipment have been eliminated. Dischargers may not submit NOTs for temporary or seasonal facility closures. The General Permit requires Dischargers to implement appropriate BMPs to reduce or prevent pollutants in storm water discharges during the temporary facility closure.

This General Permit allows Dischargers to change General Permit coverage, as appropriate, from NOI coverage to NEC coverage or from NEC coverage to NOI coverage.

B. Discharge Prohibitions

This General Permit covers industrial storm water discharges and authorized NSWDS from industrial facilities and prohibits any discharge of materials other than storm water and authorized NSWDS (Section III and Section IV of this General Permit). It is a violation of this General Permit to discharge hazardous substances in storm water in excess of the reportable quantities established in 40 Code of Federal Regulations sections 117.3 and 302.4.

The State Water Board is authorized, under Water Code section 13377, to issue NPDES permits which apply and ensure compliance with all applicable provisions of the CWA, and any more stringent limitations necessary to implement water quality control plans, protect beneficial uses, and prevent nuisance.

C. Non-Storm Water Discharges (NSWDs)

Unauthorized NSWDS can be generated from various pollutant sources. Depending upon their quantity and location where generated, unauthorized NSWDS can discharge to the storm drain system during dry weather as well as during a storm event (comingled with storm water discharge). These NSWDS can consist of, but are not limited to; (1) waters generated by the rinsing or washing of vehicles, equipment,

buildings, or pavement, or (2) fluid, particulate or solid materials that have spilled, leaked, or been disposed of improperly.

Some NSWDs are not directly related to industrial activities and normally discharge minimal pollutants when properly managed. Section IV of this General Permit provides a limited list of NSWDs that are authorized if Dischargers implement BMPs to prevent contact with industrial materials prior to discharge. The list in Section IV is similar to the list provided in the 2008 MSGP but does not include pavement and external building surfaces washing without detergents. These two items are not included because the Discharger is responsible to reduce or prevent pollutants in storm water discharges from paved areas and buildings associated with industrial activities. Since industrial materials and non-industrial material likely co-exist, the washing of paved areas and external building surfaces may result in discharges of pollutants associated with industrial activities. In addition, washing activities generally occur during dry-weather periods when receiving water flows are lower than wet-weather periods. Wash waters are likely to discharge in higher concentrations than would occur if these pollutants were naturally discharged during a storm event. The discharge of high concentration wash water during a time of dry-weather flows is inconsistent with the goal of protecting receiving waters. These discharges are, therefore, considered unauthorized NSWDs. Similar to the 2008 MSGP, firefighting related discharges are not subject to this General Permit.

A major required element of the SWPPP is the identification and measures for elimination of unauthorized NSWDs. Unauthorized NSWDs can contribute a significant pollutant load to receiving waters. Measures to control spills, leakage, and dumping can often be addressed through BMPs. This General Permit's BMP requirements for NSWDs remain essentially unchanged from the previous permit other than the increased frequency of required visual observations from quarterly to monthly. See Section XI.A.1 of this General Permit.

D. Effluent Limitations

1. Technology-Based and Water Quality-Based Effluent Limitations

CWA Section 301(b)(1)(C) requires that discharges from existing facilities must, at a minimum, comply with technology-based effluent limitations based on the technological capability of Dischargers to control pollutants in their discharges. Discharges must also comply with any more stringent water quality-based limitations necessary to meet water quality standards in accordance with CWA Section 301(b)(1)(C). Water quality-based limitations are discussed in Section E of this Fact Sheet titled "Receiving Water Limitations." Both technology-based effluent limitations and water quality-based limitations are implemented through NPDES permits. (CWA sections 301(a) and (b).)

2. Types of Technology-Based Effluent Limitations

All NPDES permits are required to contain technology-based effluent limitations (TBELs). (40 C.F.R. §§122.44(a)(1) and 125.3.) TBELs may consist of effluent limitations guidelines (ELGs) established by U.S. EPA through regulation, or may be developed using best professional judgment on a case-by-case basis.

The CWA sets forth standards for TBELs based on the type of pollutant or the type of facility/source involved. The CWA establishes two levels of pollution control for existing sources. For the first level, existing sources that discharge pollutants directly to receiving waters were initially subject to effluent limitations based on the “best practicable control technology currently available” (BPT). (33 U.S.C. § 1314(b)(1)(B).) BPT applies to all pollutants. For the second level, existing sources that discharge conventional pollutants are subject to effluent limitations based on the “best conventional pollutant control technology” (BCT). (33 U.S.C. §1314(b)(4)(A); see also 40 C.F.R. §401.16 (list of conventional pollutants).) Also for the second level, other existing sources that discharge toxic pollutants or “nonconventional” pollutants (“nonconventional” pollutants are pollutants that are neither “toxic” nor “conventional”) are subject to effluent limitations based on “best available technology economically achievable” (BAT). (33 U.S.C. §1311(b)(2)(A); see also 40 C.F.R. §401.15 (list of toxic pollutants).) The factors to be considered in establishing the levels of these control technologies are specified in section 304(b) of the CWA and in U.S. EPA’s regulations at 40 C.F.R. §125.3.

When establishing ELGs for an industrial category, U.S. EPA evaluates a wide variety of technical factors to determine BPT, BCT, and BAT. U.S. EPA considers the specific factors of an industry such as pollutant sources, industrial processes, and the size and scale of operations. U.S. EPA evaluates the specific treatment, structural, and operational source control BMPs available to reduce or prevent pollutants in the discharges. The costs of implementing BMPs to address these factors are weighed against their effectiveness and ability to protect water quality. Factors such as industry economic viability, economies of scale, and retrofit costs are also considered.

To date, U.S. EPA has: (1) not promulgated storm water ELGs for most industrial categories, (2) not established NELs within all ELGs that have been promulgated, and (3) exempted certain types of facilities within an industrial category from complying with established ELGs. The feedlot category (40 Code of Federal Regulations part 412) provides an example of several of these points. In that instance, U.S. EPA did not establish numeric effluent limitations but instead: (1) established a narrative effluent limitation requiring retention of all feedlot-related runoff from a 25-year, 24-hour storm, and (2) limited application of the ELG to feedlots with a minimum number of animals. U.S. EPA also recently promulgated ELGs for the "Construction and Development (C&D)" industry, which included, among many other limitations, conditional numeric effluent limitations. Though the NELs in these ELGs were later stayed by U.S. EPA, the ELGs exempted construction sites of less than 30 acres from complying with the established numeric effluent limitations.

40 Code of Federal Regulations, Chapter I, Subchapter N (“Subchapter N”), includes over 40 separate industrial categories where the U.S. EPA has established ELGs for new and existing industrial wastewater discharges to surface waters, discharges to publicly owned treatment works (pre-treatment standards), and storm water discharges to surface waters. Generally, U.S. EPA has focused its efforts on the development of ELGs for larger industries and those industries with the greatest potential to pollute. In total, the 40 categories for which ELGs have been

established (not including construction) represent less than 10 percent of the types of facilities subject to this General Permit. Additionally, most ELGs focus on industrial process wastewater discharges and pre-treatment standards, and only 11 of the 40 categories establish numeric or narrative ELGs for industrial storm water discharges. Those that do include ELGs for industrial storm water discharges generally address storm water discharges that are generated from direct contact with primary pollutant sources at the subject facilities, and not the totality of the industrial storm water discharge from the facility, as the term “storm water discharge associated with industrial activity” for this General Order is defined in the CWA. (40 C.F.R. § 122.26(b)(14).) Where U.S. EPA has not issued effluent limitation guidelines for an industry, the State Water Board is required to establish effluent limitations for NPDES permits on a case-by-case basis based on best professional judgment (BPJ). (33 U.S.C. § 1342(a)(1); 40 C.F.R. § 125.3(c)(2).) In this General Permit, most of the TBELs are based on BPJ decision-making because no ELG applies.

The TBELs in this General Permit represent the BPT (for conventional, toxic, and non-conventional pollutants), BCT (for conventional pollutants), and BAT (for toxic pollutants and non-conventional pollutants) levels of control for the applicable pollutants. If U.S. EPA has not promulgated ELGs for an industry, or if a Discharger is discharging a pollutant not covered by the otherwise applicable ELG, the State Water Board is required to establish effluent limitations in NPDES permit limitations based on best professional judgment. (33 U.S.C. § 1342(a)(1); 40 C.F.R. 125.3(c).) This General Permit includes TBELs established on best professional judgment and limitations based on storm water-specific ELGs listed in Attachment F of this General Permit, where applicable.

3. Authority to Include Non-Numeric Technology-Based Limits in NPDES Permits

TBELs in this General Permit are based on best professional judgment and are non-numeric (“narrative”) technology-based effluent limitations expressed as requirements for implementation of effective BMPs. Federal regulations provide that permits must include BMPs to control or abate the discharge of pollutants when where “[n]umeric effluent limitations are infeasible.” 40 C.F.R. 122.44(k)(3).

Since 1977, courts have recognized that there are circumstances when numeric effluent limitations are infeasible and have held that EPA may issue permits with conditions (e.g., BMPs) designed to reduce the level of effluent discharges to acceptable levels. *Natural Res. Def. Council, Inc. v. Costle*, 568 F.2d 1369 (D.C.Cir.1977).

U.S. EPA has also interpreted the CWA to allow BMPs to take the place of numeric effluent limitations under certain circumstances. 40 C.F.R. §122.44(k), titled “Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs ...),” provides that permits may include BMPs to control or abate the discharge of pollutants when: (1) “[a]uthorized under section 402(p) of the CWA for the control of stormwater discharges”; or (2) “[n]umeric effluent limitations are infeasible.” 40 C.F.R. § 122.44(k).

In 2006, The U.S. Court of Appeals for the Sixth Circuit held that the CWA does not require U.S. EPA to set numeric limits where such limits are infeasible. (*Citizens Coal Council v. United States Environmental Protection Agency*, 447 F.3d 879, 895-96 (6th Cir. 2006)). The *Citizens Coal* court cited to the statement in *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 502 (2d Cir. 2005) that “site-specific BMPs are effluent limitations under the CWA” in concluding that “the EPA’s inclusion of numeric and non-numeric limitations in the guideline for the coal remaining subcategory was a reasonable exercise of its authority under the CWA.” (447 F.3d at 896.) Additionally, the *Citizen’s Coal* court cited to *Natural Res. Def. Council, Inc. v. EPA*, 673 F.2d 400, 403 (D.C.Cir.1982) noting that “section 502(11) [of the CWA] defines ‘effluent limitation’ as ‘any restriction’ on the amounts of pollutants discharged, not just a numerical restriction.” NPDES permit writers have substantial discretion to impose non-quantitative permit requirements pursuant to section 402(a)(1)), especially when the use of numeric limits is infeasible. (*NRDC v. EPA*, 822 F.2d 104, 122-24 (D.C. Cir. 1987); 40 C.F.R. 122.44(k)(3).)

4. Decision to Include Non-Numeric Technology-Based Effluent Limits in This General Permit

It is infeasible for the State Water Board to develop numeric effluent limitations using the best professional judgment approach due to lack of sufficient information. Previous versions of this General Permit required Dischargers to sample their industrial storm water discharges and report the results to the Regional Water Boards. Dischargers were not required to submit this data online into a statewide database; as a result, much of this data is not available for analysis. Moreover, much of the data that are available for analysis are not of sufficient quality to make conclusions or perform basic statistical tests.

The Blue Ribbon Panel of Experts, State Water Board staff, and many stakeholders evaluated the available storm water data set and concluded that the information provides limited value due to the limited pool of industrial facilities submitting data, poor overall data quality, and extreme variance within the dataset, as described below.

The poor quality of the existing data set is attributable a number of factors. For example, the previous permits have required Dischargers to sample during the first hour of discharge from two storm events a year. This sampling schedule was designed to catch what was considered to represent the higher end of storm water discharge concentrations for most parameters. The results from this type of sampling were thought to be an indicator of whether or not additional BMPs would be necessary. The sampling schedule was not designed, however, to estimate pollutant discharge loading, or to characterize the impact of the discharge on the receiving water. Doing so would normally require the use of more advanced sampling protocols such as flow meters, continuous automatic sampling devices, certified/trained sampling personnel, and other facility-specific considerations.

Furthermore, there is currently no data which details the relationship between the BMPs implemented at each facility and the facility’s sampling results. The SWPPPs required by the previous permits were not submitted to the Water Boards, but were

kept onsite by Dischargers. Due to the limited availability of quality sampling data and "level of effort" information contained in SWPPPs, the State Water Board is unable to exercise best professional judgment to make the connection between effluent quality (sampling results) and the level of effort, costs, and performance of the various technologies that is needed in order to express the TBELs in this General Permit numerically, as NELs.

Some stakeholders have suggested that separating the data sets by industry type would lead to more reliable data with which to develop NELs. Advocates of this approach suggest that the variability of the data may be caused in part by the mixing of data from different industrial categories. The State Water Board believes that the variation is primarily due to storm intensity, duration, time of year, soil saturation or some other factors. It is necessary to collect information related to those factors and BMPs implemented in order to evaluate the variability attributable to those factors. There is currently too large of an information gap to begin the process of developing NELs for all industrial sectors not currently subject to ELGs.

The State Water Board has proposed NELs in past drafts of this General Permit. In comments, many stakeholders have highlighted the difficulty of developing statewide NELs that are applicable to all industry sectors, or even NELs that cover any specific industry sectors. For example, stakeholders have commented that:

- a. Background/ambient conditions in some hydrogeologic zones may contribute pollutant loadings that would significantly contribute to, if not exceed, the NEL values;
- b. Some advanced treatment technologies have flow/volume limitations as well as economy of scale issues for smaller facilities;
- c. Treatment technologies that require that sheet flows be captured and conveyed via discrete channels or basins may not only result in significant retrofit costs, but may conflict with local ordinances that prohibit such practices, as they can cause damage or erosion to down gradient property owners, or cause other environmental problems;
- d. There is insufficient regulatory guidance and procedures to allow permit writers to properly specify monitoring frequency and sampling protocols (e.g., instantaneous maximum, 1-day average, 3-day average, etc.), and for Dischargers to obtain representative samples to compare to NELs for the purpose of strict compliance; and,
- e. NELs must be developed with consideration of what is economically achievable for each industrial sector. These stakeholders point out that the U.S. EPA goes to great lengths evaluating the various BMP technologies available for a particular pollutant, the costs and efficiency of each BMP, and the applicability of the BMPs to the industry as a whole or to a limited number of industrial sites based upon the size of the facility, the quantity of material, and other considerations.

The State Water Board does not have the information (including monitoring data, industry specific information, BMP performance analyses, water quality information, monitoring guidelines, and information on costs and overall effectiveness of control technologies) necessary to promulgate NELs at the time of adoption of this General Permit. Therefore, it is infeasible to include NELs in this statewide General Permit.

Many of the new requirements in this General Permit have been designed to address the shortcomings of previous permits and the existing storm water data set. Under this General Permit, sampling results must be certified and submitted into SMARTS by Dischargers, along with SWPPPs which outline the technologies and BMPs used to control pollutants at each facility. The ERA process will also collect information on costs and the engineering aspects of the various control technologies employed by each facility. Previous permit versions did not have a mechanism for receiving this site specific information electronically, and only a small percentage of Dischargers submitted their Annual Reports via SMARTS. This General Permit will make this information more accessible, allowing the Water Boards to evaluate the relationship between BMPs and the ability of facilities to meet the NALs set forth in this General Permit. Finally, the new Qualified Industrial Storm Water Practitioner (QISP) training requirements of this General Permit have been designed in part to improve the quality of the data submitted.

5. Narrative Technology-Based Effluent Limitations (TBELs) and Best Management Practices (BMPs)

The primary TBEL in this General Permit requires Dischargers to “implement BMPs that comply with the BAT/BCT requirements of this General Permit to reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering technological availability and economic practicability and achievability.” (Section V.A of this General Permit). This TBEL is a restatement of the BAT/BCT standard, as articulated by U.S. EPA in the 2008 MSGP and accompanying Fact Sheet. In order to comply with this TBEL, Dischargers must implement BMPs that meet or exceed the BAT/BCT technology-based standard. The requirement to “reduce or prevent” is equivalent to the requirement in the federal regulations that BMPs be used in lieu of NELs to “control or abate” the discharge of pollutants. (40 C.F.R. § 122.44(k).)

BMPs are defined as the “scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to reduce or prevent the discharge of pollutants... includ[ing] treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.” (40 C.F.R. § 122.2.)

This General Permit (Sections X.H.1 and X.H.2) requires all Dischargers to implement minimum BMPs, as well as any advanced BMPs that are necessary to adequately reduce or prevent pollutants in discharges consistent with the TBELs. The minimum BMPs specified in this General Permit represent common practices that can be implemented by most facilities. This General Permit generally does not mandate the specific mode of design, installation or implementation for the minimum BMPs at a Discharger’s facility. It is up to the Discharger, in the first instance, to

determine what must be done to meet the applicable effluent limits. For example, Section X.H.1.a.vi of this General Permit requires Dischargers to contain all stored non-solid industrial materials that can be transported or dispersed via wind or contact with storm water. How this is achieved will vary by facility: for some facilities, all activities may be moved indoors, while for others this will not be feasible. However, even for the latter, many activities may be moved indoors, others may be contained using tarps or a containment system, while still other activities may be limited to times when exposure to precipitation is not likely. Each of these control measures is acceptable and appropriate depending upon the facility-specific circumstances.

BMPs can be actions (including processes, procedures, schedules of activities, prohibitions on practices and other management practices), or structural or installed devices to reduce or prevent water pollution. (40 C.F.R. § 122.2.) They can be just about anything that is effective at preventing pollutants from entering the environment, and for meeting applicable limits of this General Permit. In this General Permit, Dischargers are required to select, design, install, and implement facility-specific control measures to meet these limits. Many industrial facilities already have such control measures in place for product loss prevention, accident and fire prevention, worker health and safety or to comply with other environmental regulations. Dischargers must tailor the BMPs detailed in this General Permit to their facilities, as well as improve upon them as necessary to meet permit limits. The examples detailed in this Fact Sheet emphasize prevention over treatment. However, sometimes more traditional end-of-pipe treatment may be necessary, particularly where a facility might otherwise cause or contribute to an exceedance of water quality standards.

This General Permit requires Dischargers to implement BMPs “to the extent feasible.” Consistent with the control level requirements of the CWA, for the purposes of this General Permit, the requirement to implement BMPs “to the extent feasible” means to reduce and/or prevent discharges of pollutants using BMPs that represent BAT and BPT in light of best industry practice.⁴ In other words, Dischargers are required to select, design, install and implement BMPs that reduce or prevent discharges of pollutants in their storm water discharge in a manner that reflects best industry practice considering their technological availability and economic practicability and achievability.

To determine technological availability and economic practicability and achievability, Dischargers need to consider what control measures are considered “best” for their industry, and then select and design control measures for their site that are viable in terms of cost and technology. The State Water Board believes that for many facilities minimization of pollutants in storm water discharges can be achieved without using highly engineered, complex treatment systems. The BMPs included in

⁴ Because toxic and nonconventional pollutants are controlled in the first step by BPT and in the second step by BAT, and the second level of control is “increasingly stringent” (EPA v. National Crushed Stone, 449 U.S. 64, 69 (1980), for simplicity of discussion, the rest of this discussion will focus on BAT. Similarly, because the BAT levels of control in this General Permit are expressed as BMPs and pollution prevention measures, they will also control conventional pollutants. Therefore this discussion will focus on BAT rather than BCT or BPT for conventional pollutants.

this General Permit emphasize effective “low-tech” controls, such as regular cleaning of outdoor areas where industrial activities may take place, proper maintenance of equipment, diversion of storm water around areas where pollutants may be picked up, and effective advanced planning and training (e.g., for spill prevention and response).

E. Receiving Water Limitations and Water Quality Standards

Pursuant to CWA section 301(b)(1)(C) and Water Code section 13377, this General Permit requires compliance with receiving water limitations based on water quality standards. The primary receiving water limitation requires that industrial storm water discharges not cause or contribute to an exceedance of applicable water quality standards. Implementation of the BMPs as required by the technology-based effluent limitation in Section V of this General Permit will typically result in compliance with the receiving water limitations. The discussion of BMPs in this General Permit generally focuses on requiring implementation of BMPs to the extent necessary to achieve compliance with the technology-based effluent limitations, because the technology-based limitations apply similarly to all facilities. In addition, however, this General Permit also makes it clear that, if any individual facility's storm water discharge causes or contributes to an exceedance of a water quality standard, that Discharger must implement additional BMPs or other control measures that are tailored to that facility in order to attain compliance with the receiving water limitation. A Discharger that is notified by a Regional Water Board or who determines the discharge is causing or contributing to an exceedance of a water quality standard must comply with the Water Quality Based Corrective Actions found in Section XX.B of this General Permit.

Water Quality Based Corrective Actions are different from the Level 1 and Level 2 ERAs that result from effluent-based monitoring. It is possible for a Discharger to be engaged in Level 1 or Level 2 ERAs for one or more pollutants and simultaneously be required to perform Water Quality Based Corrective Actions for one or more other pollutants.

Failure to comply with these additional Water Quality Based Corrective Action requirements is a violation of this General Permit. If additional operational source control measures do not adequately reduce the pollutants, Dischargers must implement additional measures such as the construction of treatment systems and/or overhead coverage. Overhead coverage is any structure or temporary shelter that prevents the vertical contact of precipitation with industrial materials or activities. If the Regional Water Board determines that the Discharger's selected BMPs are inadequate, the Regional Water Board may require implementation of additional BMPs and/or may take enforcement against Dischargers for failure to comply with this General Permit.

F. Total Maximum Daily Loads (TMDLs)

TMDLs are regulatory tools that provide the maximum amount of a pollutant from potential source in the watershed that a water body can receive while attaining water quality standards. A TMDL is defined as the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations) and non-point sources (load allocations), plus the contribution from background sources. (40 C.F.R. § 130.2, subd. (i).) Discharges covered by this General Permit are considered to be point

source discharges, and therefore must comply with effluent limitations that are “consistent with the assumptions and requirements of any available waste load allocation for the discharge prepared by the State and approved by EPA pursuant to 40 Code of Federal Regulations section 130.7.” (40 C.F.R. § 122.44, subd. (d)(1)(vii).) In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement relevant water quality control plans. Many TMDLs in existing water quality control plans include both waste load allocations and implementation requirements. Attachment E of this General Permit lists the watersheds with U.S. EPA-approved and U.S. EPA-established TMDLs that include TMDL requirements for Dischargers covered by this General Permit.

NPDES-regulated storm water discharges (which include industrial storm water) must be addressed by waste load allocations in TMDLs. (40 C.F.R. § 130.2(h).) NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the waste load allocations in TMDLs. (40 C.F.R. § 122.44(d)(1)(vii)(B).) To date, the relevant waste load allocations assigned to industrial storm water discharges are not directly translatable to effluent limitations. Many of the TMDLs lack sufficient facility specific information, discharge characterization data, implementation requirements, and compliance monitoring requirements. Accordingly, an analysis of each TMDL applicable to industrial storm water discharges must be performed to determine if it is appropriate to translate the waste load allocation into a numeric effluent limit, or if the effluent limit is to be expressed narratively using a BMP approach. U.S. EPA recognizes that because storm water discharges are highly variable in frequency and duration and are not easily characterized, it is often not feasible or appropriate to establish numeric limits. Variability and the lack of data available make it difficult to determine with precision or certainty actual and projected loadings for individual Dischargers or groups of Dischargers.

Regardless of whether the effluent limit is to be numeric or narrative, the existing waste load allocations must be carefully analyzed, and in many cases translated, to determine the appropriate effluent limitations. Issues of interpretation exist with all of the waste load allocations applicable to Dischargers, and these issues vary based on the TMDL. Below is an example of one of the simpler issues:

FIGURE 1: Example Waste Load Allocations Proposed Translation: Ballona Creek Estuary – Toxic Pollutants

Metals per Acre Waste Load Allocations for Individual General Construction or Industrial Storm Water Permittees (grams/year/acre)				
Cadmium	Copper	Lead	Silver	Zinc
0.1	3	4	0.1	13
Metals per Acre Waste Load Allocations for Individual General Construction or Industrial Storm Water Permittees (milligrams/year/acre)				
Chlordane	DDTs	Total Polychlorinated biphenyl (PCBs)	Total Polycyclic aromatic hydrocarbons (PAHs)	
0.04	0.14	2	350	

In order for the above waste load allocations to effectively be implemented as effluent limits under the General Permit, the Water Boards must (1) identify which discharges the waste load allocations apply to, (2) identify the acreages of the individual facilities, (3) convert the waste load allocations from grams/year/acre (or milligrams/year/acre) to grams/year (or milligrams/year) based on the acreage at each identified facility, (4) assign the effluent limits to the identified Dischargers, (5) determine appropriate monitoring to assess compliance with the effluent limits, and (6) develop a tracking mechanism for each identified facility and their individual effluent limits. A similar stepwise process is necessary for each TMDL with waste load allocations assigned to industrial storm water discharges. For TMDLs where effluent limits will be expressed as BMPs, analysis must be performed to determine the appropriate BMPs and the corresponding effectiveness to comply with the assigned waste load allocations.

Some waste load allocations are already expressed as concentration based numbers. It may appear simple to incorporate these values into this General Permit as effluent limits, but the questions still remain regarding how to determine compliance. The monitoring requirements in this General Permit are not designed to measure compliance with a numeric effluent limit or to measure the effect of a discharge on a receiving water body. (See the discussion on monitoring requirements in Fact Sheet Section II.J.) This General Permit requires sampling of four (4) storm events a year, with certain limitations as to when a discharge may be sampled. This method of monitoring may not appropriately serve as TMDL compliance sampling since grab samples are only representative of the particular moment in time when the sample was taken. Since storm water is highly variable, four grab samples per year may not provide sufficient confidence that the effluent limit is being met. An alternative monitoring scheme may be necessary to determine the facility's impact on the receiving water and to determine compliance with any assigned effluent limits. Questions concerning whether sampling results should be grab samples, composite samples, flow-weighted averaged over all drainage areas, etc. cannot be determined for each concentration-based TMDL without a more thorough analysis.

Additionally, monitoring and assessment requirements must be developed for all of the TMDLs to determine compliance with or progress towards meeting TMDL requirements. The proposed monitoring requirements in this General Permit are not designed to assess pollutant loading or determine compliance with TMDL-specific effluent limits.

Due to the large number and variety of discharges subject to a wide range of TMDLs statewide, to prevent a severe delay in the adoption of this General Permit, TMDL-specific permit requirements for the TMDLs listed in Attachment E will be proposed by the Regional Water Boards. Since the waste load allocations and/or implementation requirements apply to multiple discharges in the region(s) the TMDL were developed, the development of TMDL-specific permit requirements is best coordinated at the Regional Water Board level. The development of TMDL-specific permit requirements is subject to notice and a public comment period prior to incorporation into this General Permit.

Regional Water Board staff, with the assistance of State Water Board staff, will develop and submit the proposed TMDL-specific permit requirements for each of the TMDLs listed in Attachment E by July 1, 2016.⁵ After conducting a 30-day public comment period, the Regional Water Boards will propose TMDL-specific permit requirements to the State Water Board for adoption into this General Permit. The Regional Water Boards may also include TMDL-specific monitoring requirements for inclusion in this General Permit, or may issue Regional Water Board orders pursuant to Water Code section 13383 requiring TMDL-specific monitoring. The Regional Water Boards or their Executive Officers may complete these tasks, and the proposed TMDL-specific permit requirements shall have no force or effect until adopted, with or without modification, by the State Water Board. Unless directed to do so by the Regional Water Board, Dischargers are not required to take any additional actions to comply with the TMDLs listed in Attachment E until the State Water Board reopens this General Permit and includes TMDL-specific permit requirements. This approach is consistent with the 2008 MSGP. TMDL-specific permit requirements are not limited by the BAT/BCT technology-based standards.

The Regional Water Boards will submit to the State Water Board the following information for each of the TMDLs listed in Attachment E:

- Proposed TMDL-specific permit requirements, including any applicable effluent limitations, implementation timelines, additional monitoring requirements, reporting requirements, an explanation of how an exceedance of an effluent limitation or a violation of the TMDL will be determined, and required deliverables consistent with the TMDL(s);
- An explanation of how the proposed TMDL-specific permit requirements, timelines, and deliverables are consistent with the assumptions and requirements of applicable waste load allocation(s) to implement the TMDL(s);
- Where a BMP-based approach is proposed, an explanation of how the proposed BMPs will be sufficient to implement applicable waste load allocations; and
- Where concentration-based monitoring is required, an explanation of how the required monitoring, reporting and calculation methodology for an exceedance of an effluent limitation or a violation of the TMDL(s) will be sufficient to demonstrate compliance with the TMDL(s).

Upon receipt of the information described above, the State Water Board will conduct a public comment period and reopen this General Permit to populate Attachment E, the Fact Sheet, and other provisions as necessary in order to incorporate these TMDL-specific permit requirements into this General Permit. Attachment E may also be reopened during the term of this General Permit to add additional TMDLs and corresponding implementation requirements.

This General Permit (Section X.G.2.a.ix) requires a Discharger to identify any additional industrial parameters that may be discharged to a waterbody with a 303(d) impairment identified in Appendix 3 as likely to be associated with industrial storm water.

⁵ Due to the workload associated with the implementation of this General Permit (e.g., training program development, NEC outreach, electronic enrollment and reporting via SMARTS) it is believed that two years is necessary for Staff to complete a comprehensive analysis and stakeholder process for TMDLS applicable to Dischargers under this General Permit.

Dischargers may need to implement additional monitoring for any applicable parameters (Section XI.B.6.e). Appendix 3 of this General Permit includes the water bodies with 303(d) impairments or TMDLs for pollutants that are likely to be associated with industrial storm water in black font, and those that are not likely to be associated with industrial storm water in red font. This determination is based on the pollutant or pollutants that are causing each impairment, and the State Water Board's general experience regarding the types of pollutants that are typically found in industrial storm water discharges. The list of waterbodies is from the State Water Boards statewide 2010 Integrated CWA Section 303(d) List / Section 305(b) Report.

Some of the water bodies with 303(d) impairments or TMDLs listed in Appendix 3 of this General Permit are not applicable to Dischargers covered under this General Permit. Appendix 3 indicates these water bodies Dischargers are not required to include in their pollutant source assessment (unless directed to do so by the Regional Water Board).

New Dischargers (as defined in Attachment C) applying for NOI coverage under this General Permit that will be discharging to an impaired water body with a 303(d) listed impairment are ineligible for coverage unless the Discharger submits data and/or information, prepared by a QISP, demonstrating that the facility will not cause or contribute to the impairment. Section VII.B of this General Permit describes the three different options New Dischargers have for making this determination. This General Permit requires a QISP to assist the New Discharger with this determination because individuals making this determination will need expertise in industrial storm water pollutant sources, BMPs and a thorough understanding of complying with U.S. EPA's storm water regulations and this General Permit's requirements. Not requiring New Dischargers to have a QISP assist in this demonstration would possibly lead to costly retrofits or closure of a new facility that has not demonstrated that the facility will not cause or contribute to the impairment.

G. Discharges Subject to the California Ocean Plan

1. Discharges to Ocean Waters

On October 16, 2012 the State Water Board amended the California Ocean Plan (California Ocean Plan) to require industrial storm water Dischargers with outfalls discharging to ocean waters to comply with the California Ocean Plan's model monitoring provisions. The amended California Ocean Plan requires industrial storm water dischargers with outfalls discharging to ocean waters to comply with the California Ocean Plan's model monitoring provisions. These provisions require Dischargers to: (a) monitor runoff for specific parameters at all outfalls from two storm events per year, and collect at least one representative receiving water sample per year, (b) conduct specified toxicity monitoring at certain types of outfalls at a minimum of once per year, and (c) conduct marine sediment monitoring for toxicity under specific circumstances (California Ocean Plan, Appendix III). The California Ocean Plan provides conditions under which some of the above monitoring provisions may be waived by the Water Boards.

This General Permit requires dischargers with outfalls that discharge to ocean waters to comply with the California Ocean Plan's model monitoring provisions and

any additional monitoring requirements established pursuant to Water Code section 13383. Dischargers who have not developed and implemented a monitoring program in compliance with the California Ocean Plan's model monitoring provisions by July 1, 2015 or seven (7) days prior to commencing operations, whichever is later, are ineligible to obtain coverage under this General Permit.

2. Areas of Special Biological Significance (ASBS) Exception

The State Water Board adopted the California Ocean Plan (California Ocean Plan) in 1972, and has subsequently amended the Plan. The California Ocean Plan prohibits the discharge of waste to designated ASBS. ASBS are ocean areas designated by the State Water Board as requiring special protection through the maintenance of natural water quality. The California Ocean Plan states that the State Water Board may grant an exception to California Ocean Plan provisions where the State Water Board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.

On March 20, 2012, the State Water Board adopted Resolution 2012-0012 (ASBS Exception), which grants an exception to the California Ocean Plan prohibition on discharges to ASBS for a limited number of industrial storm water Discharger applicants. The ASBS Exception contains "Special Protections" to maintain natural water quality and protect the beneficial uses of the ASBS. In order to legally discharge into an ASBS, these Dischargers must comply with the terms of the ASBS Exception and obtain coverage under this General Permit. This General Permit incorporates the terms of the ASBS Exception and includes the applicable monitoring requirements for all Dischargers discharging to an ASBS under the ASBS Exception.

H. Training Qualifications

This General Permit and the previous permit both require Dischargers to ensure that personnel responsible for permit compliance have an acceptable level of knowledge. Stakeholders have observed that the previous permit did not adequately specify how to comply with various elements of the permit, such as selecting discharge locations representative of the facility storm water discharge and evaluating potential pollutant sources, nor did it provide a clearly outlined Discharger training program. Guidance that is available from outside sources can be complicated to understand or costly to obtain, which can result in many Dischargers developing and implementing deficient SWPPPs and conducting inadequate monitoring activities. Some Dischargers under the previous permit had the resources to hire professional environmental staff or environmental consultants to assist in compliance. Even in those cases, however, there was little certainty that Dischargers received training regarding implementation of the various BMPs being implemented and required monitoring activities under the previous permit. Through this General Permit, the State Water Board seeks to improve compliance and monitoring data quality, and expand each Discharger's understanding of this General Permit's requirements.

This General Permit establishes the Qualified Industrial Storm Water Practitioner (QISP) role. A QISP is someone who has completed a State Water Board sponsored or

approved QISP training course and has registered in SMARTS. A QISP is required to implement certain General Permit requirements at the facility once it has entered Level 1 status in the ERA process as described in Section XII of this General Permit. In some instances it may be advisable for a facility employee to take the training, or for a facility to hire a QISP prior to entering Level 1 status as the training will contain information on the new permit requirements and how to perform certain tasks such as selecting discharge locations representative of the facility storm water discharge, evaluating potential pollutant sources, and identifying inadequate SWPPP elements.

Some industry stakeholders have claimed that their staff is already adequately trained. These employees may continue to perform the basic permit functions (e.g. prepare SWPPPs, perform monitoring requirements, and prepare Annual Reports) without receiving any additional training if the facility's sampling and analysis results do not exceed the NALs. This requirement is structured in a manner to reduce the costs of compliance for facilities that may not negatively impact receiving water quality.

California licensed professional civil, industrial, chemical, and mechanical engineers and geologists have licenses that have professional overlap with the topics of this General Permit. The California Department of Consumer Affairs, Board for Professional Engineers, Land Surveyors and Geologists (CBPELSG) provides the licensure and regulation of professional civil, industrial, chemical, and mechanical engineers and professional geologists in California. The State Water Board is developing a specialized self-guided State Water Board-sponsored registration and training program specifically for these CPBELSG licensed engineers and geologists in good standing with CBPELSG. The CBPELSG has staff and resources dedicated to investigate and take appropriate enforcement actions in instances where a licensed professional engineer or geologist is alleged to be noncompliant with CBPELSG's laws and regulations. Actions that result in noncompliance with this General Permit may constitute a potential violation of the CBPELSG requirements and may subject a licensee to investigation by the CBPELSG.

A QISP may represent one or more facilities but must be able to perform the functions required by this General Permit at all times. It is advisable that this individual be limited to a specific geographic region due to the difficulty of performing the needed tasks before, during, and after qualifying storm events may be difficult or impossible if extensive travel is required. Dischargers are required to ensure that the designated QISP has completed the appropriate QISP training course.

This General Permit contains a mechanism that allows for the Water Boards' Executive Director or Executive Officer to rescind the registration of any QISPs who are found to be inadequately performing their duties as a QISP will no longer be able to do so. A QISP may ask the State Water Board to review any decision to revoke his or her QISP registration. Table 1 of this Fact Sheet below describes the different roles that the QISP and California licensed professional engineers have in this General Permit.

TABLE 1: Role-Specific Permit Requirements

Qualifications	Task
QISP	Assist New Dischargers determine coverage eligibility for Discharges to an impaired water body, Level 1 ERA Evaluation and report, Level 2 ERA Action Plan, and Technical Report, and the Level 2 ERA extension
California licensed professional engineer	Inactive Mining Operation Certification, SWPPPs for inactive mining, and annual re-certification of Inactive Mining Operation Certification, NONA Technical Reports, and Subchapter N calculations

I. Storm Water Pollution Prevention Plan (SWPPP)

1. General

This General Permit requires that all Dischargers develop, implement, and retain onsite a site-specific SWPPP. The SWPPP requirements generally follow U.S. EPA's five-phase approach to developing SWPPPs, which has been adapted to reflect the requirements of this General Permit in Figure 2 of this Fact Sheet. This approach provides the flexibility necessary to establish appropriate BMPs for different industrial activities and pollutant sources. This General Permit requires a Discharger to include in its SWPPP (Section X of this General Permit) a site map, authorized NSWDs at the facility, and an identification and assessment of potential pollutant sources resulting from exposure of industrial activities to storm water.

This General Permit requires that Dischargers clearly describe the BMPs that are being implemented in the SWPPP. In addition to providing descriptions, Dischargers must also describe who is responsible for the BMPs, where the BMPs will be installed, how often and when the BMPs will be implemented, and identify any pollutants of concern. Table 2 of this Fact Sheet provides an example of how a Discharger could assess potential pollution sources and provide a corresponding BMPs summary.

This General Permit requires that Dischargers select an appropriate facility inspection frequency beyond the required monthly inspections if necessary, and to determine if SWPPP revisions are necessary to address any physical or operational changes at the facility or make changes to the existing BMPs (Section X.H.4.a.vii and Section XI.A.4 of this General Permit). Facilities that are subject to multi-phased physical expansion or significant seasonal operational changes may require more frequent SWPPP updates and facility inspections. Facilities with very stable operations may require fewer SWPPP updates and facility inspections.

Failure to develop or implement an adequate SWPPP, or update or revise an existing SWPPP as required, is a violation of this General Permit. Failure to maintain the SWPPP on-site and have it available for inspection is also a violation of this General Permit.

Dischargers are also required to submit their SWPPPs and any SWPPP revisions via SMARTS; accordingly, BMP revisions made in response to observed compliance problems will be included in the revised SWPPP electronically submitted via SMARTS. Not all SWPPP revisions are significant and it is up to the Dischargers to distinguish between revisions that are significant and those that are not significant. If no changes are made at all to the SWPPP, the Discharger is not required to resubmit the SWPPP on any specific frequency.

- **Significant SWPPP Revisions:** Dischargers are required to certify and submit via SMARTS their SWPPP within 30 days of the significant revision(s). While it is not easy to draw a line generally between revisions that are significant and those that are not significant, Dischargers are not required to certify and submit via SMARTS any SWPPP revisions that are comprised of only typographical fixes or minor clarifications.
- **All Other SWPPP Revisions:** Dischargers are required to submit revisions to the SWPPP that are determined to not be significant every three (3) months in the reporting year.

FIGURE 2: Five Phases for Developing and Implementing an Industrial Storm Water Pollution Prevention Plan (SWPPP)

PLANNING AND ORGANIZATION

- *Form Pollution Prevention Team
- *Review other facility plans

ASSESSMENT

- *Develop a site map
- *Identify potential pollutant sources
- *Inventory of materials and chemicals
- *List significant spills and leaks
- *Identify Non-Storm Water Discharges
- *Assess pollutant risk

Best Management Practice (BMP) IDENTIFICATION

- *Identify minimum required BMPs
- *Identify any advanced BMPs

IMPLEMENTATION

- *Train employees for the Pollution Prevention Team
- *Implement BMPs
- *Collect and review records

EVALUATION / MONITORING

- *Conduct annual facility evaluation (Annual Evaluation)
- *Review monitoring information
- *Evaluate BMPs
- *Review and revise SWPPP

TABLE 2: Example - Assessment of Potential Industrial Pollution Sources and Corresponding BMPs Summary

Area	Activity	Pollutant Source	Industrial Pollutant	BMPs
Vehicle and Equipment Fueling	Fueling	Spills and leaks during delivery	Fuel oil	-Use spill and overflow protection
		Spills caused by topping off fuel tanks	Fuel oil	-Train employees on proper fueling, cleanup, and spill response techniques
		Hosing or washing down fuel area	Fuel oil	-Use dry cleanup methods rather than hosing down area -Implement proper spill prevention control program
		Leaking storage tanks	Fuel oil	-Inspect fueling areas regularly to detect problems
		Rainfall running off fueling area, and rainfall running onto and off fueling area	Fuel oil	-Minimize run-on of storm water into the fueling area, cover fueling area

2. Minimum and Advanced BMPs

Section V of this General Permit requires the Discharger to comply with technology-based effluent limitations (TBELs). In this General Permit, TBELs rely on implementation of BMPs for Dischargers to reduce and prevent pollutants in their discharge. The BMP effluent limitations have been integrated into the Section X.H of this General Permit and are divided into two categories – minimum BMPs which are generally non-structural BMPs that all Dischargers must implement to the extent feasible, and advanced BMPs which are generally structural BMPs that must be implemented if the minimum BMPs are inadequate to achieve compliance with the TBELs. Section X of this General Permit includes both substantive control requirements in the form of the BMPs listed in Section X.H, as well as various reporting and recordkeeping requirements. The requirement to implement BMPs “to the extent feasible” allows Dischargers flexibility when implementing BMPs, by not requiring the implementation of BMPs that are not technologically available and economically practicable and achievable in light of best industry practices.

The 2008 MSGP requires Dischargers to comply with 12 non-numeric technology-based effluent limits in Section 2.1.2 of the permit through the implementation of “control measures.” This requirement is an expansion of the general considerations outlined in the MSGP adopted in 2000. The control measures specified by the U.S. EPA in the 2008 MSGP are as follows (in order as listed in the 2008 MSGP):

1. Minimize Exposure
2. Good Housekeeping
3. Maintenance
4. Spill Prevention and Response Procedures
5. Erosion and Sediment Controls
6. Management of Runoff
7. Salt Storage Piles or Piles Containing Salt
8. Sector Specific Non-Numeric Effluent Limits
9. Employee Training
10. Non-Storm Water Discharges (NSWDs)
11. Waste, Garbage and Floatable Debris
12. Dust Generation and Vehicle Tracking of Industrial Materials

This General Permit addresses eleven of the above twelve control measures from the 2008 MSGP Section 2.1.2 Non-Numeric Technology-Based Effluent Limits (BPT/BAT/BCT). Eleven of the control measures are addressed as minimum BMPs that the State Water Board has determined to be most applicable to California’s Dischargers. Two of those eleven control measures (1- Minimize Exposure, 6 – Management of Runoff) are also identified as advanced BMPs (Section X.H.2 of this General Permit). This General Permit is not a sector-specific permit and therefore does not contain limitations to address control measure number 8 (Sector Specific Non-Numeric Effluent Limits).

The non-structural elements of the control measure to minimize exposure are addressed in the minimum BMP Section X.H.1 of this General Permit while structural control elements are addressed in the advanced BMP Section X.H.2 of this General Permit. The on-site diversion elements of the control measure to minimize exposure are addressed as minimum BMPs.

The runoff reduction elements of the control measure to minimize exposure are included as advanced BMPs. Advanced BMPs that are required to be implemented when a Discharger has implemented the minimum BMPs to the extent feasible and they are not adequate to comply with the TBELs. The advanced BMP categories are: (1) exposure minimization BMPs, (2) storm water containment and discharge reduction BMPs, (3) treatment control BMPs, and (4) additional advanced BMPs needed to meet the effluent limitations of this General Permit. Advanced BMPs are generally structural control measures and can include any BMPs that exceed the minimum BMPs. The control measure for Non-Storm Water Discharges (NSWDs) is addressed in both the discharge prohibitions (Section III) and authorized non-storm water discharges (Section IV) of this General Permit and essentially represents a minimum BMP.

This General Permit encourages Dischargers to utilize BMPs that infiltrate or reuse storm water where feasible. The State Water Board expects that these types of BMPs will not be appropriate for all industrial facilities, but recognizes the many possible benefits (e.g. increased aquifer recharge, reduces flooding, improvements to water quality) associated with the infiltration and reuse of storm water. Encouraging the use of storm water infiltration and reuse BMPs is consistent with the statewide approach to managing storm water with lower impact methods.

The BMPs in this General Permit that coincide with the control measures in the 2008 MSGP are as follows (in order as listed in the 2008 MSGP):

a. Minimization of Exposure to Storm Water

Section 2.1.2.1 of the 2008 MSGP requires Dischargers to minimize the exposure of industrial materials and areas of industrial activity to rain, snow, snowmelt, and runoff. The 2008 MSGP mixes both structural and nonstructural BMPs and specifies particular BMPs to consider when minimizing exposure such as grading/berming areas to minimize runoff, locating materials indoors, spill clean up, contain vehicle fluid leaks or drain fluids before storing vehicles on-site, secondary containment of materials, conduct cleaning activities undercover, indoors or in bermed areas, and drain all wash water to a proper collection system.

This General Permit requires the evaluation of BMPs in the potential pollutant source assessment in the SWPPP (Section X.G.2). When the minimum BMPs are not adequate to comply with the TBELs, Dischargers are required to implement advanced BMPs (Section X.H.2.a). These advanced BMPs may include additional exposure minimization BMPs (Section X.H.2.b.1).

b. Good Housekeeping

Section 2.1.2.2 of the 2008 MSGP requires that Dischargers keep all exposed areas that may be a potential source of pollutants clean and orderly. This General Permit (Section X.H.1.a) seeks to define “clean and orderly” by specifying a required set of nine (9) minimum good housekeeping BMPs, which include: observations of outdoor/exposed areas, BMPs for controlling material tracking, BMPs for dust generated from industrial materials or activities, BMPs for rinse/wash water activities, covering stored industrial materials/waste, containing all stored non-solid industrial materials, preventing discharge of rinse/wash waters/industrial materials, prevent non-industrial area discharges from contact with industrial areas of the facility, and prevent authorized NSWDS from non-industrial areas from contact with industrial areas of the facility.

c. Preventative Maintenance

Section 2.1.2.3 of the 2008 MSGP requires that Dischargers regularly inspect, test, maintain, and repair all industrial equipment to prevent leaks, spills and releases of pollutants that may be exposed to storm water discharged to receiving waters. This General Permit (Section X.H.1.b) incorporates this

concept by requiring four (4) nonstructural BMPs which include: identification and inspection of equipment, observations of potential leaks in identified equipment, an equipment maintenance schedule, and equipment maintenance procedures.

d. Spill and Leak Prevention and Response

Section 2.1.2.4 of the 2008 MSGP requires that Dischargers minimize the potential for leaks, spills and other releases that may be exposed to storm water. Dischargers are also required to develop a spill response plan which includes procedures such as labeling of containers that are susceptible to a spill or a leakage, establishing containment measures for such industrial materials, procedures for stopping leaks/spills, and provisions for notification of the appropriate personnel about any occurrence. This General Permit (Section X.H.1.c) requires implementation of four (4) BMPs to address spills. These BMPs include: developing a set of spill response procedures to minimize spills/leaks, develop procedures to minimize the discharge of industrial materials generated through spill/leaks, identifying/describing the equipment needed and where it will be located at the facility, and identify/training appropriate spill response personnel.

e. Erosion and Sediment Controls

Section 2.1.2.5 of the 2008 MSGP requires the use of structural and/or non-structural control measures to stabilize exposed areas and contain runoff. Also required is the use of a flow velocity dissipation device(s) in outfall channels where necessary to reduce erosion and/or settle out pollutants. This General Permit (Section X.H.1.e) requires the implementation of (5) BMPs to prevent erosion and sediment discharges. The erosion and sediment control BMPs include: implementing effective wind erosion controls, providing for effective stabilization of erodible areas prior to a forecasted storm event, site entrance stabilization/prevent material tracking offsite and implement perimeter controls, diversion of run-on and storm water generated from within the facility away from all erodible materials, and ensuring compliance with the design storm standards in Section X.H.6. U.S. EPA has developed online resources for erosion and sediment controls.⁶

f. Management of Runoff

Section 2.1.2.6 of the 2008 MSGP requires the diversion, infiltration, reuse, containment, or otherwise reduction of storm water runoff, to minimize pollutants in discharges. This General Permit (Sections X.H.1.a.viii, X.H.1.d.iv., and

⁶ U.S. EPA. 2008 MSGP. <<http://cfpub.epa.gov/npdes/stormwater/msgp.cfm>> [as of February 4, 2014].
 U.S. EPA. National Menu of BMPs. <<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>>.
 [as of February 4, 2014].
 U.S. EPA. National Management Measures to Control Nonpoint Source Pollution from Urban Areas
 <<http://water.epa.gov/polwaste/nps/urban/index.cfm>>. [as of February 4, 2014].

X.H.1.e.iv) requires Dischargers to divert run-on from non-industrial sources and manage storm water generated within the facility away from industrial materials and erodible surfaces. Runoff reduction is required as an advanced BMP when minimum BMPs are not adequate to comply with the TBELs. The 2008 MSGP encouraged Dischargers to consult with EPA's internet-based resources relating to runoff management.⁷

g. Salt Storage Piles or Piles Containing Salt

Section 2.1.2.7 of the 2008 MSGP requires salt storage piles/piles containing salt that may be discharged to be enclosed or covered and to use BMPs when the salt is being used. This General Permit does not have a minimum BMP specifically for salt storage, however it does require all stockpiled/stored industrial materials be managed in a way to reduce or prevent industrial storm water discharges of the stored/stockpiled pollutants. The good housekeeping (Section X.H.1.a) and material handling and waste management (Section X.H.1.d) minimum BMPs in this General Permit require that all materials readily mobilized by storm water be covered, the minimization of handling of industrial materials or wastes that can be readily mobilized by contact with storm water during a storm event, and the diversion of run-on from stock piled materials.

h. Sector Specific Non-Numeric Effluent Limits

Section 2.1.2.8 of the 2008 MSGP requires Dischargers to achieve any additional non-numeric limits stipulated in the relevant sector-specific section(s) of Part 8 of the 2008 MSGP. This General Permit is not a sector-specific permit and does not contain sector-specific non-numeric effluent limitations like the 2008 MSGP. While this General Permit does not specify sector-specific BMPs, Dischargers are required to select and implement BMPs for their specific facility to reduce or prevent industrial storm water discharges of pollutants to comply with the technology-based effluent limitations. In addition, sectors with applicable ELGs must comply with those ELGs.

i. Employee Training Program

Section 2.1.2.9 of the 2008 MSGP requires all employees engaged in industrial activities or the handling of industrial materials that may affect storm water to obtain training covering implementation of this General Permit. This General Permit (Section X.D.1 and X.H.1.f) requires a facility to establish a Pollution Prevention Team (team members, collectively) responsible for implementing permit requirements such as the SWPPP, monitoring requirements, or BMPs.

⁷ U.S. EPA. Sector-Specific Industrial Stormwater Fact Sheet Series <www.epa.gov/npdes/stormwater/msgp>. [as of February 4, 2014].
U.S. EPA. National Menu of Stormwater BMPs <www.epa.gov/npdes/stormwater/menuofbmps> [as of February 4, 2014].
U.S. EPA. National Management Measures to Control Nonpoint Source Pollution from Urban Areas (and any similar State or Tribal publications) <www.epa.gov/owow/nps/urbanmm/index.html>. [as of February 4, 2014].

The five (5) minimum training BMPs include: ensuring that all team members are properly trained, preparing the proper training materials and manuals, identifying which individuals need to be trained, providing a training schedule, and maintaining documentation on the training courses and which individuals received the training.

This General Permit also requires a QISP to be assigned to each facility that reaches Level 1 status. One purpose of a QISP is to have an individual available who can provide compliance assistance with these training requirements. The QISP is responsible for training the appropriate team members. Appropriate team members are any team members involved in implementing this General Permit for drainage areas causing NAL exceedances, and any other team members identified by the QISP that need additional training to implement this General Permit.

j. NSWDs

Section 2.1.2.10 of the 2008 MSGP requires that unauthorized NSWDs are eliminated (Part 1.2.3 of the 2008 MSGP lists the NSWDs authorized by the 2008 MSGP). The good housekeeping minimum BMP (Section X.H.1.a.ix of this General Permit) requires that contact between authorized NSWDs and industrial areas of the facility be minimized. This General Permit (Section IV) also includes separate requirements for authorized NSWDs and (Section III) prohibits unauthorized NSWDs.

k. Material Handling and Waste Management

Section 2.1.2.11 of the 2008 MSGP requires that Dischargers ensure waste, garbage, and floatable debris are not discharged into receiving waters. The 2008 MSGP identifies keeping areas clean and intercepting such materials as ways to minimize such discharges. This General Permit (Section X.H.1.d) requires Dischargers to implement six (6) general BMPs that address material handling and waste management. These BMPs include: preventing or minimizing handling of waste or materials during a storm event that could potentially result in a discharge, containing industrial materials susceptible to being dispersed by the wind, covering industrial waste disposal containers when not in use to contain industrial materials, diversion of run-on and storm water generated from within the facility away from all stock piled materials, cleaning and managing spills of such wastes or materials (in accordance with Section X.H.1.e of this General Permit), and conducting observations of outdoor areas and equipment that may come into contact with such materials or waste and become contaminated.

l. Waste, Garbage and Floatable Debris

Section 2.1.2.11 of the 2008 MSGP requires that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged. Material handling and waste management BMPs are included in Section X.H.1.d of this General Permit. Dischargers are required to: prevent handling of waste materials during a storm event that could result in a discharge, contain waste disposal

containers when not in use, clean and manage spills from waste, and observe outdoor areas and equipment that may come into contact with waste and become contaminated.

m. Dust Generation and Vehicle Tracking of Industrial Materials

Section 2.1.2.12 of the 2008 MSGP requires that generation of dust and off-site tracking of raw, final, or waste materials is minimized. This General Permit does not require minimization of dust generation and vehicle tracking of industrial materials as a minimum BMP directly. Dust generation and vehicle tracking of industrial materials BMPs are included in Section X.H.1.a (“good housekeeping”) of this General Permit where Dischargers must prevent dust generation from industrial materials or activities and contain all stored non-solid industrial materials that can be transported or dispersed via wind or come in contact with storm water, and Section X.H.1.d. (“material handling and waste management”) of this General Permit, which requires Dischargers to contain non-solid industrial materials or wastes that can be dispersed via wind erosion or come into contact with storm water during handling.

n. Quality Assurance and Record Keeping

Section 2.1.2 of the 2008 MSGP does not directly designate record keeping as a control measure. This General Permit (Section X.H.1.g) includes quality assurance and record keeping as a minimum BMP and requires Dischargers to implement three (3) general BMPs. These BMPs include: developing and implementing procedures to ensure that all elements of the SWPPP are implemented, develop a method of tracking and recording the implementation of all BMPs identified in the SWPPP, and a requirement to keep and maintain those records. This ensures that management procedures are designed and permit requirements are implemented by appropriate staff.

o. Implementation of BMPs in the SWPPP

Like the previous permit, this General Permit does not assign Dischargers a schedule to implement BMPs. Instead, this General Permit requires Dischargers to select the appropriate schedule to implement the minimum BMPs. In addition, this General Permit requires Dischargers to identify, as necessary, any BMPs that should be implemented prior to precipitation events. Although Dischargers are required to maintain internal procedures to ensure the BMPs are implemented according to schedule or prior to precipitation events, Dischargers are only required to certify in the Annual Report whether they complied with the BMP implementation requirements.

Dischargers are required to implement an effective suite of BMPs that meet the technology and water-quality based limitations of this General Permit. Based upon Regional Water Board staff inspections, there is significant variation between Dischargers’ interpretations of what BMPs were necessary to comply with the previous permit. This General Permit establishes a new requirement that Dischargers must implement, to the extent feasible, specific minimum BMPs

to reduce or prevent the presence of pollutants in their industrial storm water discharge. In addition, due to the wide variety of facilities conducting numerous and differing industrial activities throughout the state, this General Permit retains the requirement from the previous permit that Dischargers establish and implement additional BMPs beyond the minimum. Implementation of this General Permit's minimum BMPs, together with any necessary advanced BMPs, will result in compliance with the effluent limitations of this General Permit (Section V.A). All Dischargers must evaluate their facilities and determine the best practices within their industry considering technological availability and economic practicability and achievability to implement these minimum BMPs and any advanced BMPs.

The State Water Board has selected minimum BMPs that are generally applicable at all facilities. The minimum BMPs are consistent with the types of BMPs normally found in properly developed SWPPPs and, in most cases, should represent a significant portion of the effort required for a Discharger to achieve compliance. Due to the diverse industries covered by this General Permit, the development of a more comprehensive list of minimum BMPs is not currently feasible. The selection, applicability, and effectiveness of a given BMP is often related to industrial activity type and to facility-specific facts and circumstances. Advanced BMPs must be selected and implemented by Dischargers, based on the type of industry and facility-specific conditions, to the extent necessary to comply with the technology-based effluent limitation requirements of this General Permit.

Failure to implement all of the minimum BMPs to the extent feasible is a violation of this General Permit. (Section X.H.1.) Dischargers must justify any determination that it is infeasible to implement a minimum BMP in the SWPPP (Section X.H.4.b). Failure to implement advanced BMPs necessary to achieve compliance with either the technology or water quality standards requirements in this General Permit is a violation of this General Permit.

p. Temporary Suspension of Industrial Activities

The exception for inactive and unstaffed sites in section 6.2.1.3 of the 2008 MSGP does not require a Discharger with a facility that is inactive and unstaffed with no industrial materials or activities exposed to storm water (in accordance with the substantive requirements in 40 Code of Federal Regulations section 122.26(g)) to complete benchmark monitoring. The Discharger is required to sign and certify a statement in the SWPPP verifying that the site is inactive and unstaffed. If circumstances change and industrial materials or activities become exposed to storm water or the facility becomes active and/or staffed, this exception no longer applies and the Discharger is required to begin complying immediately with the applicable benchmark monitoring requirements under part 6.2 of the 2008 MSGP.

This General Permit allows Dischargers to temporarily suspend monitoring at facilities where industrial activities have been suspended in accordance with Section X.H.3. This is only intended for Dischargers with facilities where it is

infeasible to comply with this General Permit's monitoring while activities are suspended (e.g. remote, unstaffed, or inaccessible facilities during the time of such a suspension). Dischargers are required to update the facility's SWPPP with the BMPs being used to stabilize the site and submit the suspension dates and a justification for the suspension of monitoring via SMARTS.

3. Design Storm Standards for Treatment Control BMPs

It is the State Water Board's intent to minimize the regulatory uncertainty and costs concerning treatment control BMPs in order to encourage the implementation of treatment control BMPs when appropriate. Section X.H.6 of this General Permit specifies a design storm standard for use when treatment controls BMPs are installed. There is both a volume-based and flow-based design storm standard in this General Permit. Both are based on the 85th percentile 24-hour storm event. Without a design storm standard, Dischargers have installed treatment controls using a wide variety of designs that were sometimes either unnecessarily stringent/expensive, or deficient in complying with the requirements of the relevant permit. Some Dischargers have been hesitant to consider treatment options because of the uncertainty concerning acceptable treatment design. The design storm standards are generally expected to:

- Be consistent with the effluent limitations of this General Permit;
- Be protective of water quality;
- Be achievable for most pollutants and their associated treatment technologies; and,
- Reduce the costs associated with treating industrial storm water discharges beyond the levels necessary to achieve compliance with this General Permit.

In lieu of complying with the design storm standards for treatment control BMPs, Dischargers may certify and submit a Level 2 ERA Technical Report, including an Industrial Activity BMPs Demonstration (Section XII.D.2.a of this General Permit). The Level 2 ERA Technical Report requirement is based upon NAL exceedances. Under this option, a Discharger with Level 2 status must either implement BMPs to eliminate future NAL exceedances, or justify what BMPs must be implemented to comply with this General Permit even if the BMPs will not eliminate future exceedances of NALs. Dischargers who implement treatment control BMPs that vary from the design storm standards in Section X.H.6 must include an analysis showing that their treatment control BMPs comply with this General Permit's effluent limitations in the Industrial Activity BMP Demonstration.

This General Permit does not require Dischargers to retrofit existing treatment controls that do not meet the design storm standard, unless the Discharger determines that the existing treatment controls are not adequate to comply with this General Permit. In addition, once TMDL-specific implementation requirements are added to this General Permit, those Dischargers subject to TMDLs may need to add

new or retrofitted treatment control BMPs to meet the TMDL implementation requirements.

To arrive at these design storm standards, the State Water Board has relied heavily on previous Water Board decisions concerning treatment efficacy for municipalities, published documents, stakeholder comments, and reasonableness. In 2000, the State Water Board issued State Water Board Order WQ 2000-11, which upheld Los Angeles Regional Water Board's permit requirements which mandated that all new development and redevelopment exceeding certain size criteria design treatment BMPs based on a specific storm volume: the 85th percentile 24-hour storm event. This design storm standard was based on research demonstrating that the standard represents the maximized treatment volume cut-off at the point of diminishing returns for rainfall/runoff frequency.⁸ On the basis of this equation, the maximized runoff volume for 85 percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inch depending on the imperviousness of the watershed area and the mean amount of rainfall. This design storm standard is referred to as the Standard Urban Storm Water Mitigation Plan's volumetric criterion and there are multiple acceptable methods of calculating this volume. For more information, see the California Stormwater Best Management Practices Handbook.⁹

The San Diego Regional Water Board first established both volumetric and flow-based design storm criteria for NPDES MS4 permits. It is generally accepted by civil engineers doing hydrology work to use twice the peak hourly flow of a specific storm event to use as the basis for flow-based design of BMPs. This General Permit therefore establishes the flow-based design storm standard to be twice the peak hourly flow of the 85th percentile 24-hour storm event.

The primary objective of specifying a design storm standard is to properly size BMPs to, at a minimum, effectively treat the first flush of run-off from all storm events. The economic impacts of treating all storm water from a facility versus the minimal environmental benefit of complete treatment justify the design storm approach. It is unrealistic to require each facility to do a cost benefit analysis of their treatment structures. To simplify the requirements for design, the State Water Board reviewed research from the City of Portland¹⁰ and the City of San Jose¹¹ to determine the volume of each rain event compared to the amount of events that occur for that volume. The results of their findings show an inflection point that is typically found at approximately the 80 to 85 percentile of recorded storm events.

⁸ California Regional Water Quality Control Board Los Angeles Region, Standard Urban Storm Water Mitigation Plans and Numerical Design Standards for Best Management Practices - Staff Report and Record of Decision (Jan. 18, 2000) <http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/stormwater/susmp/susmp_final_staff_report.pdf>. [as of February 4, 2014].

⁹ California Stormwater Quality Association, Stormwater Best Management Practice New Development and Redevelopment Handbook (2003) <<http://www.casqa.org/>>. [as of February 4, 2014].

¹⁰ City of Portland Oregon. Portland Stormwater Management Manual Appendix E.1: Pollution Reduction Methodology E.1-1 (August 1, 2008). <<http://www.portlandoregon.gov/bes/article/202909>>. [as of February 4, 2014].

¹¹ California Stormwater Quality Association (CASQA). CASQA BMP Handbook (January 2003) New Development and Redevelopment (Errata 9-04) <<http://www.casqa.org/>>. [as of February 4, 2014].

Dischargers should be aware of the potential unintended public health concerns associated with treatment control BMPs. Extensive monitoring studies conducted by the California Department of Public Health (CDPH) have documented that mosquitoes opportunistically breed in structural BMPs, particularly those that hold standing water for over 96 hours. BMPs that produce mosquitoes create potential public health concerns and increase the burden on local vector control agencies that are mandated to inspect for and abate mosquitoes and other vectors within their jurisdictional boundaries. These unintended consequences can be lessened when BMPs incorporate design, construction, and maintenance principles developed specifically to minimize standing water available to mosquitoes¹² while having negligible effects on the capacity of the structures to provide water quality improvements. The California Health and Safety Code prohibits landowners from knowingly providing habitat for or allowing the production of mosquitoes and other vectors, and gives local vector control agencies broad inspection and abatement powers.¹³

Dischargers who install any type of volume-based treatment device are encouraged to consider the BMPs in the California Department of Public Health's guidance manual published July 2012, "Best Management Practices for Mosquito Control in California" at <http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf>.

4. Monitoring Implementation Plan

Dischargers are required to prepare and implement a Monitoring Implementation Plan (Section X.I of this General Permit). The Monitoring Implementation Plan requirements are designed to assist the Discharger in developing a comprehensive plan for the monitoring requirements in this General Permit and to assess their monitoring program. The Monitoring Implementation Plan includes a description of visual observation procedures and locations, as well as sampling procedures, locations, and methods. The Monitoring Implementation Plan shall be included in the SWPPP.

J. Monitoring and Reporting Requirements

1. General Monitoring Provisions

This General Permit requires Dischargers to develop and implement a facility-specific monitoring program. Monitoring is defined as visual observations, sampling and analysis. The monitoring data will be used to determine:

¹² California Department of Public Health. (2012). Best Management Practices for Mosquito Control in California. <<http://www.westnile.ca.gov/resources.php>>. [as of February 4, 2014]

¹³ California Health & Safety Code, Division 3, Section 2060 and following.

- a. Whether BMPs addressing pollutants in industrial storm water discharges and authorized NSWDS are effective for compliance with the effluent and receiving water limitations of this General Permit,
- b. The presence of pollutants in industrial storm water discharges and authorized NSWDS (and their sources) that may trigger the implementation of additional BMPs and/or SWPPP revisions; and,
- c. The effectiveness of BMPs in reducing or preventing pollutants in industrial storm water discharges and authorized NSWDS.

Effluent sampling and analysis information may be useful to Dischargers when evaluating the need for improved BMPs. The monitoring requirements in this General Permit recognize the 2008 MSGP approach to visual observations as an effective monitoring method for evaluating the effectiveness of BMPs at most facilities. Section 6.2 of the 2008 MSGP limits its monitoring sampling requirements to certain industrial categories. Similar to the previous permit, this General Permit requires all Dischargers to sample unless they have obtained NEC coverage or have an inactive mining operation(s) certified as allowed under this General Permit Section XIII.

This General Permit defines a Qualifying Storm Event (QSE) to provide clarity to Dischargers of when sampling is required. The previous permit (Section B.5.a) specified that sampling was required within the first hour of discharge, however, this General Permit requires Dischargers to sample within four hours of the start of Discharge. Many Dischargers were not able to get samples of their discharge locations within one (1) hour under the previous permit so this general permit has expanded the timeframe allowed to provide enough time to sample all discharge locations. The previous permit required three working dry days before sampling and this General Permit defines this period as 48 hours, this timeframe was decreased to provide more opportunities for Dischargers to obtain samples. This General Permit does not specify a volume for sampling due to the complexity of using rain gauges and the limited access of rain gauge station data.

Dischargers are only required to obtain samples required during scheduled facility operating hours and when sampling conditions are safe in accordance with Section XI.C.6.a.ii of this General Permit. If a storm event occurs during unscheduled facility operating hours (e.g. during the weekend or night) and during the 12 hours preceding the scheduled facility operating hours, the Dischargers is still responsible for obtaining samples at discharge locations that are still producing a discharge at the start of facility operations. Under the previous permit, many Dischargers were unable to obtain samples due to rainfall beginning at night.

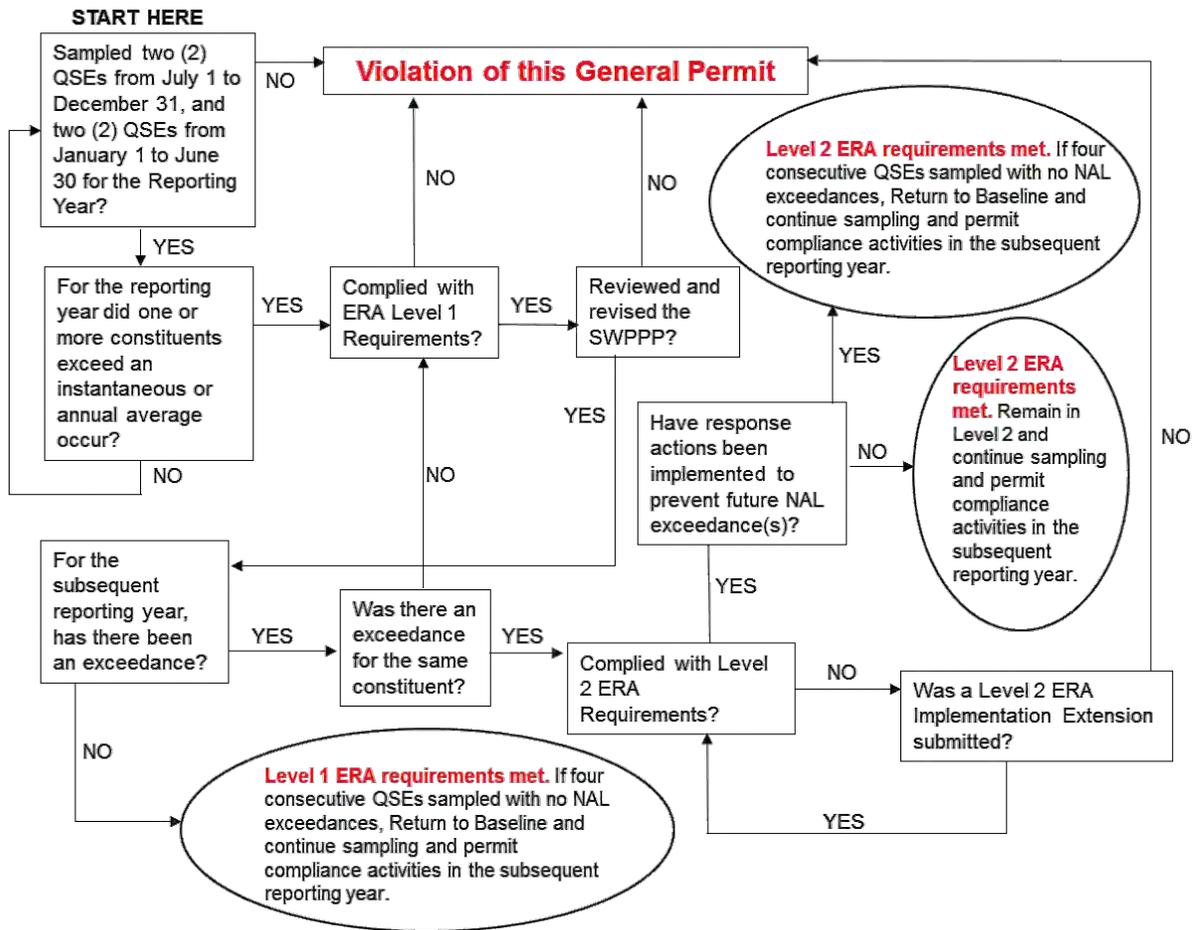
The State Water Board recognizes that it may not be feasible for all facilities to obtain four QSEs in a reporting year because there may not be enough qualifying storm events to do so. Therefore, a Discharger that is unable to collect and analyze storm water samples from two QSEs in each half of a reporting year due to a lack of QSEs is not in violation of Section XI.B.2. Dischargers that miss four QSEs during

a reporting year due to the fact that four QSEs did not occur are not required to make up these sampling events in subsequent reporting years.

The State Water Board recognizes that each facility has unique physical characteristics, industrial activities, and/or variations in BMP implementation and performance which warrants the requirement that each facility demonstrate its compliance. Figure 3 of this Fact Sheet provides a summary of all the monitoring-related requirements of this General Permit. This General Permit's monitoring requirements include sampling and analysis requirements for specific indicator parameters that indicate the presence of pollutants in industrial storm water discharges. The "indicator parameters" are oil and grease (for petroleum hydrocarbons), total suspended solids (for sediment and sediment bound pollutants) and pH (for acidic and alkaline pollutants). Additionally, Dischargers are required to evaluate their facilities and analyze samples for additional facility-specific parameters. These monitoring program requirements are designed to provide useful, cost-effective, timely, and easily obtained information to assist Dischargers as they identify their facility's pollutant sources and implement corrective actions and revise BMPs as necessary (Section XI.A.4 of this General Permit).

This General Permit requires a combination of visual observations and analytical monitoring. Visual observations provide Dischargers with immediate information indicating the presence of many pollutants and their sources. Dischargers must implement timely actions and revise BMPs as necessary (Section XI.A.4) when the visual observations indicate pollutant sources have not been adequately addressed in the SWPPP. Analytical monitoring provides an additional indication of the presence and concentrations of pollutants in storm water discharge. Dischargers are required to evaluate potential pollutant sources and corresponding BMPs and revise the SWPPP appropriately when specific types of NAL exceedances occur as described below.

FIGURE 3: Compliance Determination Flowchart



2. Visual Observations

There are two major changes to the visual observation requirements in this General Permit compared to the previous permit, which include:

a. Monthly Visual Observations

The previous permit required separate quarterly visual observations for unauthorized and authorized non-storm water discharges. It did not require periodic visual observations of the facility to determine whether all potential pollutant sources were being adequately controlled with BMPs. Prior drafts of this General Permit proposed the addition of pre-storm inspections. This was met with great resistance by Dischargers because of the complexity and burden of determining when a QSE would occur. Many of these Dischargers recommended that monthly BMP and non-storm water discharge visual observations should replace the proposed pre-storm inspections. This General Permit merges all visual observations into a single monthly visual observation.

b. Sampling Event Visual Observations

The previous permit required monthly storm water visual observations. This required Dischargers to conduct visual observations for QSEs that were not being sampled since only two QSEs were required to be sampled in the previous permit. As discussed below, the sampling requirement has been increased to four QSEs within each reporting year with two QSEs required in each half of the reporting year. We expect that this will result in more samples being collected and analyzed, since most of California experiences, on average, at least two QSEs per half year. This General Permit streamlines the storm water visual observation requirement by linking the visual observations to the time of sampling.

3. Sampling and Analysis

a. General

As part of the process for developing previous drafts of this General Permit, the State Water Board considered comments from numerous stakeholders concerning sampling and analysis. Sampling and analysis issues were the most dominant of all issues raised in the comments.

The State Water Board received stakeholder comments that fall into three primary categories concerning this General Permit's sampling and analysis approach:

- i. Comments supporting an intensive water quality sampling and analysis approach (with the goal of producing more accurate discharge-characterizing and pollutant concentration data) as the primary method of determining compliance with effluent limitations and receiving water limitations. Since this approach requires large amounts of high quality data to accurately quantify the characteristics of the discharges, it is referred to as the quantitative monitoring approach. Stakeholders supporting the quantitative approach generally also support the use of stringent NELs to evaluate compliance with this General Permit;
- ii. Comments supporting only visual observations as the primary method of determining compliance: These stakeholders generally assert that storm water sampling is an incomplete and not very cost effective means of determining water quality impacts on the receiving waters; and,
- iii. Comments supporting a combination of visual observations and cost-effective water quality sampling and analysis approach (sampling and analysis that would produce data indicating the presence of pollutants) to determine compliance (similar to the previous permit's approach). Since this approach uses more qualitative information to describe the quality and characteristics of the discharges, it is referred to as the qualitative monitoring approach.

Within each of the three categories, there are various recommendations and rationales as to the exact monitoring frequencies, procedures and methods, required to implement the approach. Stakeholders in favor of the quantitative monitoring approach commented that it is the only reliable and meaningful

method of assuring that: (1) BMPs are effective in reducing or preventing pollutants in storm water discharge in compliance with BAT/BCT, and (2) the discharge is not causing or contributing to an exceedance of a water quality standards. The stakeholders state that visual observations are not effective in measuring pollutant concentrations nor is it effective in determining the presence of colorless and/or odorless pollutants. The stakeholders state that qualitative monitoring (and the use of indicator parameters) will not provide results useful for calculating pollutant loading nor will it accurately characterize the discharge.

Stakeholders in favor of requiring only visual observations state that sampling and analysis is unnecessary because (1) the previous permit did not include NELs so the usefulness of sampling and analysis data is limited, (2) a significant majority of Dischargers should be able to develop appropriate BMPs without sampling and analysis data, (3) most pollutant sources and pollutants can be detected and mitigated through visual observations, (4) the costs associated with quantitative monitoring are excessive and disproportionate to any benefits, (5) U.S. EPA's storm water regulations do not require sampling, (6) The 2008 MSGP relies heavily on visual observations and requires only a limited number of specific industries to conduct sampling and analysis, and (7) the majority of Dischargers are small businesses and do not have sufficient training or understanding to perform accurate sampling and analysis.

Stakeholders in favor of requiring both visual observations and a cost-effective qualitative monitoring program state that (1) both are within the means and understanding of most Dischargers, and (2) monitoring results are useful for evaluating a Discharger's compliance without unnecessarily increasing the burden on the Discharger and without subjecting Dischargers to non-technical enforcement actions.

The State Water Board finds that it is feasible for the majority of Dischargers to develop appropriate BMPs without having to perform large amounts of quantitative monitoring, which can be very costly. In the absence of implementing NELs, the State Water Board has determined that the infeasibility and costs associated with developing quantitative monitoring programs at each of thousands industrial facilities currently permitted would outweigh the limited benefits. The primary difficulty associated with requiring intensive quantitative monitoring lies with the cost and the difficulty of accurately sampling industrial storm water discharges.

Stakeholders that support quantitative monitoring believe the data is necessary to determine pollutant loading, concentration, or contribution to water quality violations. In order to derive data necessary to support those goals, however, the data must be of high quality, meaning it must be accurate, precise and have an intact chain of custody. Many industrial facilities do not have well-defined storm water conveyance systems for sample collection. Storm water frequently discharges from multiple locations through sheet flow into nearby streets and adjoining properties. Sample collection from a portion of the sheet flow is an inexact measurement since not all of the flow is sampled. Requiring every Discharger to construct well-defined storm water conveyances may cost

anywhere from thousands to hundreds of thousands of dollars per facility depending on the size and nature of each industrial facility. At many facilities, the construction of such conveyances may also violate local building codes, create safety hazards, cause flooding, or increase erosion. In addition, eliminating sheet flow at some facilities could result in increased pollutant concentrations.

The State Water Board has considered the complexity and costs associated with quantitative monitoring. Unlike continuous point source discharges (e.g., publicly owned treatment works), storm water discharges are variable in intensity and duration. The concentration of pollutants discharged at any one time is dependent on many complex variables. The largest concentration of pollutants would be expected to discharge earlier in the storm event and taper off as discharges continue. Therefore, effective quantitative monitoring of storm water discharges would require that storm water discharges be collected and sampled until most or all of the pollutants have been discharged. Multiple samples would need to be collected over many hours. To determine the pollutant mass loading, the storm water discharge flow must also be measured each time a sample is collected.

For a quantitative monitoring approach to yield useful pollutant loading information, the installation of automatic sampling devices and flow meters at each discharge location would usually be necessary. In addition, qualified individuals would be needed to conduct the monitoring procedures, and to handle and maintain flow meters and automatic samplers are needed. A significant majority of storm water Dischargers under this General Permit do not possess the skills to manage such an effort. Dischargers will bear the cost of employing and/or training on-site staff to do this work, or the cost of contracting with environmental consultants and acquiring the required flow meters and automatic samplers. The cost to Dischargers to conduct quantitative monitoring varies depending on the number of outfalls, the number of storms, the length of each storm, the amount of staff training, and other variables.

To address these concerns, this General Permit includes a number of new items that bridge the gap between the previous permit's qualitative monitoring and the quantitative approach recommended by many commenters. This General Permit includes a requirement for all Dischargers to designate a QISP when they enter Level 1 status due to NAL exceedances. The QISP is required to be trained to: (1) more accurately identify discharge locations representative of the facility storm water discharge (2) select and implement appropriate sampling procedures (3) evaluate and develop additional BMPs to reduce or prevent pollutants in the industrial storm water discharges.

Dischargers that fail to develop and implement an adequate Monitoring Implementation Plan that includes both visual observations and sampling and analysis, are in violation of this General Permit. Dischargers that fail to comply with Level 1 status and Level 2 status ERA requirements, triggered by NAL exceedances, are in violation of this General Permit.

Water Code section 13383.5 requires that the State Water Board include (1) standardized methods for collection of storm water samples, (2) standardized methods for analysis of storm water samples, (3) a requirement that every sample analysis be completed by a State certified laboratory or in the field in accordance with Quality Assurance and Quality Control (QA/QC) protocols, (4) a standardized reporting format, (5) standardized sampling and analysis programs for QA/QC, and (6) minimum detection limits. The monitoring requirements in this General Permit (Section XI), as supplemented by SMARTS, address these requirements.

Under the previous permit, many Dischargers did not developed adequate sample collection and handling procedures, decreasing the quality of analytical results. In addition, Dischargers often selected inappropriate test methods, method detection limits, or reporting units. This General Permit requires all Dischargers to identify discharge locations that are representative of industrial storm water discharges and develop and implement reasonable sampling procedures to ensure that samples are not mishandled or contaminated.

It is infeasible for the State Water Board to provide a single comprehensive set of sample collection and handling procedures/instructions due to the wide variation in storm water conveyance and collection systems in use at facilities around the state. As an alternative, Attachment H of this General Permit provides minimum storm water sample collection and handling instructions that pertain to all facilities. Dischargers are required to develop facility-specific sample collection and handling procedures based upon these minimum requirements. Table 2 in this General Permit provides the minimum test methods that shall be used for a variety of common pollutants. Dischargers must be aware that use of more sensitive test methods (e.g., U.S. EPA Method 1631 for Mercury) may be necessary if they discharge to an impaired water body or are otherwise required to do so by the Regional Water Board. This General Permit allows Dischargers to propose an analytical test method for any parameter or pollutant that does not have an analytical test method specified in Table 2 or in SMARTS. Dischargers may also propose analytical test methods with substantially similar or more stringent method detection limits than existing approved analytical test methods. Upon approval, SMARTS will be updated over time to add additional acceptable analytical test methods.

The previous permit allowed Dischargers to reduce sampling analysis requirements for substantially similar drainage areas by either (1) combining samples for an unspecified maximum number of substantially similar drainage areas, or (2) sampling a reduced number of substantially similar drainage areas. The State Water Board provided this procedure to reduce analytical costs. The complexity associated with determining substantially similar drainage areas has led Dischargers to produce various, and sometimes questionable, analytical schemes. In addition, the previous permit did not establish a maximum number of samples that could be combined.

To standardize sample collection and analysis as required by Water Code section 13383.5, while continuing to offer a reduced analytic cost option, these

requirements have been revised. Section XI.B.4 of this General Permit requires Dischargers to collect samples from all discharge locations regardless of whether the discharges are substantially similar or not. Dischargers may analyze each sample collected, or may analyze a combined sample consisting of equal volumes, collected from as many as four (4) substantially similar discharge locations. A minimum of one combined sample shall be analyzed for every one (1) to four (4) discharge locations, and the samples shall be combined in the lab in accordance with Section XI.C.5 of this General Permit.

Representative sampling is only allowed for sheet flow discharges or discharges from drainage areas with multiple discharge locations. Dischargers shall select the appropriate location(s) to be sampled and intervals necessary to obtain samples representative of storm water associated with industrial activities generated within the corresponding drainage area. Dischargers are not required to sample discharge locations that have no exposure of industrial activities or materials as defined in Section XVII of this General Permit within the corresponding drainage area. However, Dischargers are required to conduct the monthly visual observations regardless of the selected locations to be sampled.

This General Permit defines a QSE as a precipitation event that produces a discharge from any drainage area that is preceded by 48 consecutive hours without a discharge from any drainage area. The previous permit did not include a QSE definition; instead, it utilized a different approach to defining the storm events that were required to be sampled. Under the previous permit, eligible storm events were storm events that occurred after three consecutive working days of dry weather. The three consecutive working days of dry weather definition in the previous permit led Dischargers to miss many opportunities to sample. Some Dischargers were unable to collect samples from two storm events in certain years under the previous definition. To resolve this difficulty, this General Permit increases the sampling requirements to four (4) QSEs per year, while decreasing the number of days without a discharge, resulting in additional opportunities for Dischargers to sample. Additionally, by eliminating the previous permit's reference to "dry weather," this General Permit allows some precipitation to occur between QSEs so long as there is no discharge from any drainage area. This change will result in more QSE sampling opportunities.

To improve clarity and consistency, the definitions contained in other storm water permits were considered with the goal of developing a standard definition for 'dry weather' for this General Permit. The 2008 MSGP sets a "measurable storm event" as one that produces at least 0.1 inches of precipitation and results in an actual discharge after 72 hours (three days) of dry weather. The State of Washington defines a "qualifying storm event" as a storm with at least 0.1 inches of precipitation preceded by at least 24 hours of no measurable precipitation, mirroring the definition found in the previous MSGP (2000 version). The State of Oregon requires that samples be taken in the first 12 hours of discharge and no less than 14 days apart. Review of other permits concludes that there is not a single commonly used approach to triggering sampling in industrial general permits. Therefore an enforceable sampling trigger is included in this General

permit that requires Dischargers to sample four storm events within each reporting year.

b. Effluent Water Quality Sampling and Analysis Parameters

Dischargers are required to sample and analyze their effluent for certain parameters. "Parameter" is a term used in laboratory analysis circles to represent a distinct, reportable measure of a particular type. For example, ammonia, hexavalent chromium, total nitrogen and chemical oxygen demand are all parameters that a laboratory can analyze storm water effluent for and report a quantity back. A parameter is also an indicator of pollution. In this General Permit, pH, total suspended solids and chemical oxygen demand are examples of indicator parameters. They are not direct measures of a water quality problem or condition of pollution but can be used to indicate a problem or condition of pollution. Indicator parameters can also be used to indicate practices and/or the presence of materials at a facility to bring forth information for compliance evaluation processes, like annual report review and inspection. For example, chemical oxygen demand concentrations can indicate the presence of dissolved organic compounds, like residual food from collected recycling materials.

Minimum parameter-specific monitoring is required for Dischargers, regardless of whether additional facility-specific parameters are selected. This General Permit requires some parameters to be analyzed and reported for the duration of permit coverage to develop comparable sampling data over time and over many storm events and to demonstrate compliance. The Regional Water Boards may use such data to evaluate individual facility compliance and assess the differences between various industries. Accordingly, the parameters selected correspond to a broad range of industrial facilities, are inexpensive to sample and analyze, and have sampling and analysis methods which are easy to understand and implement. Some analytical methods for field measurements of some parameters, such as pH, may be performed using relatively inexpensive field instruments and provides an immediate alert to possible pollutant sources.

The following three selected minimum parameters are considered indicator parameters, regardless of facility type. These parameters typically provide indication and/or the correlation of whether other pollutants are present in storm water discharge. These parameters were selected for the following reasons:

- i. pH is a numeric measurement of the hydrogen-ion concentration. Many industrial facilities handle materials that can affect pH. A sample is considered to have a neutral pH if it has a value of 7. At values less than 7, water is considered acidic; above 7 it is considered alkaline or basic. Pure rain water in California typically has a pH value of approximately 7.
- ii. Total Suspended Solids (TSS) is an indicator of the un-dissolved solids that are present in storm water discharge. Sources of TSS include sediment from erosion, and dirt from impervious (i.e., paved) areas. Many pollutants adhere to sediment particles; therefore, reducing sediment will reduce the amount of these pollutants in storm water discharge.

- iii. Oil and Grease (O&G) is a measure of the amount of O&G present in storm water discharge. At very low concentrations, O&G can cause sheen on the surface of water. O&G can adversely affect aquatic life, create unsightly floating material, and make water undrinkable. Sources of O&G include, but are not limited to, maintenance shops, vehicles, machines and roadways.

The previous permit allowed Dischargers to analyze samples for either O&G or Total Organic Carbon (TOC). This General Permit requires all Dischargers analyze samples for O&G since almost all Dischargers with outdoor activities operate equipment and vehicles can potentially generate insoluble oils and greases. Dischargers with water soluble-based organic oils may be required to also test for TOC. The TOC and O&G tests are not synonymous, duplicative or interchangeable.

This General Permit removes the requirement to analyze for specific conductance as part of the minimum analytic parameters. Specific conductance is not required by U.S. EPA for any industry type. Additionally, stakeholder comments indicate that there are many non-industrial sources that may cause high specific conductance and interfere with the efficacy of the test. For example, salty air deposition that occurs at facilities in coastal areas may raise the specific conductance in water over 500 micro-ohms per centimeter ($\mu\text{hos/cm}$). Dischargers are not prevented from performing a specific conductance test as a screening tool if it is useful to detect a particular pollutant of concern as required (e.g. salinity).

This General Permit requires Dischargers subject to Subchapter N ELGs for pH to analyze for pH using approved test methods in accordance with 40 Code of Federal Regulations part 136. These federal regulations specify that analysis of pH must take place within 15 minutes of sample collection. All other Dischargers may screen for pH using wide range litmus pH paper or other equivalent pH test kits within 15 minutes of sample collection. If in any reporting year a Discharger has two or more pH results outside of the range of 6.0 – 9.0 pH units, that Discharger is required to comply with the approved test methods in 40 Code of Federal Regulations part 136 in subsequent reporting years.

For almost all Dischargers, obtaining laboratory analysis within 15 minutes is logistically impossible. For many Dischargers, maintaining a calibrated pH meter is difficult, labor intensive, and error prone. Screening for pH will limit the number of additional Dischargers required to comply with 40 Code of Federal Regulations part 136 methods to those that have pH measures outside the range of 6.0-9.0 pH units. The use of wide range litmus pH paper or other equivalent pH test kits is not as accurate as a calibrated pH meter, however litmus paper is allowed in the 2008 MSGP, and when used properly it can provide an accurate screening measure to determine if further more-accurate pH sampling is necessary to determine compliance.

Review of available monitoring data shows that storm water discharges from most types of industrial facilities comply with the pH range of 6.0 to 9.0 pH units. There are specific types of industries, like cement or concrete manufacturers that

have shown a trend of higher pH values very close to 9.0 pH units. Rather than require all industries as a whole to monitor with the more costly 40 Code of Federal Regulations part 136 methods, this General Permit establishes a triggering mechanism for these more advanced pH test methods. The Regional Water Boards retain their authority to require more accurate test methods. Once a Discharger triggers the requirement to use the more accurate testing methods in 40 Code of Federal Regulations part 136, the Discharger may not revert back to screening for pH for the duration of coverage under this General Permit.

In the early 1990s, U.S. EPA, through its group application program, evaluated nationwide monitoring data and developed the listed parameters and SIC associations shown in Table 1 of this General Permit. The 2008 MSGP requires that Dischargers analyze storm water effluent for the listed parameters under certain conditions. In addition to the parameters in Table 1 of this General Permit, Dischargers are required to select additional facility-specific analytical parameters to be monitored, based upon the types of materials that are both exposed to and mobilized by contact with storm water. Dischargers must, at a minimum, understand how to identify industrial materials that are handled outdoors and which of those materials can easily dissolve or be otherwise transported via storm water.

The Regional Water Boards have the authority to revise the monitoring requirements for an individual facility or group of facilities based on site-specific factors including geographic location, industry type, and potential to pollute. For example, the Los Angeles Regional Water Board required all dismantlers (SIC Code 5015) within their jurisdiction to monitor for copper and zinc instead of aluminum and iron during the term of the previous permit. SMARTS will be programmed to incorporate any monitoring revisions required by the Regional Water Boards. Dischargers will receive email notification of the monitoring requirement revision and their SMARTS analytical reporting input screen will display the corresponding revisions. Dischargers may add, but not otherwise modify, the sampling parameters on their SMARTS input screen.

Dischargers are also required to identify pollutants that may cause or contribute to an existing exceedance of any applicable water quality standards for the receiving water. This General Permit requires Dischargers to control its discharge as necessary to meet the receiving water limitations, and to select additional monitoring parameters that are representative of industrial materials handled at the facility (regardless of the degree of storm water contact or relative mobility) that may be related to pollutants causing a water body to be impaired.

4. Methods and Exceptions

a. Storm Water Discharge Locations

Dischargers are required to visually observe and collect samples of industrial storm water discharges from each drainage area at all discharge locations. These samples must be representative of the storm water discharge leaving each drainage area. This is a change from the previous permit which allowed a

Discharger to reduce the number of discharge locations sampled if two or more discharge locations were substantially similar.

Dischargers are required to identify, when practicable, alternate discharge locations if: (1) the facility's industrial drainage areas are affected by storm water run-on from surrounding areas that cannot be controlled, or (2) discharge locations are difficult to observe or sample (e.g. submerged discharge outlets, dangerous discharge location accessibility).

b. Representative Sampling Reduction

Some stakeholders have indicated that there are unique circumstances where sampling a subset of representative discharge locations fully characterizes the full set of storm water discharges. Stakeholders provided examples related to drainage areas with multiple discharge locations where sampling only a subset of these discharge locations produces results that are representative of the drainage areas' storm water discharges. In such situations, this General Permit allows Dischargers to reduce the number of discharge locations. For each drainage area with multiple discharge locations (e.g. roofs with multiple downspouts, loading/unloading areas with multiple storm drain inlets), the Discharger may reduce the number of discharge locations to be sampled if the conditions in Section XI.C.4 of this General Permit are met.

c. Qualified Combined Samples

Dischargers may combine samples from up to four (4) discharge locations if the industrial activities within each drainage area and each drainage area's physical characteristics (i.e. grade, surface materials) are substantially similar.

Dischargers are required to provide documentation in the Monitoring Implementation Plan supporting that the above conditions have been evaluated and fulfilled. A Discharger may combine samples from more than four (4) discharge locations only with approval from the appropriate Regional Water Board.

d. Sample Collection and Visual Observation Exceptions

Dischargers are not required to collect samples or conduct visual observations during dangerous weather conditions such as flooding or electrical storms, or outside of scheduled facility operating hours. A Discharger is not precluded from conducting sample collection activities or visual observations outside of scheduled facility operating hours.

In the event that a Discharger is unable to collect the required samples or conduct visual observations due to the above exceptions, the Discharger must include an explanation of the conditions obstructing safe monitoring in its Annual Report. If access to a discharge location is dangerous on a routine basis, a Discharger must choose an alternative discharge location in accordance with General Permit Section XI.C.3.

e. Sampling Frequency Reduction

Facilities that do not have NAL exceedances for four (4) consecutive QSEs are unlikely to pose a significant threat to water quality. If the storm water from these facilities is also in full compliance with this General Permit, the Discharger is eligible for a reduction in sampling frequency. The Sampling Frequency Reduction allows a Discharger to decrease its monitoring from four (4) samples within each reporting year to one (1) QSE within the first half of each reporting year (July 1 to December 31) and one (1) QSE within the second half of each reporting year (January 1 to June 30). If a Discharger has a subsequent NAL exceedance after the Sampling Frequency Reduction, it must comply with the original sampling requirements of this General Permit. Only Dischargers that have baseline status or that have satisfied the Level 1 requirements are eligible for this sampling and analysis reduction.

A Discharger requesting to reduce its sampling frequency shall certify and submit a Sampling Frequency Reduction certification via SMARTS. The Sampling Frequency Reduction certification shall include documentation that the General Permit conditions for the Sampling Frequency Reduction have been satisfied.

Dischargers participating in a Compliance Group and certifying a Sampling Frequency Reduction are only required to collect and analyze storm water samples from one (1) QSE within each reporting year. These Dischargers must receive year-round compliance assistance from their Compliance Group Leader and must comply with all requirements of this General Permit.

5. Facilities Subject to Federal Storm Water Effluent Limitation Guidelines (ELGs)

Federal regulations at Subchapter N establish ELGs for industrial storm water discharges from facilities in eleven industrial sectors. For these facilities, compliance with the ELGs constitutes compliance with the technology standard of BPT, BAT, BCT, or New Source Performance Standards provided in the ELG for the specified pollutants, and compliance with the technology-based requirements in this General Permit for the specified pollutant.

K. Exceedance Response Actions (ERAs)

1. General

The previous permit did not incorporate the benchmarks from any of the MSGPs or NALs for Dischargers to evaluate sampling results. Unlike the requirements for industrial storm water discharges that cause or contribute to an exceedance of a water quality standards, the previous permit did not provide definitions, procedures or guidelines to assess sampling results. Many Regional Water Boards have formally or informally notified Dischargers that exceedances of the MSGP benchmarks should be used to determine whether additional BMPs are necessary. However, there was considerable confusion as to the extent to which a Discharger would be expected to implement actions in response to exceedances of these values, and the timelines that had to be met to prevent an enforcement action. The lack of specificity with regards to what constituted an exceedance, and what actions

are required in response to an exceedance, have been identified as a problem by the Water Boards, industry and environmental stakeholders.

This General Permit contains two (2) types of NALs. Annual NALs function similarly to, and are based upon, the values provided in the 2008 MSGP. Instantaneous maximum NALs target hot spots or episodic discharges of pollutants and are established based on California industrial storm water discharge monitoring data. When a Discharger exceeds an NAL it is required to perform ERAs. The ERAs are divided into two levels of responses and can generally be differentiated by the number of years in which a facility's discharge exceeds an NAL trigger. These two levels are explained further in Section XII of this General Permit. This ERA process provides Dischargers with an adaptive management-based process to develop and implement cost-effective BMPs that are protective of water quality and compliant with this General Permit. This process is also designed to provide Dischargers with a more defined pathway towards full compliance.

The ERA requirements in this General Permit were developed using best professional judgment and Water Board experience with the shortcomings of the previous permit's compliance procedures. Public comments received during State Water Board hearings on the 2002, 2005, 2011, 2012 and 2013 draft permits, and NPDES industrial storm water discharge permits from other states with well-defined ERA requirements were also considered by the State Water Board.

The State Water Board presumes that one single NAL exceedance for a particular parameter is not a clear indicator that a facility's discharge is out of compliance with the technology-based effluent limitations or receiving water limitations. This presumption recognizes the highly variable nature of storm water discharge and the limited value of a single quarterly grab sample to represent the quality of a facility's storm water discharge for an entire storm event and all other non-sampled storm events. With this presumption, the State Water Board is addressing costly monitoring requirements that do not bring forth valuable compliance and/or water quality information.

2. NALs and NAL Exceedances

a. This General Permit contains two types of NAL exceedances as follows:

Annual NAL exceedance - the Discharger is required to calculate the average annual concentration for each parameter using the results of all sampling and analytical results for the entire facility for the reporting year (i.e., all "effluent" data), and compare the annual average concentration to the corresponding Annual NAL values in Table 2 of this General Permit. An annual NAL exceedance occurs when the annual average of all the sampling results for a parameter taken within a reporting year exceeds the annual NAL value for that parameter listed in Table 2 of this General Permit.

For the purposes of calculating the annual average concentration for each parameter, this General Permit considers any sampling result that are a "non-detect" or less than the method detection limit as a zero (0) value. The reason to use zero (0) values instead of the detected but not quantifiable

value (minimum level or reporting limit) is that these values are very low and are unlikely to contribute to an NAL exceedance. There are statistical methods to include low values when calculations are for numeric criteria and limitations, however, the NALs in this General Permit are approximate values used to provide feedback to the Discharger on site performance, and are not numeric criteria or limitations. Therefore, it is not necessary to include these insignificant values in the calculations for the NALs. For Dischargers using composite sampling or flow measurement in accordance with standard practices, the average concentrations shall be calculated in accordance with the U.S. EPA Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Multi-Sector Storm Water General Permit.¹⁴

- i. Instantaneous maximum NAL exceedance - the Discharger is required to compare all sampling and analytical results from each distinct sample (individual or combined) to the corresponding instantaneous maximum NAL values in Table 2 of this General Permit. An instantaneous maximum NAL exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the instantaneous maximum NAL value (for TSS and O&G), or are outside of the instantaneous maximum NAL range (for pH).

b. Instantaneous maximum NAL analysis

In its June 19, 2006 report, the Blue Ribbon Panel of Experts (Panel) made several specific recommendations for how to set numeric limitations in future industrial storm water general permit(s). For sites not subject to TMDLs, the Panel suggested that the numeric values be based upon industry types or categories, with the recognition that each industry has its own specific water quality issues and financial viability. Furthermore, the Panel concluded:

To establish Numeric Limits for industrial sites requires a reliable database, describing current emissions by industry types or categories, and performance of existing BMPs. The current industrial permit has not produced such a database for most industrial categories because of inconsistencies in monitoring or compliance with monitoring requirements. The Board needs to reexamine the existing data sources, collect new data as required and for additional water quality parameters (the current permit requires only pH, conductivity, total suspended solids, and either total organic carbon or oil and grease) to establish practical and achievable Numeric Limits.

The Panel suggested an alternative method that would allow the use of the existing Water Board dataset to establish action levels, referred to as the “ranked percentile” method. The Panel recommended:

¹⁴ U.S. EPA. NPDES Storm Water Sampling Guidance Document. Web. July 1992. <<http://www.epa.gov/npdes/pubs/owm0093.pdf>>. [as of February 4, 2014].

The ranked percentile approach (also a statistical approach) relies on the average cumulative distribution of water quality data for each constituent developed from many water quality samples taken for many events at many locations. The Action Level would then be defined as those concentrations that consistently exceed some percentage of all water quality events (i.e. the 90th percentile). In this case, action would be required at those locations that were consistently in the outer limit (i.e. uppermost 10th percentile) of the distribution of observed effluent qualities from urban runoff.

After performing various data analysis exercises with the Water Board dataset, State Water Board staff concluded that the Water Board dataset is not adequate to calculate instantaneous NAL values using the Panel's recommended method for all of parameters that have annual NAL values based on the U.S. EPA benchmarks. Additionally, public comments on the January 2011 draft of this General Permit suggest that it is problematic to calculate NAL values based on the existing data. Therefore, the Water Board dataset was not used to calculate instantaneous NAL values for all parameters.

However, since all Dischargers regulated under the previous permit were required to sample for TSS and O&G/TOC, State Water Board staff found that the existing dataset for these parameters is of sufficient quality to calculate instantaneous NAL values. State Water Board staff also found that this data was less prone to what appear to be data input errors. The final dataset used to calculate the instantaneous NALs in this General Permit had outlier values that were eliminated from the dataset by using approved test method detection limits ranges. The methods and corresponding method detection limit ranges used to screen outliers are as follows:

- O&G - EPA 413.1 Applicable Range: 5-1,000 mg/L
- O&G - EPA 1664 Applicable Range: 5-1,000 mg/L
- TSS - EPA 160.2 Applicable Range: 4-20,000 mg/L

The intent of the instantaneous maximum NAL is to identify specific drainage areas of concern or episodic sources of pollution in industrial storm water that may indicate inadequate storm water controls and/or water quality impacts. In the effort to add instantaneous NAL exceedances to the ERA process, the State Water Board explored different options for the development of an appropriate value (i.e. percentile approach, benchmarks times a multiplier, confidence intervals). The California Stormwater Quality Association's comments on the previous draft permit included a proposed method for calculating NAL values using a percentile approach. The State Water Board researched and evaluated this methodology and determined it is the most appropriate way to directly compare available electronic sampling data from Dischargers regulated under the previous permit. This percentile approach was used to establish the instantaneous maximum NALs in this General Permit, for discharges to directly compare with sampling results and identify drainage areas of water quality concern.

The percentile approach is a non-parametric approach identified in many statistical textbooks for determining highly suspect values. Highly suspect values are defined as values that exceed the limits of the outer fences of a box plot. Upper limits of the outer fence are calculated by adding three times the inter-quartile range (25th to 75th percentiles) to the upper-end of the inter-quartile range (the 75th percentile). The California Stormwater Quality Association calculated an NAL value of 401 mg/L for TSS using the percentile approach using the Water Board dataset. The State Water Board performed the same analysis with the same Water Board dataset and calculated a slightly different value of 396 mg/L; therefore, the instantaneous maximum NAL value for TSS of 400 mg/L was established. Applying the percentile approach to the existing O&G data results in the instantaneous maximum NAL value for O&G of 25 mg/L.

The State Water Board compared existing sampling data to the instantaneous maximum NAL values and concluded that seven (7) percent of the total samples exceeded the highly suspected value for TSS and 7.8 percent of the total samples exceeded the highly suspected value for O&G. These results suggest that the instantaneous maximum NAL values are adequate to identify drainage areas of concern statewide since they are not regularly exceeded. Using best professional judgment, the State Water Board concludes that an exceedance of these values twice within a reporting year is unlikely to be the result of storm event variability or random BMP implementation problems, and the use of the percentile approach is therefore appropriate.

Due to issues with the ranges of concentrations and the logarithmic nature of pH, statistical methods cannot be applied to pH in the same ways as other parameters. Review of storm water sampling data by the State Water Board and other stakeholders has shown that pH is not typically a parameter of concern for most industrial facilities. Accordingly, a range of pH limits established in Regional Water Board Basin Plans is implemented in this General Permit for the instantaneous maximum NAL values. Most Basin Plans set a water quality objective of 6.0 - 9.0 pH units for water bodies, an exceedance outside the range of 6.0 - 9.0 pH units is consistent with the water quality concerns for pH among Regional Water Boards. An industrial facility with proper BMP implementation is expected to have industrial storm water discharges within the range of 6.0 - 9.0 pH units.

High concentrations of TSS and O&G, or pH values outside the range of 6.0 – 9.0 pH units, in a discharge may be an indicator of potential BMP implementation or receiving water quality concerns with other pollutants with parameters that do not have an instantaneous maximum NAL value. The State Water Board may consider instantaneous maximum NAL values for other parameters in a subsequent reissuance of this General Permit, based on data collected during this General Permit term.

The percentile approach is considered by many stakeholders to be the best method to evaluate BMP performance and general effluent quality in a community or population where the vast majority of the industrial facilities are implementing sufficient pollutant control measures. The Water Board's current

dataset does not provide a way of evaluating actual BMP implementation at each facility when analyzing the data; therefore the monitoring information reported during the previous permit term cannot be linked to compliance with technology-based standards. The State Water Board intends to use data collected during this General Permit term to evaluate the percentile approach, improve the quality of collected data for other parameters, and further develop an understanding of how reported data relates to implemented BMP-control technologies.

Under this General Permit, a Discharger enters Level 1 status and must fulfill the Level 1 status ERA requirements following its first occurrence of any NAL exceedance. Level 2 status ERA requirements follow the second occurrence of an NAL exceedance for the same parameter in a subsequent reporting year. This ERA process provides Dischargers with an adaptive management-based process to develop and implement cost-effective BMPs that are protective of water quality and compliant with this General Permit. This General Permit's ERA process is designed to have a well-defined compliance end-point. It is not a violation of this General Permit to exceed the NAL values; it is a violation of the permit, however, to fail to comply with the Level 1 status and Level 2 status ERA requirements in the event of NAL exceedances.

The State Water Board acknowledges that storm water discharge concentrations are often highly variable and dependent upon numerous circumstances such as storm size, the time elapsed since the last storm, seasonal activities, and the time of sample collection. Since there are potential enforcement consequences for failure to comply with this General Permit's ERA process, the State Water Board's intention is to use NAL exceedances to solely require Dischargers with recurring annual NAL exceedances or drainage areas that produce recurring instantaneous maximum NAL exceedances to be subject to the follow-up ERA requirements.

If NALs exceedances do not occur, the State Water Board generally expects that the Discharger has implemented sufficient BMPs to control storm water pollution. When NAL exceedances do occur, however, the potential that the Discharger may not have implemented appropriate and/or sufficient BMPs increases, and the Discharger is required to implement escalating levels of ERAs. If NAL exceedances occur, this General Permit requires Dischargers to evaluate and potentially install additional BMPs, or re-evaluate and improve existing BMPs to be in compliance with this General Permit.

3. Baseline Status

At the beginning of a Discharger's NOI coverage under this General Permit, the Discharger has Baseline status. A Discharger demonstrating compliance with all NALs will remain at Baseline status and is not required to complete Level 1 status and Level 2 status ERA requirements.

If a Discharger has returned to Baseline status (from Level 2 status) and additional NAL exceedances occur, the Discharger goes into Level 1 status, then potentially

Level 2 status. Dischargers do not go directly into Level 2 status from Baseline status.

4. Level 1 Status

Regardless of when an NAL exceedance occurs during Baseline status, a Discharger's status changes from Baseline status to Level 1 status on July 1 of the subsequent reporting year. By October 1 following the commencement of Level 1 status, the Discharger is required to appoint a QISP to assist with the completion of the Level 1 Evaluation. The Level 1 Evaluation must include a review of the facility's SWPPP for compliance with the effluent and receiving water limitations of this General Permit, an evaluation of the industrial pollutant sources at the facility that are or may be related to the NAL exceedance(s), and identification of any additional BMPs that will eliminate future exceedances. When conducting the Level 1 Evaluation, a Discharger must ensure that all potential pollutant sources that could be causing or contributing to the NAL exceedance(s) are fully characterized, that the current BMPs are adequately described, that employees responsible for implementing BMPs are appropriately trained, and that internal procedures are in place to track that BMPs are being implemented as designed in the SWPPP. A Discharger is additionally required to evaluate the need for additional BMPs. Level 1 ERAs are designed to provide the Discharger the opportunity to improve existing BMPs or add additional BMPs to comply with the requirements of this General Permit.

By January 1 following commencement of Level 1 status, a Discharger is required to certify and submit via SMARTS a Level 1 ERA Report prepared by a QISP. The Level 1 ERA Report must contain a summary of the Level 1 Evaluation, all new or revised BMPs added to the SWPPP.

In most cases, the State Water Board believes that Level 1 status BMPs will be operationally related rather than structural and, therefore can be implemented without delay. Recognizing that a Discharger should not be penalized for sampling results obtained before implementing BMPs, sampling results for parameters and their corresponding drainage areas that caused the NAL exceedance up to October 1 or the date the BMPs were implemented, whichever is sooner, will not be used for calculating NAL exceedances. Although this General Permit allows up to January 1 to implement Level 1 status BMPs, the State Board has chosen an interim date of October 1 to encourage more timely Level 1 BMP implementation. Dischargers who implement Level 1 BMPs after October 1 may risk obtaining subsequent sampling results that may cause them to go into Level 2 status.

5. Level 2 Status

Level 2 ERAs are required during any subsequent reporting year in which the same parameter(s) has an NAL exceedance (annual average or instantaneous maximum), if this occurs, a Discharger's status changes from Level 1 status to Level 2 status on July 1 of the subsequent reporting year. Dischargers with Level 2 status must further evaluate BMP options for their facility. Dischargers may have to implement additional BMPs, which may include physical, structural, or mechanical devices that

are intended to prevent pollutants from contacting storm water. Examples of such controls include, but are not limited to:

- Enclosing and/or covering outdoor pollutant sources within a building or under a roofed or tarped outdoor area.
- Physically separating the pollutant sources from contact with run-on of uncontaminated storm water.
- Devices that direct contaminated storm water to appropriate treatment BMPs (e.g., discharge to sanitary sewer as allowed by local sewer authority).
- Treatment BMPs including, but not limited to, detention ponds, oil/water separators, sand filters, sediment removal controls, and constructed wetlands.

Dischargers may select the most cost-effective BMPs to control the discharge of pollutants in industrial storm water discharges. Where appropriate, BMPs can be designed and targeted for various pollutant sources (e.g., providing overhead coverage for one potential pollutant while discharging to a detention basin for another source may be the most cost-effective solution).

a. Level 2 ERA Action Plans

The State Water Board acknowledges that there may be circumstances that make it difficult, if not impossible, for a Discharger to immediately implement additional BMPs. For example, it may take time to get a contract for construction in place, obtain necessary building permits, and design and construct the BMPs. Dischargers may also suspect that pollutants are from a non-industrial or natural background source and need time to study their site. A Discharger is required to certify and submit an Action Plan prepared by a QISP via SMARTS by January 1 following the reporting year in which the NAL exceedance that resulted in the Discharger entering Level 2 occurred. The Level 2 ERA Action Plan requires a Discharger to propose actions necessary to complete the Level 2 ERA Technical Report, the demonstrations the Discharger has selected, and propose a time frame for implementation.

If a Discharger changes the QISP assisting with the Level 2 ERA requirements this General Permit requires the Discharger to update the QISP information via SMARTS. Current information on individuals assisting Dischargers with compliance of this General Permit provides the Water Boards with the necessary contact information if there are questions on the submitted documents, and for possible verification of a QISP's certification.

Dischargers are required to address each Level 2 NAL exceedance in an Action Plan. The State Water Board recognizes that Dischargers with Level 2 status may have multiple parameters or facility areas that have Level 2 NAL exceedances and the timing of the exceedances may make it very difficult to address all Level 2 NAL exceedances in one Action Plan. When Level 2 ERA exceedances occur in subsequent reporting years, after an Action Plan is

certified and submitted, a Discharger will need to develop an Action Plan for this new Level 2 NAL exceedance. This General Permit defines new Level 2 NAL exceedances as an exceedance for a new parameter in any drainage area at the facility, or an exceedance for the same parameter being addressed in an existing Action Plan, but where the exceedance occurred in a different drainage area than identified in the existing Action Plan.

b. Level 2 ERA Technical Reports

The Level 2 ERA Technical Report contains three different options that require a Discharger to submit demonstrations showing the cause of the NAL exceedance(s). This General Permit requires a Discharger to appoint a QISP to prepare the Level 2 ERA Technical Reports. The State Water Board acknowledges that there may be cases where a combination of the demonstrations may be appropriate; therefore a Discharger may combine any of the following three demonstration options in their Level 2 ERA Technical Report when appropriate. A Discharger is only required to annually update its Level 2 ERA Technical Report when necessary as defined in Section XII.D.3.c of this General Permit, and is not required to annually re-certify and re-submit the entire Level 2 ERA Technical Report. If there are no changes prompting an update of the Level 2 ERA Technical Report, as specified in Section XII.D.3.c of this General Permit, the Discharger will provide this certification in the Annual Report that there have been no changes warranting re-submittal of the Level 2 ERA Technical Report.

i. Industrial Activity BMPs Demonstration

The Industrial Activity BMPs Demonstration is for the following:

- Dischargers who decided to implement additional BMPs that are expected to eliminate future NAL exceedance(s) and that have been implemented in order to achieve compliance with the technology-based effluent limitations of this General Permit, and
- Dischargers who decided to implement additional BMPs that may not eliminate future NAL exceedance(s) and that have been implemented in order to achieve compliance with the technology-based effluent limitations of this General Permit.

When preparing the Industrial Activity BMPs Demonstration, the QISP shall identify and evaluate all individual pollutant source(s) associated with industrial activity that are or may be related to an NAL exceedance and all designed, information on the drainage areas associated with the Level 2 NAL exceedances, and installed BMPs that are implemented to reduce or prevent pollutants in industrial storm water discharges in compliance with this General Permit.

If an Industrial Activity BMPs Demonstration is submitted as the Level 2 ERA Technical Report and the Discharger is able to show reductions in pollutant concentrations below the NALs for four (4) subsequent consecutive QSEs, the Discharger returns to Baseline Status. A Discharger that submits an Industrial Activity BMPs Demonstration but has not installed additional BMPs that are expected to eliminate future NAL exceedance(s) will remain with Level 2 status but is not subject to additional ERAs unless directed by the Regional Water Board.

ii. Non-Industrial Pollutant Source Demonstration

A Non-Industrial Pollutant Source Demonstration is for a Discharger to demonstrate that the pollutants causing the NAL exceedances are not related to industrial activities conducted at the facility, and additional BMPs at the facility will not contribute to the reduction of pollutant concentrations.

Dischargers including the Non-Industrial Pollutant Demonstration in their Level 2 ERA Technical Report shall have a QISP determine that the sources of non-industrial pollutants in storm water discharges are not from industrial activity or natural background sources within the facility.

Sources of non-industrial pollutants that are discharged separately and are not comingled with storm water associated with industrial activity are not considered subject to this General Permit's requirements. When pollutants from non-industrial sources are comingled with storm water associated with industrial activity, the Discharger is responsible for all the pollutants in the combined discharge unless the technical report clearly demonstrates that the NAL exceedances due to the combined discharge are solely attributable to the non-industrial sources. The pollutant may also be present due to industrial activities, in which case the Discharger must demonstrate that the pollutant contribution from the industrial activities by itself does not result in an NAL exceedance. In most cases, the Non-Industrial Pollutant Source Demonstration will contain sampling data and analysis distinguishing the pollutants from non-industrial sources from the pollutants generated by industrial activity.

Once the Level 2 ERA Technical Report, including this demonstration is certified and submitted via SMARTS, the Discharger has satisfied all the requirements necessary for that pollutant for ERA purposes. A Discharger that submits a Non-Industrial Pollutant Demonstration remains with Level 2 status but is not subject to additional ERAs unless directed by the Regional Water Board.

iii. Natural Background Pollutant Source Demonstration

The benchmark monitoring schedule in section 6.2.1.2 of the 2008 MSGP allows a Discharger to determine that the exceedance of the benchmark is attributable solely to the presence of that pollutant in the natural background. A Discharger making this determination is not required to perform corrective

action or additional benchmark monitoring providing that the other 2008 MSGP requirements are met. The 2008 MSGP Fact Sheet requires Dischargers to include in the following in the SWPPP: 1) map(s) showing the reference site location, facility, available land cover information, reference site and test site elevation, available geology and soil information for reference and test sites, photographs showing site vegetation, site reconnaissance survey data and records. This General Permit requires this information to be included in the Natural Background Pollutant Source Demonstration in Section XII.D.2.c.

The Natural Background Pollutant Source Demonstration in this General Permit is for a Discharger that can demonstrate that pollutants causing the NAL exceedances are not related to industrial activities conducted at the facility, and are solely attributable to the presence of those pollutants in natural background. The pollutant may also be present due to industrial activities, in which case the Discharger must demonstrate that the pollutant contribution from the industrial activities by itself does not result in an NAL exceedance. Natural background pollutants include those substances that are naturally occurring in soils or groundwater that have not been disturbed by industrial activities. Natural background pollutants do not include legacy pollutants from earlier activity on a site, or pollutants in run-on from neighboring sources which are not naturally occurring. Dischargers are not required to reduce concentrations for pollutants in the effluent caused by natural background sources if these pollutants concentrations are not increased by industrial activity.

The 2008 MSGP Fact Sheet states that the background concentration of a pollutant in runoff from a non-human impacted reference site in the same watershed must be determined by evaluation of ambient monitoring data or by using information from a peer-reviewed publication or a local, state, or federal government publication specific to runoff or storm water in the immediate region. Studies that are in other geographic areas, or are clearly based on different topographies or soils, are not sufficient to meet this requirement. When such data is not available, and there are no known sources of the pollutant, the background concentration should be assumed to be zero.

In cases where historic monitoring data from a site are used for generating a natural background concentration, and the site is no longer accessible or able to meet reference site acceptability criteria, the Discharger must submit documentation (e.g., historic land use maps) indicating the site did meet reference site criteria (such as indicating the absence of human activity) during the time data collection occurred.

Once the Level 2 ERA Technical Report, including a Natural Background Demonstration meeting the conditions in Section XII.D.2.c of this General Permit is certified and submitted via SMARTS, the Discharger is no longer responsible for the identified background parameters(s) in the corresponding drainage area(s). A Discharger that submits this type of demonstration will

remain with Level 2 status but is not subject to additional ERAs unless directed by the Regional Water Board.

c. **Level 2 ERA Implementation Extension**

The State Water Board recognizes that there may be circumstances that make implementation of all necessary actions required in the Level 2 ERAs by the permitted due dates infeasible. In such circumstances a Discharger may request additional time by submitting a Level 2 ERA Implementation Extension. The Level 2 ERA Implementation Extension will automatically allow Dischargers up to an additional six (6) months to complete the tasks identified in the Level 2 ERA Action Plans while remaining in compliance with this General Permit. The Level 2 ERA Implementation Extension is subject to Regional Water Board review. If additional time is needed beyond the initial six (6) month extension, a second Level 2 ERA Implementation Extension may be submitted but is not effective unless it is approved by the Water Board.

L. Inactive Mining Operations

Inactive mining sites may need coverage under this General Permit. Inactive mining operations are mining sites, or portions of sites, where mineral mining and/or dressing occurred in the past with an identifiable Discharger (owner or operator), but are no longer actively operating. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials. A Discharger has the option to certify and submit via SMARTS that its inactive mining operations meet the conditions for an Inactive Mining Operation Certification in Section XIII of this General Permit. The Discharger must have a SWPPP for an inactive mine signed (wet signature with license number) by a California licensed professional engineer. The Inactive Mining Operation Certification in this General Permit is in lieu of performing certain identified permit requirements. This General Permit requires an annual inspection of an inactive mining site and an annual re-certification of the SWPPP. Any significant updates to the SWPPP shall be signed (wet signature and license number) by a California license professional engineer. The Discharger must certify and submit via SMARTS any significantly revised SWPPP within 30 days of the revision(s)

M. Compliance Groups and Compliance Group Leaders

Group Monitoring, as defined in the previous permit, has been eliminated in this General Permit and replaced with a new compliance option called Compliance Groups. The Compliance Group option differs from Group Monitoring as it requires (1) all Dischargers participating in a Compliance Group (Compliance Group Participants) sample two QSEs each year, (2) the Compliance Group Leader to inspect each Participant's facility within each reporting year, (3) the Compliance Group Leader must complete a State Water Board sponsored or approved training program for Compliance Group Leaders, and (4) the Compliance Group Leader to prepare Consolidated Level 1 ERA Reports, and individual Level 2 ERA Action Plans and Technical Reports. The Compliance Group option is similar to Group Monitoring as it retains a mechanism that

allows Dischargers of the same industry type to comply with this General Permit through shared resources in a cost saving manner.

This General Permit emphasizes sampling and analysis as a means to evaluate BMP performance and overall compliance, and the significantly reduced sampling requirements previously afforded to Group Monitoring Participants (two samples within a five-year period) does not provide the necessary information to achieve these goals. However, a moderate reduction in sampling requirements is included as an incentive for Compliance Group Participants while concurrently requiring sufficient individual facility sampling data to determine compliance. A Compliance Group Leader is required to provide the necessary sampling training and guidance to the Compliance Group Participants. This additional training requirement will increase sampling data quality that will offset the reduced sampling frequency for Compliance Groups.

Participation in Compliance Groups will provide additional cost savings for Dischargers in the preparation of the Consolidated Level 1 ERA Reports, and for Compliance Group Leader assistance in preparing the Level 2 ERA Action Plans and the individual Level 2 ERA Technical Reports. It is likely that many of the pollutant sources causing NAL exceedances, and the corresponding BMP cost evaluation and selection, when appropriate, will overlap for groups of facilities in a similar industry type. When these overlaps occur, a Compliance Group Leader should be able to more efficiently evaluate the pollutant sources and BMP options, and prepare the necessary reports.

The State Water Board believes that it is necessary for Compliance Group Leaders to have a higher level of industrial storm water compliance and training experience than the expectations of a QISP. Many stakeholder comments on this General Permit suggested various certifications to provide this higher level of experience; however, the State Water Board believes a process similar to the Trainer of Record process for the Construction General Permit training program will develop Compliance Group Leaders with the appropriate level of experience to fulfill the necessary qualifications.

The intent of the Compliance Groups is to have only one or a small number of Compliance Groups per industrial sector. The process for becoming a QISP trainer and/or a Compliance Group Leader is purposely similar to the Construction General Permit trainer of record process for consistency within storm water regulatory leaders. The formal process to qualify to conduct trainings for QISPs and/or to be a Compliance Group Leader will include the submittal of a statement of qualifications for review, a review fee, completion of an exam and training specific to this role. For more information see the Construction General Permit trainer of record process: <http://www.casqa.org/TrainingandEducation/ConstructionGeneralPermitTrainingQSDQSPToR/tabid/205/Default.aspx>

After the initial Compliance Group registration, Compliance Group Leaders are required to submit and maintain their list of Compliance Group Participants via SMARTS. There are no additional administrative documents required. The previous permit required group leaders to provide annual group evaluation reports and a letter of intent to continue group monitoring. The State Water Board found these items to be resource intensive and placed an unnecessary administrative burden on group leaders. The

Compliance Group requirements in this General Permit reduces the administrative burden on both the Compliance Group Leaders and Water Board staff.

The State Water Board's intent for the effluent data, BMP selection, cost, and performance information, and other industry specific information provided in Compliance Group reports is for evaluation of sector-specific permitting approaches and the use of NALs in the next reissuance of this General Permit.

N. Annual Evaluation

Federal regulations require NPDES industrial storm water Dischargers to evaluate their facility and SWPPP annually. Typically this requires an inspection of the facility to ensure: (1) the SWPPP site map is up to date, (2) control of all potential pollutant sources is included in the SWPPP, and (3) sampling data and visual observation records are used to evaluate if the proper BMPs are being implemented. As Dischargers are required to conduct monthly visual observation that partially overlap with the actions required by the annual evaluation requirements, Dischargers may perform the annual evaluation inspection concurrent with a monthly visual observation.

O. Annual Report

All Dischargers shall certify and submit via SMARTS an Annual Report no later than July 15 following each reporting year. The reporting requirements for this General Permit's Annual Report are streamlined in comparison to the previous permit. The Annual Report now consists of two primary parts: (1) a compliance checklist indicating which permit requirements were completed and which were not (e.g., a Discharger who completes the required sampling of four QSEs during the reporting year, versus a Discharger who is only able to sample two QSEs during the reporting year), and (2) an explanation for items on the compliance checklist that were determined incomplete by the Discharger. Unlike the previous permit, the Annual Report does not require Dischargers to provide the details of each visual observation (such as name of observer, time of observation, observation summary, corrective actions, etc.) or provide the details of the Annual Comprehensive Site Evaluation. Dischargers, however, continue to be required to retain those records and have them available upon request. The Annual Report is further simplified through the immediate electronic reporting via SMARTS of sampling data and copies of the original laboratory reports instead of such information being included in the Annual Report.

P. Conditional Exclusion - No Exposure Certification (NEC) Requirements

This General Permit's conditional exclusion requirements are similar to the requirements provided in 40 C.F.R. section 122.26(g)(3). Clarifications were added in this General Permit, however, to the types of "storm resistant shelters" and the periods when "temporary shelters" may be used in order to avert regulatory confusion. California does not have operating coal power plants, which are a major contributor to acid rain elsewhere in the United States. California does have nonpoint sources or atmospheric deposition that may locally impact the pH of the rain water, however this is

not categorized as acid rain as referred to by the U.S. EPA for the NEC coverage requirements. The No Exposure Guidance Document¹⁵ developed by the U.S. EPA mentions acid rain as a potential source of contaminants to consider for NEC coverage. The acid rain leachate language was not included in this General Permit's Appendix 2 to clarify that Dischargers may qualify for NEC coverage, even if the facility has metal buildings or structures.

The Discharger shall certify and submit complete PRDs for NEC coverage via SMARTS. Based upon the State Water Board's experience with reissuing and implementing the 2009 Construction General Permit, the transition for existing Dischargers to register under this new General Permit is staff resource intensive. The State Water Board staff is available to assist Dischargers requiring assistance with enrolling under this General Permit, both for NOI coverage and NEC coverage. The State Water Board has also experienced that more time is needed for its staff to assist Dischargers registering for NEC coverage. To provide better customer service to all Dischargers, three months have been added to the NEC coverage PRD submittal schedule for new and existing Dischargers (Section II.B.4 of this General Permit, extending the NEC coverage registration date to October 1, 2015).

Dischargers must annually inspect their facility to ensure continued compliance with NEC requirements, and annually re-certify and submit an NEC via SMARTS. Based on its regulatory experience, the State Water Board has determined that a five-year NEC re-certification period is inadequate. A significant percentage of facilities may revise, expand, or relocate their operations in any given year. Furthermore, a significant percentage of facilities experience turnover of staff knowledgeable of the NEC requirements and limitations. Accordingly, the State Water Board believes that annual NEC evaluation and re-certification requirements are appropriate to continually assure adequate program compliance.

Q. Special Requirements - Plastic Materials

Water Code section 13367 requires the Water Boards to implement measures that control discharges of preproduction plastic from point and nonpoint sources. The State Water Board intends to use this General Permit to regulate discharges of preproduction plastics from areas of facilities that are subject to this General Permit. A Regional Water Board may designate facilities, or areas of facilities, that are not otherwise subject to this General Permit, pursuant to Section XIX.F. For example, a Regional Water Board may designate Plastic Materials handling areas of a transportation facility that are not associated with vehicle maintenance as requiring coverage under this General Permit.

Preproduction plastics used by the plastic manufacturing industry are small in size and have the potential to mobilize in storm water. Preproduction plastic washed into storm water drains can move to waters of the United States where it contributes to the growing problem of plastic debris in inland and coastal waters. Water Code section 13367

¹⁵ U.S. EPA. Guidance Manual for Conditional Exclusion from Storm Water Permitting Based On "No Exposure" of Industrial Activities to Storm Water. Web. June 2000. < <http://www.epa.gov/npdes/pubs/noxguide.pdf>>. [as of January 31, 2014].

outlines five mandatory BMPs that are required for all facilities that handle preproduction plastic. These mandatory BMPs are included in this General Permit.

The State Water Board has received comments regarding the Water Code requirements for Plastics Facilities to install a containment system for on-site storm drain locations that meet 1mm capture and 1-year 1-hour storm flow requirement standards. As a result, this General Permit includes the option under Water Code section 13367 that allows a plastics facility to propose an alternative BMP or suite of BMPs that can meet the same performance and flow requirements as a 1mm capture and 1-year 1-hour storm flow containment system standards. These alternative BMPs are to be submitted to the Regional Water Board for approval. This alternative is intended to allow the facility to develop BMPs that focus on pollution prevention measures that can perform as well as, or better than, the containment system otherwise required by the statute.

The State Water Board also includes two additional containment system alternatives in this General Permit that are considered to be equivalent to, or better than, the 1mm capture and 1-year 1-hour storm flow requirements:

- An alternative allowing plastic facilities to implement a suite of eight BMPs addressing the majority of potential sources of plastic discharges. This suite of BMPs is based on industry and U.S. EPA recommendations and Water Board experience with storm water inspections, violations, and enforcement cases throughout California.
- An alternative allowing a facility to operate in a manner such that all preproduction plastic materials are used indoors and pose no potential threat for discharge off-site. The facility is required to notify the Regional Water Board of the intent to seek this exemption and of any changes to the facility or operations that may disqualify the facility for the exemption. The exemption may be revoked by the Regional Water Board at any time.

Plastics facilities may use preproduction plastic materials that are less than 1mm in size, or produce materials, byproducts, or waste that is smaller than 1mm in size. These small size materials will pass through the 1mm capture containment system required by Water Code section 13367. Plastics facilities with sub-1mm materials must design a containment system to capture the smallest size material onsite with a 1-year 1-hour storm flow requirement, or propose alternative BMPs for Regional Water Board approval that meet the same requirements.

The remaining BMPs required by Water Code section 13367 are consistent with recommendations for handling and clean-up of preproduction plastics in the American Chemistry Council publication, *Operation Clean Sweep* and U.S. EPA's publication *Plastic Pellets in the Aquatic Environment: Sources and Recommendations*. The State Water Board believes that the entire approach in this General Permit for plastic materials is consistent with Water Code section 13367.

R. Regional Water Board Authorities

The Regional Water Boards retain discretionary authority over many issues that may arise from industrial discharges within their respective regions. This General Permit

emphasizes the authority of the Regional Water Boards over specific requirements of this General Permit that do not meet region-specific water quality protection regulatory needs.

S. Special Conditions: Requirements for Dischargers Claiming the “No Discharge” Option in the Notice of Non-Applicability

1. General

Entities that operate facilities generating storm water associated with industrial activities that is not discharged to waters of the United States are not required to obtain General Permit coverage. Entities that have contacted the Water Boards to inquire what is necessary to avoid permit coverage have received inconsistent guidance. This has resulted in regulatory inconsistency and uncertainty as to whether they are in compliance if their industry operates without General Permit coverage. Depending upon how each Regional Water Board handles “No Discharge” claims, some facilities with advanced containment design may be required to obtain General Permit coverage while other facilities with less advanced containment design may be allowed to operate without General Permit coverage. Some stakeholders have complained that this type of regulatory inconsistency puts some facilities at an economically-competitive disadvantage given the costs associated with permit compliance.

U.S. EPA regulations do not provide a design standard, definition, or guidance as to what constitutes “No Discharge.” Unlike Conditional Exclusion requirements, U.S. EPA regulations do not require an entity to submit technical justification or certification that a facility does not discharge to waters of the United States (U.S.). Therefore entities have previously been allowed to self-determine that their facility does not discharge to water of the U.S. when using any containment design standard. The State Water Board does not have available information showing that most entities have adequately performed hydraulic calculations to determine the frequency of discharge corresponding to their containment controls or have had these hydraulic calculations reviewed or completed by a California licensed professional engineer. Although U.S. EPA makes clear that an unpermitted discharge to waters of the U.S. is a violation of the CWA, this leaves regulatory agencies with the very difficult task of knowing when any given facility discharges in order to carry-out enforcement actions.

In 1998, the Water Code was amended to require entities who are requested by the Water Boards to obtain General Permit coverage, but that have a valid reason to not obtain General Permit coverage, to submit a Notice of Non-Applicability (NONA). (Wat. Code, § 13399.30, subd. (a)(2)). The NONA covers multiple reasons why an entity is not required to be permitted including (1) facility closure, (2) not the legal owner, (3) incorrect SIC code, (4) eligibility for the Conditional Exclusion (No Exposure Certification), and (5) the facility not discharging to water of the U.S. (“No Discharge”). The previous permit contained definitions, requirements, and guidance that entities may reference to determine whether they are eligible to select any of the first four NONA reasons for not obtaining General Permit coverage. However, neither the previous permit nor the Water Code provide definitions, requirements,

and guidance for entities to determine whether they are eligible to indicate “No Discharge” on the NONA as a reason for not obtaining General Permit coverage.

This General Permit addresses and resolves the issues discussed above by establishing consistent, statewide eligibility requirements in Section XX.C for entities submitting NONAs indicating “No Discharge.” When requested by the Water Boards to obtain General Permit coverage, entities must meet these “No Discharge” eligibility requirements or obtain General Permit coverage. The Water Boards retain enforcement authority if a facility subsequently discharges.

2. “No Discharge” Eligibility Requirements

The entity must certify submit in SMARTS a NONA Technical Report signed (wet signature and license number) by a California licensed professional engineer that contains the analysis and details of the containment design supporting the “No Discharge” eligibility determination. Because containment design will require hydraulic calculations, soil permeability analysis, soil stability calculations, appropriate safety factor consideration, and the application of other general engineering principles, state law requires the technical report to be signed (wet signature and license number) by a California licensed professional engineer.

The State Water Board has selected a containment design target that, as properly applied will result in few, if any, discharges. The facility must either be:

- a. Engineered and constructed to contain all storm water associated with industrial activities from discharging to waters of the United States. (The determination of what is a water of the United States can be complicated, and in certain circumstances, a discharge to groundwater that has a direct hydrologic connection to waters of the United States may constitute a discharge to a water of the United States.) Dischargers must base their information upon maximum historic precipitation event data (or series of events) from the nearest rain gauges as provided by the National Oceanic and Atmospheric Administration’s (NOAA) website, or other nearby precipitation data available from other government agencies. At a minimum, Dischargers must ensure that the containment design addresses maximum 1-hour, 24-hour, weekly, monthly, and annual precipitation data for the duration of the exclusion.

Design storm events are generally specified as a one-time expected hydraulic failure over a reoccurrence of years for a specified storm event. For example, if a design storm standard is a 100 year 24-hour event, then a facility’s containment system designed to contain the maximum volume of water would be expected to fall in 24 hours once every 100 years. Design standards vary dependent upon the regulatory program and the level of protection needed. Since California has considerable variations in climate/topography/soil conditions across the state, the “No Discharge” NONA eligibility requirements have been created so that each facility’s containment design can incorporate unique site specific circumstances to meet the requirement that discharges will not occur based upon past historical precipitation data. Facilities that are not designed to not meet the “No Discharge” eligibility requirements must obtain General Permit coverage.

- b. Located in basins or other physical locations that are not hydrologically connected to waters of the United States.

The State Water Board considered allowing Entities to review United States Army Corp of Engineer maps to determine, without a California licensed professional engineer, whether their facility location is within a basin and/or other physical location that is not hydrologically connected to waters of the United States. The State Water Board believes that this determination can be difficult in some cases, or is likely to be performed incorrectly. In addition, there may be areas of the state that are not hydrologically connected to waters of the United States, but are not on United States Army Corps of Engineer maps. Therefore, all “No Discharge” Technical Reports must be signed (wet signature and license number) by a California licensed professional engineer.

3. Additional Considerations

The “No Discharge” determination does not cover storm water containment systems that transfer industrial pollutants to groundwater. Entities must determine whether designs that incorporate infiltration may discharge to and contaminate groundwater. If there is a threat to groundwater, Entities must contact the Regional Water Boards prior to construction of infiltration design elements.

Entities that have not eliminated all discharges that are subject to General Permit coverage (NOI Coverage or NEC Coverage) are ineligible to submit NONAs indicating “No Discharge.”

ATTACHMENT A

FACILITIES COVERED BY NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES (GENERAL PERMIT)

1. Facilities Subject To Storm Water Effluent Limitations Guidelines, New Source Performance Standards, or Toxic Pollutant Effluent Standards Found in 40 Code of Federal Regulations, Chapter I, Subchapter N (Subchapter N):

Cement Manufacturing (40 C.F.R. Part 411); Feedlots (40 C.F.R. Part 412); Fertilizer Manufacturing (40 C.F.R. Part 418); Petroleum Refining (40 C.F.R. Part 419), Phosphate Manufacturing (40 C.F.R. Part 422), Steam Electric (40 C.F.R. Part 423), Coal Mining (40 C.F.R. Part 434), Mineral Mining and Processing (40 C.F.R. Part 436), Ore Mining and Dressing (40 C.F.R. Part 440), Asphalt Emulsion (40 C.F.R. Part 443), Landfills (40 C.F.R. Part 445), and Airport Deicing (40 C.F.R. Part 449).
2. Manufacturing Facilities:

Facilities with Standard Industrial Classifications (SICs) 20XX through 39XX, 4221 through 4225. (This category combines categories 2 and 10 of the previous general permit.)
3. Oil and Gas/Mining Facilities:

Facilities classified as SICs 10XX through 14XX, including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 Code of Federal Regulations. 434.11(1) because the performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Acts authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations. Inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined material; or sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim.
4. Hazardous Waste Treatment, Storage, or Disposal Facilities:

Hazardous waste treatment, storage, or disposal facilities, including any facility operating under interim status or a general permit under Subtitle C of the Federal Resource, Conservation, and Recovery Act.
5. Landfills, Land Application Sites, and Open Dumps:

Landfills, land application sites, and open dumps that receive or have received industrial waste from any facility within any other category of this Attachment; including facilities subject to regulation under Subtitle D of the Federal Resource, Conservation, and Recovery Act, and facilities that have accepted wastes from construction activities (construction activities include any clearing, grading, or excavation that results in disturbance).
6. Recycling Facilities:

Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093.
7. Steam Electric Power Generating Facilities:

Any facility that generates steam for electric power through the combustion of coal, oil, wood, etc.
8. Transportation Facilities:

Facilities with SICs 40XX through 45XX (except 4221-25) and 5171 with vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or other operations identified under this Permit as associated with industrial activity.
9. Sewage or Wastewater Treatment Works:

Facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge, that are located within the confines of the facility, with a design flow of one million gallons per day or more, or required to have an approved pretreatment program under 40 Code of Federal Regulations part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the Clean Water Act.

ATTACHMENT B

ACRONYM LIST

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

ASBS	Areas of Special Biological Significance
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BPT	Best Practicable Control Technology Currently Available
CBPELSG	California Board for Professional Engineers, Land Surveyors and Geologists
DWQ	Division of Water Quality
ELGs	Effluent Limitations Guidelines and New Source Performance Standards
ERA	Exceedance Response Action
MS4	Municipal Separate Storm Sewer System
MSGP	Multi Sector General Permit
NAL	Numeric Action Level
NAICS	North American Industrial Classification System
NEC	No Exposure Certification
NEL	Numeric Effluent Limitation
NOI	Notice of Intent
NONA	Notice of Non Applicability
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NSWD	Non Storm Water Discharges
O&G	Oil and Grease
PRDs	Permit Registration Documents
QA/QC	Quality Assurance/Quality Control
QISP	Qualified Industrial Storm water Practitioner
QSE	Qualifying Storm Event
SIC	Standard Industrial Classification
SMARTS	Storm Water Multiple Application and Report Tracking System
SWPPP	Storm Water Pollution Prevention Plan
TBEL	Technology Based Effluent Limitation
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TSS	Total Suspended Solids
U.S. EPA	United States Environmental Protection Agency
WDID	Waste Discharge Identification Number
WQBEL	Water Quality Based Effluent Limitation

ATTACHMENT C

GLOSSARY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

Adoption Date April 1, 2014

Aerial Deposition

Total suspended particulate matter found in the atmosphere as solid particles or liquid droplets. Chemical composition of particulates varies widely, depending on location and time of year. Sources of airborne particulates include but are not limited to: dust, emissions from industrial processes, combustion products from the burning of wood and coal, combustion products associated with motor vehicle or non-road engine exhausts, and reactions to gases in the atmosphere. Deposition is the act of these materials being added to a landform.

Beneficial Uses

As defined in the California Water Code, beneficial uses of the waters of the state that may be protected against quality degradation, include but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT)

As defined by United States Environmental Protection Agency (U.S. EPA), BAT is a technology-based standard established by the Clean Water Act (CWA) as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)

As defined by U.S. EPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, oil and grease.

Best Professional Judgment (BPJ)

The method used by permit writers to develop technology-based NPDES permits conditions on a case-by-case basis using all reasonably available and relevant data.

GLOSSARY

Best Management Practices (BMPs)

Scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Chain of Custody

Form used to track sample handling as samples progress from sample collection to the laboratory. The chain of custody is also used to track the resulting analytical data from the laboratory to the client. Chain of custody forms can be obtained from an analytical laboratory upon request.

Debris

Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

Detected Not Quantifiable

A sample result that is between the Method Detection Limit (MDL) and the Minimum Level (ML).

Discharger

A person, company, agency, or other entity that is the operator of the industrial facility covered by this General Permit.

Drainage Area

The area of land that drains water, sediment, pollutants, and dissolved materials to a common discharge location.

Effective Date

The date, set by the State Water Resources Control Board (State Water Board), when at least one or more of the General Permit requirements take effect and the previous permit expires. This General Permit requires most of the requirements (such as SMARTs submittals, minimum BMPs, sampling and analysis requirements) to take effect on July 15, 2015.

Effluent

Any discharge of water either to the receiving water or beyond the property boundary controlled by the Discharger.

Effluent Limitation

Any numeric or narrative restriction imposed on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the United States, waters of the contiguous zone, or the ocean.

GLOSSARY

Erosion

The process by which soil particles are detached and transported by the actions of wind, water or gravity.

Erosion Control BMPs

Vegetation, such as grasses and wildflowers, and other materials, such as straw, fiber, stabilizing emulsion, protective blankets, etc., placed to stabilize areas of disturbed soils, reduce loss of soil due to the action of water or wind, and prevent water pollution.

Facility

A collection of industrial processes discharging storm water associated with industrial activity within the property boundary or operational unit.

Field Measurements

Testing procedures performed in the field with portable field-testing kits or meters.

Good Housekeeping BMPs

BMPs designed to reduce or eliminate the addition of pollutants through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Industrial Materials

Includes, but is not limited to: raw materials, recyclable materials, intermediate products, final products, by product, waste products, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERLCA); any chemical the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge and that are used, handled, stored, or disposed in relation to a facility's industrial activity.

Method Detection Limit

The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.

Minimum Level

The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Monitoring Implementation Plan

Planning document included in the Storm Water Pollution Prevention Plan (SWPPP). Dischargers are required to record information on the implementation of the monitoring requirements in this General Permit. The MIP should include relevant information on:

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the Monthly Visual Observation schedule, Sampling Parameters, Representative Sampling Reduction, Sample Frequency Reduction, and Qualified Combined Samples.

Monitoring Requirements

Includes sampling and analysis activities as well as visual observations.

Natural Background

Pollutants including substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from previous activity at a facility, or pollutants in run-on from neighboring sources which are not naturally occurring.

New Discharge(r)

A facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source as defined in 40 Code of Federal Regulations 122.29, and which has never received a finally effective NPDES permit for discharges at that site. See 40 Code of Federal Regulations 122.2.

Numeric Action Level (NAL) Exceedance

Annual NAL exceedance - the Discharger shall determine the average concentration for each parameter using the results of all the sampling and analytical results for the entire facility for the reporting year (i.e., all "effluent" data) and compare this to the corresponding Annual NAL values in Table 2. For Dischargers using composite sampling or flow measurement in accordance with standard practices, the average concentrations shall be calculated in accordance with the U.S. EPA Guidance Manual for the Monitoring and Reporting Requirements of the NPDES Multi-Sector Storm Water General Permit.¹ An annual NAL exceedance occurs when the average of all the analytical results for a parameter from samples taken within a reporting year exceeds an annual NAL value for that parameter listed in Table 2 (or is outside the NAL pH range);

Instantaneous maximum NAL exceedance - the Discharger shall compare all sampling and analytical results from each distinct sample (individual or composite) to the corresponding Instantaneous maximum NAL values in Table 2. An instantaneous maximum NAL exceedance occurs when two or more analytical results from samples taken for any parameter within a reporting year exceed the instantaneous maximum NAL value (for TSS and O&G), or are outside of the instantaneous maximum NAL range (for pH).

Non Detect

Sample result is less than Method Detection Limit; Analyte being tested cannot be detected by the equipment or method.

¹ U.S. EPA. NPDES Storm Water Sampling Guidance Document. <<http://www.epa.gov/npdes/pubs/owm0093.pdf>>. [as of July 3, 2013]

GLOSSARY

Non-Storm Water Discharges (NSWDs)

Discharges that do not originate from precipitation events. Including but not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

Numeric Action Level (NAL)

Pollutant concentration levels used to evaluate if best management practices are effective and if additional measures are necessary to control pollutants. NALs are not effluent limits. The exceedance of an NAL is not a permit violation.

Operator

In the context of storm water associated with industrial activity, any party associated with an industrial facility that meets either of the following two criteria:

- a. The party has operational control over the industrial SWPPP and SWPPP specifications, including the ability to make modifications to those plans and specifications
- b. The party has day-to-day operational control of activities at the facility which are necessary to ensure compliance with a SWPPP for the facility or other permit conditions (e.g., authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

pH

Unit universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6.0 and 9.0, with neutral being 7.0.

Plastic Materials

Plastic Materials are virgin and recycled plastic resin pellets, powders, flakes, powdered additives, regrind, dust, and other similar types of preproduction plastics with the potential to discharge or migrate off-site.

Qualified Industrial Storm Water Practitioner (QISP)

Only required once a Discharger reaches Level 1 status, a QISP is the individual assigned to ensure compliance with this General Permit or to assist New Dischargers with determining coverage eligibility for discharges to an impaired water body. A QISP's responsibilities include implementing the SWPPP, performing the Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation), assisting in the preparation of Annual Reports, performing ERAs, and training appropriate Pollution Prevention Team members. The individual must take the appropriate state approved or sponsored training to be qualified. Dischargers shall ensure that the designated QISP is geographically located in an area where they will be able to adequately perform the permit requirements at all of the facilities they represent.

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Qualifying Storm Event (QSE)

A precipitation event that:

- a. Produces a discharge for at least one drainage area; and
- b. Is preceded by 48 hours with no discharge from any drainage area.

Regional Water Board

Includes the Executive Officer and delegated Regional Water Board staff.

Runoff Control BMPs

Measures used to divert run-on from offsite and runoff within the site.

Run-on

Discharges that originate offsite and flow onto the property of a separate facility or property or, discharges that originate onsite from areas not related to industrial activities and flow onto areas on the property with industrial activity.

Scheduled Facility Operating Hours

The time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.

Sediment

Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sedimentation

Process of deposition of suspended matter carried by water, wastewater, or other liquids that flow by gravity. Control of sedimentation is accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.

Sediment Control BMPs

Practices that trap soil particles after they have been eroded by rain, flowing water, or wind. Includes those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped (i.e., silt fence, sediment basin, fiber rolls, etc.).

Sheet Flow

Flow of water that occurs overland in areas where there are no defined channels and where the water spreads out over a large area at a uniform depth.

Source

Any facility or building, property, road, or area that causes or contributes to pollutants in storm water.

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Storm Water

Storm water runoff, snowmelt runoff, and storm water surface runoff and drainage.

Storm Water Discharge Associated With Industrial Activity

The discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant as identified in Attachment A of this General Permit. The term does not include discharges from facilities or activities excluded from the NPDES program. The term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials; manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 C.F.R. section 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 C.F.R. section 122.

Material handling activities include the: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in this paragraph) include those facilities designated under 40 C.F.R. section 122.26(a)(1)(v).

Structural Controls

Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution.

Total Suspended Solids (TSS)

The measure of the suspended solids in a water sample including inorganic substances such as soil particles, organic substances such as algae, aquatic plant/animal waste, and particles related to industrial/sewage waste, etc. The TSS test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

GLOSSARY

Toxicity

The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses, such as impaired reproduction or growth anomalies.

Trade Secret

Information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (1) derives independent economic value, actual or potential, from not being generally known to the public or to other persons who can obtain economic value from its disclosure or use; and (2) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

Turbidity

The cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The turbidity test is reported in Nephelometric Turbidity Units (NTU) or Jackson Turbidity Units (JTU).

Waters of the United States

Generally refers to surface waters, as defined for the purposes of the federal Clean Water Act.

Water Quality Objectives

Defined in the California Water Code as limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

Water Quality Standards

Consists of beneficial uses, water quality objectives to protect those uses, an antidegradation policy, and policies for implementation. Water quality standards are established in Regional Water Quality Control Plans (Basin Plans) and statewide Water Quality Control Plans. U.S. EPA has also adopted water quality criteria (the same as objectives) for California in the National Toxics Rule and California Toxics Rule.

ATTACHMENT D

PERMIT REGISTRATION DOCUMENTS (PRDs)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES (GENERAL PERMIT)

This Attachment provides an example of the information Dischargers are required to submit in the PRDs via the Storm Water Multiple Application and Report Tracking System (SMARTS). The actual PRD requirements are in Section II of this General Permit.

A. Who Must Submit PRDs

All Dischargers that operate facilities as described in Attachment A of this General Permit are subject to either Notice of Intent (NOI) or No Exposure Certification (NEC) Coverage and shall comply with the PRD requirements in this General Permit.

B. Who Is Not Required to Submit PRDs

Dischargers that operate facilities described below are not required to submit PRDs:

1. Facilities that are not described in Attachment A;
2. Facilities that are described in Attachment A but do not have discharges of storm water associated with industrial activity to waters of the United States; or,
3. Facilities that are already covered by an NPDES permit for discharges of storm water associated with industrial activity.

C. Annual Fees for NOI and NEC Coverage

Annual Fees for NOI and NEC coverage are established through regulations adopted by the State Water Board and are subject to change (see California Code of Regulations, title 23, section 2200 et seq.).

D. When and How to Apply

Dischargers proposing to conduct industrial activities subject to this General Permit must electronically certify and submit PRDs via the Storm Water Multiple Application

PERMIT REGISTRATION DOCUMENTS (PRDS)

Reporting and Tracking System (SMARTS)¹ no less than seven (7) days prior to the commencement of industrial activity. Existing Dischargers must submit PRDs for NOI coverage by July 1, 2015 or for NEC coverage by October 1, 2015.

E. PRD Requirements for NOI Coverage

1. Notice of Intent (NOI) and Signed Electronic Authorization Form.
2. Site Map (Section X.E of this General Permit).
3. Storm Water Pollution Prevention Plan (see Section X of this General Permit).

F. Description of PRDs for NOI Coverage

1. The Notice of Intent (NOI) requires the following information:

- a. Operator/Owner Information

Operator/Owner Company or Organization Name
 Contact First Name
 Contact Last Name
 Title
 Street Address
 Address Line 2
 City/State/Zip
 Phone (e.g. 999-999-9999)
 E-mail (e.g. abc@xyz.com)
 Federal Tax ID

- b. Facility Information

Facility Name
 WDID Number (if applicable)
 Contact First Name
 Contact Last Name
 Title
 Street Address
 Address Line 2
 City
 County
 Phone (e.g. 999-999-9999)

¹ The State Water Board has developed the SMARTS online database system to handle registration and reporting under this General Permit. More information regarding SMARTS and access to the database is available online at <<https://smarts.waterboards.ca.gov>>. [as of June 26, 2013].

PERMIT REGISTRATION DOCUMENTS (PRDS)

Emergency Phone (e.g. 999-999-9999)
 E-mail (abc@xyz.com)
 State/Zip CA
 Total Site Size (Acres)
 Latitude (Decimal degrees only, minimum 5 significant digits, e.g. 99.99999)
 Longitude (Decimal degrees only, minimum 5 significant digits, e.g. 99.99999)
 Total Percentage Site Imperviousness Area of Facility (Acres)
 Total Areas of Industrial Activities and Materials Exposed to Precipitation
 Primary SIC Code
 Secondary SIC Code
 Tertiary SIC Code
 Regional Water Board

c. Billing Information

Billing Name
 Contact First Name
 Contact Last Name
 Title
 Street Address
 Address Line 2
 City/State/Zip
 Phone (e.g. 999-999-9999)
 E-mail (e.g. abc@xyz.com)

d. Receiving Water Information

Does your facility's storm water flow directly or indirectly into waters of the US such as river, lake, ocean, etc. (check box for directly or indirectly)

- i. Indirectly to waters of the US
- ii. Storm drain system - Enter owner's name:
- iii. Directly to waters of the US (e.g., river, lake, creek, stream, bay, ocean, etc.)
- iv. Name of the receiving water: _____

PERMIT REGISTRATION DOCUMENTS (PRDS)

2. The Site Map(s) shall include the following Information:
 - a. The facility boundary;
 - b. Storm water drainage areas within the facility boundary;
 - c. Portions of any drainage area impacted by discharges from surrounding areas and flow direction of each drainage area;
 - d. On-facility surface water bodies;
 - e. Areas of soil erosion;
 - f. Location(s) of nearby water bodies (such as rivers, lakes, wetlands, etc.);
 - g. Location(s) of municipal storm drain inlets that may receive the facility's industrial storm water discharges and authorized Non-Storm Water Discharges (NSWDs);
 - h. Locations of storm water collection and conveyance systems and associated points of discharge, and direction of flow;
 - i. Any structural control measures (that affect industrial storm water discharges, authorized NSWDs, and run-on);
 - j. All impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures;
 - k. Locations where materials are directly exposed to precipitation;
 - l. Locations where significant spills or leaks identified (Section X.G.1.d of this General Permit) have occurred;
 - m. Areas of industrial activity subject to this General Permit;
 - n. All storage areas and storage tanks;
 - o. Shipping and receiving areas;
 - p. Fueling areas;

PERMIT REGISTRATION DOCUMENTS (PRDS)

- q. Vehicle and equipment storage/maintenance areas;
 - r. Material handling and processing areas;
 - s. Waste treatment and disposal areas;
 - t. Dust or particulate generating areas;
 - u. Cleaning and material reuse areas; and,
 - v. Any other areas of industrial activity which may have potential pollutant sources.
3. The Storm Water Pollution Prevention Plan (SWPPP) must be prepared in accordance with Section X of this General Permit.
 4. A NOI Certification by the Discharger that all PRDs submitted are correct and true.
 5. SMARTS Electronic Authorization Form (Signed by any user authorized to certify and submit data electronically).

G. PRD Requirements for NEC Coverage

1. No Exposure Certification and Signed Electronic Authorization Form.
2. No Exposure Certification Checklist Consistent with Requirements in Section XVII.F.2 of this General Permit.
3. Current Site Map Consistent with Requirements in Section X.E of this General Permit.

H. Description of PRDs for NEC Coverage

1. The No Exposure Certification requires the following information:
 - a. Operator/Owner Information
 - Operator/Owner Name
 - Contact First Name
 - Contact Last Name
 - Title

PERMIT REGISTRATION DOCUMENTS (PRDS)

Street Address
 Address Line 2
 City/State/Zip
 Phone Ex (999-999-9999)
 E-mail (abc@xyz.com)
 Federal Tax ID

b. Facility Information

Facility Name
 Contact First Name
 Contact Last Name
 Title
 Street Address
 Address Line 2
 City
 County
 Phone Ex (999-999-9999)
 Emergency Phone Ex (999-999-9999)
 E-mail (abc@xyz.com)
 State/Zip CA
 Total Site Size (Acres)
 Latitude (Decimal degrees only, minimum 5 significant digits, Ex 99.99999)
 Longitude (Decimal degrees only, minimum 5 significant digits, Ex 99.99999)
 Percent of Site Imperviousness (%)
 Primary SIC Code
 Secondary SIC Code
 Tertiary SIC Code
 Regional Water Board

c. Billing Information

Billing Name (if different than Operator/Owner)
 Contact First Name
 Contact Last Name
 Title
 Street Address
 Address Line 2
 City/State/Zip
 Phone E.g. (999-999-9999)
 E-mail (e.g. abc@xyz.com)

d. SMARTS Electronic Authorization Form - Signed by any user authorized to certify and submit data electronically.

PERMIT REGISTRATION DOCUMENTS (PRDS)

- e. Certification by the Discharger that all PRDs submitted are correct and true and that the conditions of no-exposure have been met.
2. The NEC Checklist (Section XVII.F.2 of this General Permit) must be prepared to demonstrate that, based upon a facility inspection and evaluation, none of the following industrial materials or activities are, or will be in the foreseeable future, exposed to precipitation:
 - a. Activities such as using, storing, or cleaning industrial machinery or equipment, and areas with materials or residuals from these activities;
 - b. Materials or residuals on the ground or in storm water inlets from spills/leaks;
 - c. Materials or products from past industrial activity;
 - d. Material handling equipment (except adequately maintained vehicles);
 - e. Materials or products during loading/unloading or transporting activities;
 - f. Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);
 - g. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
 - h. Materials or products handled/stored on roads or railways owned or maintained by the Discharger;
 - i. Waste material (except waste in covered, non-leaking containers, e.g., dumpsters). Application or disposal of processed wastewater (unless already covered by an NPDES permit); and,
 - j. Particulate matter or visible deposits of residuals from roof stacks/vents evident in the storm water outflow.
 3. The Site Map(s) shall include the following information (see Section X.E of this General Permit):
 - a. The facility boundary;
 - b. Storm water drainage areas within the facility boundary;
 - c. Portions of any drainage area impacted by discharges from surrounding areas and flow direction of each drainage area;

PERMIT REGISTRATION DOCUMENTS (PRDS)

- d. On-facility surface water bodies;
- e. Areas of soil erosion;
- f. Location(s) of nearby water bodies (such as rivers, lakes, wetlands, etc.);
- g. Location(s) of municipal storm drain inlets that may receive the facility's industrial storm water discharges and authorized NSWDS;
- h. Locations of storm water collection and conveyance systems and associated points of discharge, and direction of flow;
- i. Any structural control measures (that affect industrial storm water discharges, authorized NSWDS, and run-on);
- j. All impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures;
- k. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified (Section X.G.1.d of this General Permit) have occurred;
- l. Areas of industrial activity subject to this General Permit;
- m. All storage areas and storage tanks;
- n. Shipping and receiving areas;
- o. Fueling areas;
- p. Vehicle and equipment storage/maintenance areas;
- q. Material handling and processing areas;
- r. Waste treatment and disposal areas;
- s. Dust or particulate generating areas;
- t. Cleaning and material reuse areas; and,
- u. Any other areas of industrial activity which may have potential pollutant sources.

PERMIT REGISTRATION DOCUMENTS (PRDS)**I. Obtaining Coverage**

To obtain coverage under this General Permit PRDs must be included and completed. If any of the required items are missing, the PRD submittal is considered incomplete and will be rejected. Upon receipt of a complete PRD submittal, the State Water Board will process the application package in the order received and assign a (WDID) number.

J. Additional Information

The Water Board may require the submittal of additional information in SMARTS if required to determine the appropriate fee for the facility as specified by the fee regulations.

K. Questions

If you have any questions on completing the PRDs or about SMARTS, please email stormwater@waterboards.ca.gov or call (866) 563-3107.

ATTACHMENT E

LIST OF TOTAL MAXIMUM DAILY LOADS (TMDLS) APPLICABLE TO INDUSTRIAL STORM WATER DISCHARGERS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES (GENERAL PERMIT)

The following table contains a list of Regional Water Board adopted and/or U.S. EPA established/approved TMDLs, as of the adoption date of this General Permit, that are applicable to industrial storm water Dischargers. TMDLs adopted/established after the effective date of the General Permit may, at the Water Boards discretion, be included in this General Permit. This General Permit may be reopened to amend TMDL-specific permit requirements in this Attachment E, or to incorporate new TMDLs adopted during the term of this General Permit that include requirements applicable to Dischargers covered by this General Permit.

Water Body	Pollutant
<u>San Francisco Bay Regional Water Quality Control Board</u>	
Napa River	Sediment
Sonoma Creek	Sediment
<u>Los Angeles Regional Water Quality Control Board</u>	
Santa Clara River Reach 3	Chloride
Santa Clara River	Nutrients
Los Angeles River	Metals
Los Angeles River	Nutrients
San Gabriel River	Metals and Selenium
Santa Monica Bay	Nearshore Debris
Machado Lake	Nutrient
Harbor Beaches of Ventura	Bacteria
Ballona Creek	Metals
Ballona Creek Estuary	Toxic Pollutants
Los Angeles Harbor	Bacteria
Marina del Rey Back Basins	Bacteria
Santa Clara River	Bacteria
Walker Creek,	Mercury
Oxnard Drain No. 3	Pesticides, PCBs ¹ and Sediment Toxicity
Long Beach City Beaches and Los Angeles River Estuary	Indicator Bacteria
Los Angeles and Long Beach Harbors	Toxic and Metals

¹ Polychlorinated biphenyls

**LIST OF TOTAL MAXIMUM DAILY LOADS (TMDLS) APPLICABLE TO
INDUSTRIAL STORM WATER DISCHARGERS**

Los Angeles Area Lakes	Nitrogen, Phosphorus, Mercury, Trash, Organochlorine Pesticides and PCBs
Santa Monica Bay	DDTs and PCBs
Machado Lake	Toxics
Colorado Lagoon	Pesticides, Polycyclic aromatic hydrocarbons, PCBs, and Metals
Calleguas Creek Watershed	Salts
Calleguas Creek Watershed	Metals and Selenium
Ballona Creek, Ballona Estuary, and Sepulveda Channel	Bacteria
Marina Del Rey Harbor-Back Basins	Copper, Lead, Zinc, and Chlordane, and Total PCBs
Los Cerritos Channel	Metals
<u>Santa Ana Regional Water Quality Control Board</u>	
San Diego Creek and Newport Bay	Toxic Pollutants
<u>San Diego Regional Water Quality Control Board</u>	
Chollas Creek	Diazinon
Chollas Creek	Copper, Lead, and Zinc
Los Peñasquitos Lagoon	Sediment
Rainbow Creek	Total Nitrogen and Total Phosphorus
Shelter Island Yacht Basin	Dissolved Copper
Baby Beach in Dana Point Harbor and Shelter Island Shoreline Park in SD Bay	Indicator Bacteria
Twenty Beaches and Creeks	Indicator Bacteria

ATTACHMENT F

EFFLUENT LIMITATION GUIDELINES (ELGs)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

The following Parts of federal regulations at 40 Code of Federal Regulations Chapter I Subchapter N (Subchapter N) contain ELGs approved by US EPA for specific categories of industrial storm water discharges:

Point Source Category	ELGs ¹
Part 411 - Cement Manufacturing	 411.pdf
Part 418 - Fertilizer Manufacturing	 418.pdf
Part 419 - Petroleum Refining	 419.pdf
Part 422 - Phosphate Manufacturing	 422.pdf
Part 423 - Steam Electric Power Generating	 423.pdf

¹ The applicable ELGs are attached to this Attachment F. To view the attachments from an electronic (pdf) version of this Attachment F, left-click on the paper clip icon to the left of this pdf file to make the attachment window appear, then double-click on the icons of the attached pdf files. The attachments are also available on the Industrial Storm Water program pages of the State Water Resources Control Board's website (www.waterboards.ca.gov).

EFFLUENT LIMITATION GUIDELINES (ELGs)

Point Source Category	ELGs ²
Part 429 - Wetting of logs at wet deck storage areas	 429.pdf
Part 434 - Coal Mining	 434.pdf
Part 436 - Mineral Mining And Processing	 436.pdf
Part 440 - Ore Mining And Dressing	 440.pdf
Part 443 - Paving And Roofing Materials (Tars And Asphalt)	 443.pdf
Part 445 - Landfills	 445.pdf
Part 449 - Airport Deicing	 449.pdf

² The applicable ELGs are attached to this Attachment F. To view the attachments from an electronic (pdf) version of this Attachment F, left-click on the paper clip icon to the left of this pdf file to make the attachment window appear, then double-click on the icons of the attached pdf files. The attachments are also available on the Industrial Storm Water program pages of the State Water Resources Control Board's website (www.waterboards.ca.gov).

EFFLUENT LIMITATION GUIDELINES (ELGs)

New Source Performance Standards

New source performance standards (NSPS) represent the best available demonstrated control technology standards. US EPA has established NSPS guidelines for the industries found in the Table below. The intent of NSPS guidelines is to set effluent limitations that represent state-of-the-art treatment technology for new sources.³

Table 1 - Storm Water Specific NSPS Effluent Limitation Guidelines

Regulated Discharge	40 CFR Section	Multi Sector General Permit Sector	NSPS	Date New Source Data Established
Discharge resulting from spray down or intentional wetting of logs as wet deck storage areas	Part 429, Subpart I	A	Yes	1/26/81
Runoff from phosphate fertilizer manufacturing facilities that comes into contact with any raw materials, finished products, by-products or waste products (SIC 2874)	Part 418, Subpart A	C	Yes	4/8/74
Runoff from asphalt emulsion facilities	Part 443, Subpart A	D	Yes	7/28/75
Runoff from materials storage piles at cement manufacturing facilities	Part 411, Subpart C	E	Yes	2/20/74
Mine dewatering discharges at crushed stone, construction sand and gravel, or industrial sand mining facilities	Part 436, Subparts B, C, D	J	No	N/A
Runoff from hazardous waste and non-hazardous waste landfills	Part 445, Subparts A and B	K, L	Yes	2/2/00
Runoff from coal storage piles at steam electric generating facilities	Part 423	O	Yes	11/19/82 & 10/8/74
Discharges from primary airports with over 1,000 annual jet departures that conduct deicing operations.	Part 449, Subpart A	S	Yes	NA

³ New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced: (1) After promulgation of standards of performance under section 306 of CWA which are applicable to such source, or (2) After proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal as defined in 40 C.F.R section 122.26.

ATTACHMENT G

REQUIREMENTS FOR DISCHARGERS WHO HAVE BEEN GRANTED AN OCEAN PLAN EXCEPTION FOR DISCHARGES TO ASBS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES (GENERAL PERMIT)

A. Areas of Special Biological Significance (ASBS)

1. ASBS are defined in the California Ocean Plan as “those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.”
2. The California Ocean Plan prohibits the discharge of waste to ASBS.
3. The California Ocean Plan authorizes the State Water Board to grant an exception to Ocean Plan provisions where the board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.
4. On March 20, 2012, the State Water Board adopted Resolution 2012-0012 (amended by Resolution 2012-0031 on June 19, 2012) which contained a general exception to the California Ocean Plan for discharges of storm water and non-point sources (ASBS Exception). This resolution also contains the Special Protections that are to be implemented for direct discharges to ASBS. Resolution 2012-0012 is hereby incorporated by reference and its requirements must be complied with by industrial storm water Dischargers discharging directly to ASBS.
5. This General Permit requires Dischargers who have been granted an Ocean Plan exception for discharges to ASBS to comply with the requirements contained in the Special Protections. These requirements are contained below.

B. ASBS Non-Storm Water Discharges

1. The term “ASBS Non-Storm Water Discharges” means any waste discharges from a municipal separate storm sewer system (MS4) or other NPDES permitted storm drain system to an ASBS that are not comprised entirely of storm water.
2. Only the following ASBS Non-Storm Water Discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability or occur naturally:

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- a. Discharges associated with emergency fire fighting operations.
 - b. Foundation and footing drains.
 - c. Water from crawl space or basement pumps.
 - d. Hillside dewatering.
 - e. Naturally occurring groundwater seepage via a storm drain.
 - f. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.
3. Authorized ASBS Non- Storm Water Discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.
 4. At the San Clemente Island ASBS, discharges incidental to military training and research, development, test, and evaluation operations are allowed. Discharges incidental to underwater demolition and other in-water explosions are not allowed in the two military closure areas in the vicinity of Wilson Cove and Castle Rock. Discharges must not result in a violation of the water quality objectives, including the protection of the marine aquatic life beneficial use, anywhere in the ASBS.
 5. At the San Nicolas Island and Begg Rock ASBS, discharges incidental to military research, development, testing, and evaluation of, and training with, guided missile and other weapons systems, fleet training exercises, small-scale amphibious warfare training, and special warfare training are allowed. Discharges incidental to underwater demolition and other in-water explosions are not allowed. Discharges must not result in a violation of the water quality objectives, including the protection of the marine aquatic life beneficial use, anywhere in the ASBS.

C. ASBS Compliance Plan

1. State Water Board Resolution 2012-0012 grants an exception to the Ocean Plan's prohibition on discharges to ASBS (ASBS Exception) to applicants who were identified as Dischargers of industrial storm water to ASBS (ASBS Dischargers). Each ASBS Discharger shall specifically address the prohibition of ASBS Non-Storm Water Discharges and the requirement to maintain natural water quality for industrial storm water discharges to an ASBS in an ASBS Compliance Plan to be included in the ASBS Discharger's SWPPP. The ASBS Compliance Plan is subject to approval by the Executive Director of the State Water Board. The ASBS Compliance Plan shall include:

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- a. A map of surface drainage of storm water runoff, showing areas of sheet runoff and priority discharges, and a description of any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. Priority discharges are those that pose the greatest water quality threat and which are identified as requiring installation of structural BMPs. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable. The SWPPP shall also include a procedure for updating the map and plan when changes are made to the storm water conveyance facilities.
- b. A description of the measures by which all unauthorized ASBS Non-Storm Water Discharges (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.
- c. A description of how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the Discharger can document to the satisfaction of the Executive Director that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:
 - 1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
 - 2) A 90% reduction in pollutant loading during storm events, for the applicant's total discharges.

The baseline date for the reduction is March 20, 2012 (the effective date of the ASBS Exception), except for those structural BMPs installed between January 1, 2005 and the adoption of these special protections. The reductions must be achieved and documented by March 20, 2018.
- d. A description of how the ASBS Discharger will address erosion and the prevention of anthropogenic sedimentation in the ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.
- e. A description of the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures, currently employed and planned for higher threat discharges and include an

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implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, ASBS Dischargers must first consider using LID practices to infiltrate, use, or evapotranspiration storm water runoff on-site. The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.

D. Reporting

If the results of the receiving water monitoring described in Section F. below (Sampling and Analysis Requirements) indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the ASBS Discharger shall submit a report to the State Water Board within 30 days of receiving the results.

1. The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.
2. The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWPPP for future implementation, and any additional BMPs that may be added to the SWPPP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.
3. Within 30 days of the approval of the report by the Executive Director, the ASBS Discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.
4. As long as the ASBS Discharger has complied with the procedures described above and is implementing the revised SWPPP, the Discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.
5. Compliance with this section does not excuse violations of any term, prohibition, or special condition contained in the Special Protections of the ASBS Exception.

E. Compliance Schedule

1. As of March 20, 2012, all unauthorized ASBS Non-Storm Water Discharges (e.g., dry weather flow) were effectively prohibited.
2. By September 20, 2013, the Discharger shall submit a draft written ASBS Compliance Plan to the Executive Director that describes its strategy to comply with these special conditions, including the requirement to maintain natural water

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quality in the affected ASBS. The ASBS Compliance Plan shall include a description of appropriate non-structural controls and a time schedule to implement structural controls (implementation schedule) to comply with these special conditions for inclusion in the Discharger's SWPPP.

3. By September 20, 2014, the Discharger shall submit the final ASBS Compliance Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring.
4. By September 20, 2013, any non-structural controls that are necessary to comply with these special conditions shall be implemented.
5. By March 20, 2018, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these special conditions shall be operational.
6. By March 20, 2018, all Dischargers must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the Discharger must re-sample the receiving water, pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See Flowchart at the end of this Attachment.
7. The Executive Director may only authorize additional time to comply with the special conditions 5 and 6, above if good cause exists to do so. Good cause means a physical impossibility or lack of funding

If a Discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the Discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in 5. or 6. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of these requirements. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The Discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

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- a. for municipalities, a demonstration of significant hardship to Discharger ratepayers, by showing the relationship of storm water fees to annual household income for residents within the Discharger's jurisdictional area, and the Discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or
- b. for other governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

F. Additional Requirements – Waterfront and Marine Operations

In addition to the above provisions, a Discharger with waterfront and marine operations shall comply with the following:

1. For discharges related to waterfront and marine operations, the Discharger shall develop a Waterfront and Marine Operations Management Plan (Waterfront Plan). This plan shall contain appropriate Management Measures/Practices to address nonpoint source pollutant discharges to the affected ASBS.
 - a. The Waterfront Plan shall contain appropriate Management Measures/Practices for any waste discharges associated with the operation and maintenance of vessels, moorings, piers, launch ramps, and cleaning stations in order to ensure that beneficial uses are protected and natural water quality is maintained in the affected ASBS.
 - b. For discharges from marinas and recreational boating activities, the Waterfront Plan shall include appropriate Management Measures, described in The Plan for California's Nonpoint Source Pollution Control Program, for marinas and recreational boating, or equivalent practices, to ensure that nonpoint source pollutant discharges do not alter natural water quality in the affected ASBS.
 - c. The Waterfront Plan shall include Management Practices to address public education and outreach to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in these Special Protections. The management practices shall include appropriate signage, or similar measures, to inform the public of the ASBS restrictions and to identify the ASBS boundaries.
 - d. The Waterfront Plan shall include Management Practices to address the prohibition against trash discharges to ASBS. The Management Practices shall include the provision of adequate trash receptacles for marine recreation areas, including parking areas, launch ramps, and docks. The plan shall also include appropriate Management Practices to ensure that the receptacles are

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- adequately maintained and secured in order to prevent trash discharges into the ASBS. Appropriate Management Practices include covering the trash receptacles to prevent trash from being windblown, staking or securing the trash receptacles so they don't tip over, and periodically emptying the receptacles to prevent overflow.
- e. The Discharger shall submit its Waterfront Plan to the State Water Board Executive Director by September 20, 2012. The Waterfront Plan is subject to approval by the State Water Board Executive Director. The plan must be fully implemented within by September 20, 2013.
2. The discharge of chlorine, soaps, petroleum, other chemical contaminants, trash, fish offal, or human sewage to ASBS is prohibited. Sinks and fish cleaning stations are point source discharges of wastes and are prohibited from discharging into ASBS. Anthropogenic accumulations of discarded fouling organisms on the sea floor must be minimized.
 3. Limited-term activities, such as the repair, renovation, or maintenance of waterfront facilities, including, but not limited to, piers, docks, moorings, and breakwaters, are authorized only in accordance with Chapter III.E.2 of the Ocean Plan.
 4. If the Discharger anticipates that the Discharger will fail to fully implement the approved Waterfront Plan within the 18 month deadline, the Discharger shall submit a technical report as soon as practicable to the Executive Director. The technical report shall contain reasons for failing to meet the deadline and propose a revised schedule to fully implement the plan.
 5. The State Water Board may, for good cause, authorize additional time to comply with the Waterfront Plan. Good cause means a physical impossibility or lack of funding.

If a Discharger claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the Discharger first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in Section F.1.e above. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Attachment. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Discharger to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Discharger shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality. The Discharger may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

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- a. a demonstration of significant hardship by showing that the Discharger has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate.
- b. for governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

G. Sampling and Analysis Requirements

1. Monitoring is mandatory for all ASBS Dischargers to assure compliance with the Ocean Plan. Monitoring requirements include both: (1) Core Discharge Monitoring and (2) Ocean Receiving Water Monitoring (see Sections H. and I. below). The State and Regional Water Boards must approve sampling site locations and any adjustments to the monitoring programs. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).
2. Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notifying the Executive Director that hazardous conditions prevail.
3. Analytical Chemistry Methods: All constituents must be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, must be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

H. Core Discharge Monitoring Program

1. General sampling requirements for timing and storm size:

Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected during the same storm and at approximately the same time when post-storm receiving water is sampled, and analyzed for the same constituents as receiving water and reference site samples as described in Section I. below.

2. Runoff flow measurements

- a. For industrial storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width (including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be

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- measured or calculated, using a method acceptable to and approved by the Executive Director.
- b. This will be reported annually for each precipitation season to the Executive Director.
3. Runoff samples – storm events
 - a. For outfalls equal to or greater than 18 inches (0.46m) in diameter or width:
 - 1) samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, if within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination; and 2) samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.
 - b. For outfalls equal to or greater than 36 inches (0.91m) in diameter or width:
 - 1) samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, if within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination; and
 - 2) samples of storm water runoff shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals (provided at the end of this Attachment) for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates); and
 - 3) samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.
 - 4) if an ASBS Discharger has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals (provided at the end of this Attachment) for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).
 - c. For an applicant not participating in a regional integrated monitoring program [see below in Section I.3.] in addition to the sampling requirements in Section H.3.a. and b. above, a minimum of the two largest outfalls or 20 percent of the

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- larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A constituents, Table B constituents (Table A and B constituents are provided at the end of this Attachment) for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.
- d. The Executive Director may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

I. Ocean Receiving Water and Reference Area Monitoring Program

1. In addition to performing the Core Discharge Monitoring Program in Section H. above, all ASBS Dischargers must perform ocean receiving water monitoring. In order to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS, ASBS Dischargers may choose either (1) an individual monitoring program, or (2) participation in a regional integrated monitoring program.
2. Individual Monitoring Program: The requirements listed below are for those ASBS Dischargers who elect to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS. In addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:
 - a. Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in Section H.3. above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents (Table A and B constituents are provided at the end of this Attachment) for marine aquatic life, DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled prior to (pre-storm), and during (or immediately after) the same storm (post-storm). Post-storm sampling shall be during the same storm and at approximately the same time as when the runoff is sampled. Reference water quality shall also be

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- sampled three times annually and analyzed for the same constituents pre-storm and post-storm, during the same storm seasons when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).
- b. Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents (provided at the end of this Attachment) for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.
 - c. A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.
 - d. Once during each five (5) year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.
 - e. Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the ASBS Discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.
 - f. The monitoring requirements of the Individual Monitoring Program in this Section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point

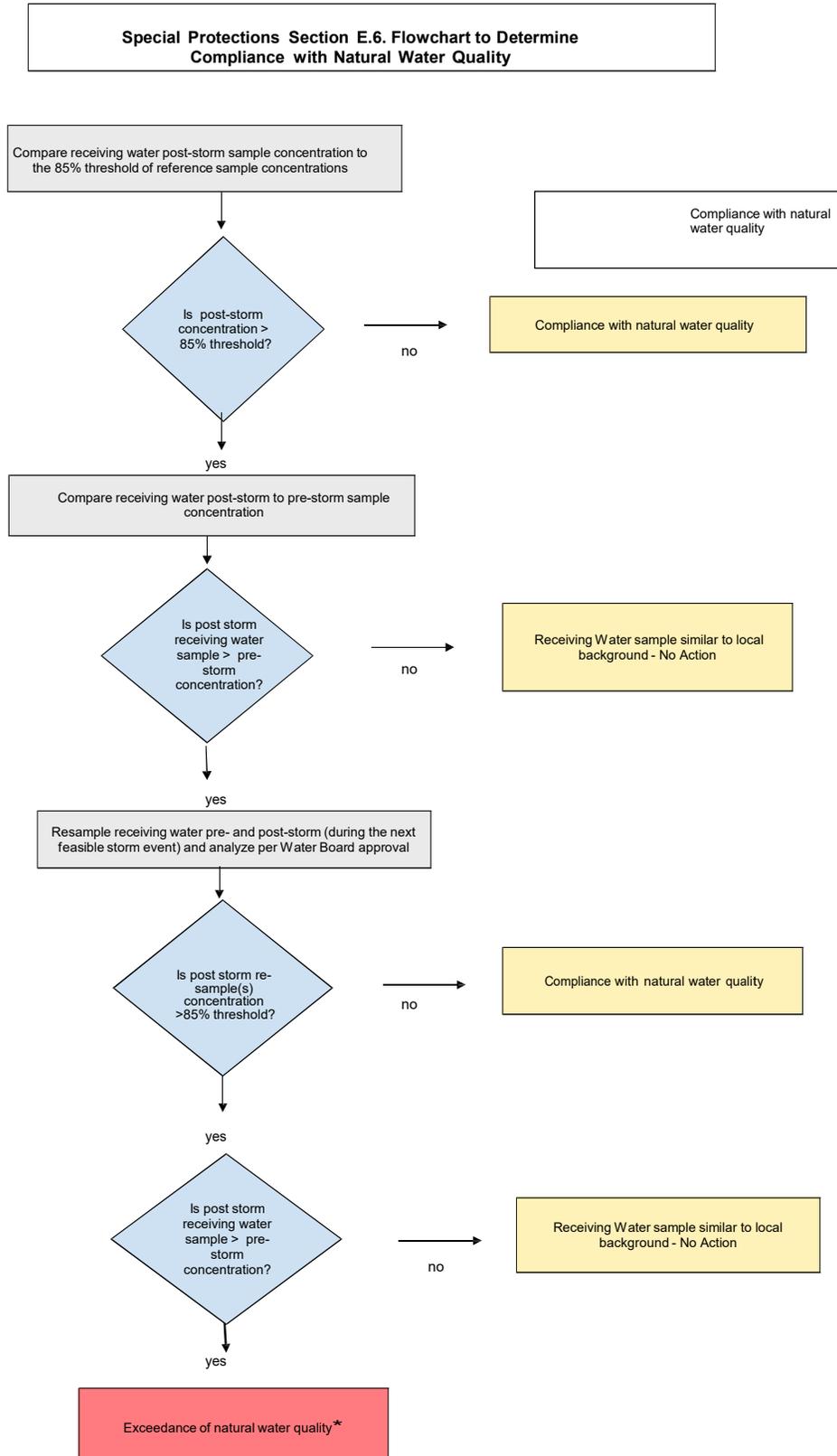
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- after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.
3. Regional Integrated Monitoring Program: ASBS Dischargers may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the otherwise prescribed individual monitoring approach (in Section I.2.) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.
 - a. Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are 303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional integrated monitoring program, the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm during the same storm season that receiving water is sampled. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled per responsible party. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.
 - b. ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than 18 inches.) Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate

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- storm. A minimum of one receiving water location shall be sampled in each ASBS per responsible party in that ASBS. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.
- c. Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected during the same storm event when storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons. For those ASBS Dischargers that have already participated in the Southern California Bight 2008 ASBS regional monitoring effort, sampling may be limited to only one storm season.
- d. Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals (provided at the end of this Attachment) for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.

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* When an exceedance of natural water quality occurs, the Discharger must comply with Section D. Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.

ASBS Monitoring

TABLE A
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Grease and Oil	mg/L
Suspended Solids	Mg/L
Settleable Solids	mL/L
Turbidity	NTU
PH	

TABLE B
Monitoring Constituent List
(Excerpted from California Ocean Plan dated 2009)

Constituent	Units
Arsenic	µg/L
Cadmium	µg/L
Chromium	µg/L
Copper	µg/L
Lead	µg/L
Mercury	µg/L
Nickel	µg/L
Selenium	µg/L
Silver	µg/L
Zinc	µg/L
Cyanide	µg/L
Total Chlorine Residual	µg/L
Ammonia (as N)	µg/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	µg/L
Chlorinated Phenolics	µg/L
Endosulfan	µg/L
Endrin	µg/L
HCH	µg/L

Analytical Chemistry Methods: All constituents shall be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, shall be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

ATTACHMENT H

SAMPLE COLLECTION AND HANDLING INSTRUCTIONS

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

For more detailed guidance, Dischargers should refer to the U.S. EPA's "Industrial Stormwater Monitoring and Sampling Guide," dated March 2009, available at: http://www.epa.gov/npdes/pubs/msgp_monitoring_guide.pdf and the "NPDES Storm Water Sampling Guidance Document," dated July 1992, available at: <http://www.epa.gov/npdes/pubs/owm0093.pdf>.

1. Identify the sampling parameters required to be tested and the number of storm water discharge points that will be sampled. Request the analytical testing laboratory to provide the appropriate number and type of sample containers, sample container labels, blank chain of custody forms, and sample preservation instructions.
2. Determine how samples will be transported to the laboratory. The testing laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory). The Discharger may either deliver the samples to the laboratory, arrange for the laboratory to pick up the samples, or overnight ship the samples to the laboratory. All sample analysis shall be done in accordance with 40 Code of Federal Regulations part 136. Samples for pH have a holding time of 15 minutes.¹
3. Qualified Combined Samples shall be combined by the laboratory and not by the Discharger. Sample bottles must be appropriately labeled to instruct the laboratory on which samples to combine.
4. Unless the Discharger can provide flow weighted information, all combined samples shall be volume weighted.
5. For grab samples, use only the sample containers provided by the laboratory to collect and store samples. Use of any other type of containers may contaminate samples.
6. For automatic samplers that are not compatible with bottles provided by the laboratory, the Discharger is required to send the sample container included with the automatic sampler to the laboratory for analysis.

¹ 40 C.F.R. section 136.3, Table II - Required Containers, Preservation Techniques, and Holding Times.

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7. The Discharger can only use automatic sampling device to sample parameters that the device is designed to. For pH, Dischargers can only use automatic sampling devices with the ability to read pH within 15 minutes of sample collection.
8. The Discharger is prohibited from using an automatic sampling device for Oil and Grease, unless the automatic sampling device is specifically designed to sample for Oil and Grease.
9. To prevent contamination, do not touch inside of sample container or cap or put anything into the sample containers before collecting storm water samples.
10. Do not overfill sample containers. Overfilling can change the analytical results.
11. Tightly screw on the cap of each sample container without stripping the threads of the cap.
12. Complete and attach a label for each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.
13. Carefully pack sample containers into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment. Remember to place frozen ice packs into shipping containers. Samples should be kept as close to 4 degrees Celsius (39 degrees Fahrenheit) as possible until arriving to the laboratory. Do not freeze samples.
14. Complete a Chain of Custody form for each set of samples. The Chain of Custody form shall include the Discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, and the analysis that is required for each sample container.
15. Upon shipping/delivering the sample containers, obtain both the signatures of the persons relinquishing and receiving the sample containers.
16. Dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the sample protocols and laboratory practices.
17. Refer to Table 1 in the General Permit for test methods, detection limits, and reporting units.
18. All sampling and sample preservation shall be in accordance with 40 Code of Federal Regulations part 136 and the current edition of "Standard Methods for

SAMPLE COLLECTION AND HANDLING INSTRUCTIONS

the Examination of Water and Wastewater” (American Public Health Association). All monitoring instruments and equipment (including Discharger field instruments for measuring pH or specific conductance if identified as an additional sampling parameter) shall be calibrated and maintained in accordance with manufacturers’ specifications to ensure accurate measurements. All laboratory analyses shall be conducted according to approved test procedures under 40 Code of Federal Regulations part 136, unless other test procedures have been specified by the Regional Water Quality Control Board. All metals shall be reported as total metals. Dischargers may conduct their own field analysis of pH (or specific conductance if identified as an additional sampling parameter) if the Discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis. With the exception of field analysis conducted by Dischargers for pH (or specific conductance if identified as an additional sampling parameter), all analyses shall be sent to and conducted at a laboratory certified for such analyses by the California Department of Public Health. Dischargers are required to report to the Water Board any sampling data collected more frequently than required in this General Permit (Section XXI.J.2)

APPENDIX 1

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES
(GENERAL PERMIT)

FACILITY NAME: _____

Waste Discharge Identification (WDID) #: _____

	FACILITY CONTACT	Consultant/Qualified Industrial Storm Water Practitioner (QISP)
Name		
Title		
Company		
Street Address		
City, State		
Zip		

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Signed Certification (Section II.A)			
Pollution Prevention Team (Section X.D.1)			
Existing Facility Plans (Section X.D.2)			
Site Map(s) (Section X.E)			
Facility boundaries (Section X.E.3.a)			
Drainage areas (Section X.E.3.a)			
Direction of flow (Section X.E.3.a)			
On-facility water bodies (Section X.E.3.a)			

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
CHECKLIST**

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Areas of soil erosion (Section X.E.3.a)			
Nearby water bodies (Section X.E.3.a)			
Municipal storm drain inlets (Section X.E.3.a)			
Points of discharge (Section X.E.3.b)			
Sampling Locations (Section X.E.3.b)			
Structural control measures (Section X.E.3.c)			
Impervious areas (Section X.E.3.d)			
Location of Directly Exposed Materials (Section X.E.3.e)			
Locations of significant spills and leaks (Section X.E.3.e)			
Areas of Industrial Activity (Section X.E.3.f)			
Areas of industrial activity (Section X.E.3.f)			
Storage areas/storage tanks (Section X.E.3.f)			
Shipping and receiving areas (Section X.E.3.f)			
Fueling areas (Section X.E.3.f)			
Vehicle and equipment storage/maintenance (Section X.E.3.f)			
Material handling/processing (Section X.E.3.f)			
Waste treatment/disposal (Section X.E.3.f)			
Dust or particulate generation (Section X.E.3.f)			
Cleaning and material reuse (Section X.E.3.f)			

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
CHECKLIST**

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Other areas of industrial activities (Section X.E.3.f)			
List of Industrial Materials (Section X.F)			
Storage location			
Quantity			
Frequency			
Receiving and shipping location			
Quantity			
Frequency			
Handling location			
Quantity			
Frequency			
Potential Pollution Sources (Section X.G)			
Description of Potential Pollution Sources (Section X.G.1)			
Industrial processes (Section X.G.1.a)			
Material handling and storage areas (Section X.G.1.b)			
Dust & particulate generating activities (Section X.G.1.c)			
Significant spills and leaks (Section X.G.1.d)			
Non-storm water discharges (Section X.G.1.e)			
Erodible surfaces (Section X.G.1.f)			
Assessment of Potential Pollutant Sources (Section X.G.2)			
Narrative assessment of likely sources of pollutants (Section X.G.2.a)			
Narrative assessment of likely pollutants present in storm water discharges (Section X.G.2.a)			
Identification of additional BMPs Section X.G.2.b)			

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Identification of drainage areas with no exposure (Section X.G.2.c)			
Identification of additional parameters (Section X.G.2.d)			
Storm Water Best Management Practices (Section X.H)			
Minimum BMPs (Section X.H.1)			
Good housekeeping (Section X.H.1.a)			
Preventative maintenance (Section X.H.1.b)			
Spill response (Section X.H.1.c)			
Material handling and waste management (Section X.H.1.d)			
Erosion and sediment controls (Section X.H.1.e)			
Employee training program (Section X.H.1.f)			
Quality assurance and record keeping (Section X.H.1.g)			
Advanced BMPs (Section X.H.2)			
Implement advanced BMPs at the facility (Section X.H.2.a)			
Exposure Minimization BMPs (Section X.H.2.b.i)			
Storm Water containment and discharge reduction BMPS (Section X.H.2.b.ii)			
Treatment Control BMPs (Section X.H.2.b.iii)			
Other advance BMPs (Section X.H.2.b.iv)			
Temporary Suspension of Activities (Section X.H.3)			
BMPs necessary for stabilization of the facility (Section X.H.3)			

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
CHECKLIST**

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
BMP Descriptions (Section X.H.4)			
Pollutant that a BMP reduces or prevents (Section X.H.4.a.i)			
Frequency of BMP implementation (Section X.H.4.a.ii)			
Location of BMP (Section X.H.4.a.iii)			
Person implementing BMP (Section X.H.4.a.iv)			
Procedures/maintenance/ instructions for BMP implementation (Section X.H.4.a.v)			
Equipment and tools for BMP implementation (Section X.H.4.a.vi)			
BMPs needing more frequent inspections (Section X.H.4.a.vii)			
Minimum BMP/applicable advanced BMPs not implemented at the facility (Section X.H.4.b)			
BMPs implemented in lieu of minimum or applicable advanced BMPs (Section X.H.4.c)			
BMP Summary Table (Section X.H.5)			
Monitoring Implementation Plan (Section X.I)			
Team members assisting in developing the MIP (Section X.I.1)			
Summary of visual observation procedures, locations, and details (Section X.I.2)			
Justifications if applicable for: Alternative discharge locations, Representative Sampling Reduction or, Qualified Combined Samples (Section X.I.3)			
Procedures for field instrument calibration (Section X.I.4)			

**STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
CHECKLIST**

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Example of Chain of Custody (Section X.I.5)			
Annual Comprehensive Facility Compliance Evaluation (Section XV)			
Review of all visual inspection and monitoring records and sampling and analysis results conducted during the previous reporting year (Section XV.A)			
Visual inspection of all areas of industrial activity and associated potential pollutant sources (Section XV.B)			
Visual inspection of all drainage areas previously identified as having no-exposure to industrial activities and materials in accordance with the definitions in Section XVII (Section XV.C)			
Visual inspection of equipment needed to implement the BMPs (Section XV.D)			
Visual inspection of any structural and/or treatment control BMPs (Section XV.E)			
Review and assessment of all BMPs for each area of industrial activity and associated potential pollutant sources (Section XV.F)			
Assessment of other factors needed to complete the information described in Section XVI.B (Section XV.G)			

APPENDIX 2

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES (GENERAL PERMIT)

This Attachment provides general guidance instructions and guidance for obtaining NEC coverage. The actual NEC requirements are primarily contained in Section XVII of this General Permit.

A. INSTRUCTIONS:

Who May File for NEC Coverage

Sections 301 and 402(p) of the Clean Water Act (CWA), and Sections 1311 and 1342(p) of 33 United States Code prohibit the discharge of storm water associated with industrial activity to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit. However, NPDES permit coverage is “conditionally excluded” for discharges of storm water associated with industrial activities (industrial storm water discharges) if the Discharger can certify that a condition of “No Exposure” exists at the industrial facility. A condition of “No Exposure” means that a Discharger’s industrial activities and materials are not exposed to storm water. Industrial storm water discharges from construction and land disturbance activities are ineligible for the NEC coverage. Dischargers who file valid NECs in accordance with these instructions are not required to implement Best Available Technology Economically Achievable /Best Conventional Pollutant Control Technology and comply with the Storm Water Pollution Prevention Plan (SWPPP) and monitoring requirements of this General Permit.

Obtaining and Maintaining NEC Coverage

A Discharger must electronically certify and submit NEC Permit Registration Documents (PRDs) via State Water Resources Control Board’s (State Water Board’s) Storm Water Multi-Application and Report Tracking System (SMARTS) to obtain NEC coverage. This conditional exclusion does not become effective until the PRDs are submitted and the annual fee is paid. Upon receipt of the annual fee, the Discharger will electronically receive an NEC acceptance notification via SMARTS, which will include a Waste Discharge Identification (WDID) number. A Discharger must maintain a condition of “No Exposure” at the facility for the conditional exclusion to remain applicable. The Discharger must annually electronically re-certify the NEC via SMARTS to confirm that the conditions of “no exposure” are being maintained. If conditions change resulting in the exposure of materials and activities to storm water, the Discharger must electronically certify and submit PRDs via SMARTS for Notice of Intent (NOI) coverage under the General Permit for Storm Water Discharges Associated with Industrial Activities (General Permit).

Fees

First time NEC coverage PRDs and the annual re-certification require a fee. Fees may be changed by State Water Board regulation, independent of this General Permit.

How to Prepare and Submit PRDs for NEC Coverage

A Discharger must electronically certify and submit PRDs for NEC coverage in accordance with the instructions provided at the State Water Board web site for SMARTS:

<https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

A Discharger with multiple facilities that satisfy the conditions of “No Exposure” must certify and submit PRDs for each facility. The Discharger is required to inspect and evaluate each individual facility to determine the condition of No-Exposure. The Discharger must retain an electronic or paper copy of the NEC coverage acceptance notification for their records.

The following information is required in the PRDs:

Discharger Information

1. The legal business name of the business entity, public organization, or any other entity that operates the facility described in the certification. The name of the operator may or may not be the same as the name of the facility. The operator is the legal entity that controls the facility operations, not the plant or site manager.
2. The mailing address of the facility operator, including the city, state, and zip code.
3. The facility operator contact person, telephone number and e-mail address.

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

Facility Information

4. The legal business name of the facility.
5. The total acreage of the facility associated with industrial activity. (Facility size in acres is calculated by taking the square feet and dividing by 43,560.)
6. The complete physical street address (e.g. the street address used for express deliveries), including the city, State, and zip code. Do not use a P.O. Box number. If a physical street address does not exist, describe the location or provide the latitude and longitude of a point within the facility boundary. Latitude and longitude are available from United States Geological Survey quadrangle or topographic maps, or may be found using a mapping site on the internet.
7. The facility contact person, telephone number, and e-mail address.
8. The 4-digit Standard Industrial Classification (SIC) code that represents the facility primary industrial activity. Provide a brief description of the primary industrial activity. If applicable, enter other significant SIC codes and descriptions. To obtain these codes, see the 1987 SIC Manual or the Occupational Health and Safety Administration's site:

<http://www.osha.gov/pls/imis/sicsearch.html>
9. If the facility is currently covered under the General Permit, include the WDID number. The WDID number will be used at a later date to terminate the facility's coverage under the General Permit as necessary.

Facility Mailing or Billing Address

Completion of this item is required the facility mailing address or billing address differs from the physical facility address provided above. The Discharger must indicate which address the annual fee invoice must be sent to if the State Water Board is unable to transmit the invoice electronically.

Site Maps

Site maps must be prepared and submitted in accordance with the requirements in Section X.E of this General Permit.

NEC Checklist

The Discharger must evaluate the eleven major areas that storm water exposure may occur, per the listing at the end of this appendix. The Discharger must be able to certify

that none of these major areas have potential for exposure. If the Discharger cannot certify that every one of the eleven major areas do not have exposure, a potential for exposure exists at the facility and the facility is not eligible for NEC coverage. The Discharger must obtain (or continue) NOI coverage under this General Permit if the facility is not eligible for NEC coverage. After obtaining NOI coverage, the Discharger may implement facility modifications to eliminate the potential for a discharge of storm water exposed to industrial activity, and then change their NOI coverage to NEC coverage by certifying the conditions of "No Exposure" are met.

Certification

Federal and state statutes provide for severe penalties for Dischargers that submit false information on the PRDs. Dischargers shall certify and submit PRDs via SMARTS for NEC coverage in accordance with Electronic Signature and Certification Requirements in Section XXI.K of this General Permit.

B. GUIDANCE:

Contact your local Regional Water Quality Control Board (Regional Water Board) office with questions regarding this guidance.

1. Who is Eligible to Qualify for the No Exposure Certification (NEC) - Conditional Exclusion?

All industrial categories listed in Attachment A of this General Permit (excluding construction) are eligible to apply for the NEC coverage.

2. Limitations on Eligibility for NEC coverage

In addition to construction projects not being eligible, the following situations limit the applicability of NEC coverage:

- a. NEC coverage is available on a facility-wide basis only, not for individual drainage areas or discharge locations. Generally, if any exposed industrial materials or activities exist, or have a potential to exist, anywhere at a facility, NEC coverage is not applicable to the facility. If the Regional Water Board determines that a facility does have exposure or the facility's storm water discharges have a reasonable potential to cause or contribute to an exceedance of applicable water quality objectives/standards, the Regional Water Board can deny NEC coverage.
- b. If changes at a facility result in potential exposure of industrial activities or materials, the facility is no longer eligible for NEC coverage. Dischargers

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

shall register for NOI coverage under this General Permit prior to a planned facility change that will cause exposure, or within seven (7) calendar days after unplanned exposure occurs. If an unplanned exposure occurs due to an emergency response or one-time event that is unlikely to re-occur, a Discharger may contact the Regional Water Board to discuss whether the requirement to obtain NOI coverage can be waived. Unless the Discharger receives a written waiver from the Regional Water Board, the Discharger shall electronically certify and submit PRDs to obtain NOI coverage.

- c. Current contamination resulting from historic industrial practices at the facility (e.g., soil contamination, groundwater contamination, etc.) represents a condition of exposure to waters of the United State; therefore a facility with historic contamination is not eligible for NEC coverage.

3. What is the Definition of No Exposure?

- a. No Exposure means all industrial materials and activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt and/or runoff.
- b. Industrial materials and activities include, but are not limited to, material-handling equipment or activities; industrial machinery; raw materials, intermediate products, by-products, and final products; or waste products.
- c. Material handling activities include storage, loading and unloading, transport, or conveyance of any raw material, intermediate product, by-product, final product, or waste product.
- d. Final products intended to be used outdoors (e.g., automobiles) typically pose little risk of polluting storm water since not typically contaminated with pollutants that become mobilized by contact with storm water. Final products are exempt from the requirement for protection by a storm-resistant shelter to qualify for no exposure. Similarly, containers, racks, and other transport platforms (e.g., wooden pallets) used for the storage or conveyance of final products may also be stored outside if pollutant-free or pollutants do not mobilize via contact with storm water.
- e. Storm-resistant shelters include: (1) completely roofed and walled buildings or structures, (2) structures with only a top cover (no side coverings) supported by permanent supports, provided material within the structure is not subject to wind dispersion (sawdust, powders, etc.) or being

tracked out of the facility, and is not a source of pollutants in the industrial storm water discharges.

4. Industrial Materials/Activities Not Requiring a Storm-Resistant Shelter

The intent of the “No Exposure” exclusion is to maintain a condition of permanent “No Exposure”. A storm-resistant shelter is not required for the following industrial materials and activities:

- a. Drums, Barrels, Tanks, and Similar Containers that are sealed (“sealed” means banded or otherwise secured and without operational taps or valves), are not exposed provided those containers are not deteriorated, do not contain residual materials on the outside surfaces, and do not leak. Drums, barrels, etc., that are not opened while outdoors, or are not deteriorated or leaking, and that do not pose a risk of contaminating storm water runoff. Consider the following when making a “No Exposure” determination:
 - i. Materials shall not be added or withdrawn to/from containers while outdoors
 - ii. Simply moving containers while outside does not create exposure unless exposure occurs when pollutants are “tracked out” by the container handling equipment or vehicles.
 - iii. All outdoor containers shall be inspected to ensure they are not open, deteriorated, or leaking. When an outdoor container is observed as opened, deteriorated, or leaking, the container must immediately be closed, replaced, or sheltered. Frequent detection of open, deteriorated, or leaking containers, or failure to immediately close, replace, or shelter opened, deteriorated or leaking containers will cause a condition of exposure.
 - iv. Containers, racks, and other transport platforms (e.g., wooden pallets) used with drums, barrels, etc., can be stored outside providing they are contaminant-free and in good repair.
- b. Above Ground Storage Tanks (ASTs) In addition to generally being considered as not exposed, ASTs may also be exempt from the prohibition against adding or withdrawing material to/from external containers. ASTs typically use transfer valves to dispense materials that support facility operations (e.g., heating oil, propane, butane, chemical feedstock) or fuel for delivery vehicles (gasoline, diesel, compressed natural gas). For operational

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

ASTs to qualify for “No Exposure”, the following must be satisfied:

- i. The tank(s) shall be physically separated from and not associated with vehicle maintenance operations.
 - ii. There shall be no leaks from piping, pumps, or other equipment that has the potential to come in contact with storm water.
 - iii. Wherever feasible, the tank(s) shall have secondary containment (e.g., an impervious dike, berm or concrete retaining structure) to prevent runoff in the event of a structural failure or leaking transfer valve. Note: any resulting unpermitted discharge is in violation of the CWA.
- c. Lidded Dumpsters. Lidded dumpsters containing waste materials, providing the containers are completely covered and nothing can drain out holes in the bottom, spilled when loaded into the dumpster, or spilled in loading into a garbage truck. Industrial waste materials and trash that is stored uncovered is considered exposed.
- d. Adequately maintained vehicles, such as trucks, automobiles, forklifts, trailers or other general-purpose vehicles found onsite - but not industrial machinery that are not leaking, are in good repair or are not otherwise a potential source of contaminants:
- i. Vehicles passing between buildings may be exposed to storm water, however if the vehicles are adequately maintained, a condition of exposure may not exist. Similarly, non-leaking vehicles awaiting maintenance at vehicle maintenance facilities are not considered as potential exposure. However, vehicles that have been washed or rinsed that are not completely dry prior to outside exposure have the potential to cause a condition of exposure. Vehicles that track materials out of the facility are considered to be mobilizing pollutants. Vehicles that exit maintenance bays are also considered to cause exposure.
 - ii. The mere conveyance between buildings of materials / products that are otherwise not allowed to be stored outdoors, does not create a condition of exposure, provided the materials/products are adequately protected from storm water and do not have the potential to be released as a result of a leak or spill.
- e. Final products built and intended for use outdoors (e.g., new cars), provided the final products have not deteriorated, are not contaminated, or are not otherwise potential sources of contaminants.
- Types of final products not qualifying for a certification of “No Exposure”:
- i. Products that may be mobilized in storm water discharges (e.g., rock salt).
 - ii. Products, which may, when exposed, oxidize, deteriorate, leak, or otherwise be a potential source of contaminants (e.g., junk cars, stockpiled train rails).
 - iii. “Final” products that are, in actuality, “intermediate” products. Intermediate products are those used in the composition of yet another product (i.e., sheet metal, tubing, and paint used in making tractors).
 - iv. Even if the intermediate product is “final” for a manufacturer and destined for incorporation in a “final product intended for use outdoors,” the product is not allowed to be exposed because they may be chemically treated or are insufficiently impervious to weathering.
- f. Special Conditions for Construction Activities
Permanent, uninterrupted sheltering of industrial activities or materials may not always be possible during facility renovation or construction. When such circumstances exist, the Discharger is not required to obtain coverage under an NPDES permit as long as the following conditions are met:
- i. Materials and activities are protected with temporary covers or shelters (i.e. tarpaulins);
 - ii. Temporary covers or shelters prevent the contact of storm water to materials and activities;
 - iii. Materials are subject to wind dispersion are not stored under temporary sheltering;
 - iv. Temporary shelters are only used when necessary during facility renovation or construction and until permanent storm-resistant shelters as described above are available; and,
 - v. Temporary shelters are only used for a single period of ninety days or less. (Facilities with construction and renovation projects that will need the use of temporary shelters beyond 90 days, or that will require multiple periods of ninety

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

days or less, are required to be covered by an NPDES permit.)

5. Other Potential Sources of Contaminants

- a. Particulate Emissions from Roof Stacks and/or Vents: Deposits of particles or residuals from roof stacks/vents that have the potential to be mobilized by storm water runoff are considered exposed.
- b. Pollutants Potentially Mobilized by Wind Windblown materials cause a condition of exposure. Materials sheltered from precipitation are be deemed exposed if the materials has a potential to be mobilized by wind.

6. Certifying a Condition of “No Exposure”

To obtain the NEC coverage, the Discharger must electronically certify and submit PRDs via SMARTS that the facility meets the definition of “No Exposure” and pay an annual fee. The Discharger must **submit PRDs for NEC coverage even if the Discharger was not previously required to file for NEC coverage under the previous General Permit**. These PRDs include a checklist requiring the Discharger to evaluate eleven major areas to determine whether there is exposure of industrial activities and materials at the facility. To qualify for NEC coverage the Discharger must satisfy all the NEC coverage conditions in this General Permit and certify that there is “No Exposure”. The checklist: 1) aids the Discharger in determining if its facility is eligible for NEC coverage, and 2) furnishes the necessary documentation supporting relief from the General Permit’s requirement of NOI coverage. Additionally, Dischargers with NEC coverage are not required to develop and implement SWPPPs or comply with the monitoring requirements.

If a Discharger cannot certify that there is “No Exposure” at the facility, the Discharger must make appropriate changes at the facility to eliminate exposure prior to registering for future NEC coverage. Facility changes must remove all potential for pollutant exposure to storm water.

An annual inspection and evaluation, re-certification and fee are required thereafter.

7. Other NEC coverage Facts:

- a. NEC coverage is only valid if the condition of “No Exposure” exists and is reasonably expected to continue to exist. Dischargers shall electronically certify and submit PRDs for NOI coverage when the condition of “No Exposure” is no longer expected to exist.
- b. Dischargers must file PRDs for NEC coverage for each qualifying facility.
- c. An NEC must be submitted for each separate facility qualifying for the “No Exposure” conditional exclusion.
- d. An NEC is non-transferable. If a new operator takes over facility operations, the new operator shall electronically certify and submit PRDs and applicable fees for new NEC coverage via SMARTS prior to the operations transfer. NEC coverage cannot be transferred from one physical location to another regardless of ownership.

8. Operators May Be Required to Obtain NOI Coverage Based on the Protection Of Water Quality?

Operators who certified that their facilities qualify for NEC coverage may, nonetheless, be required by the Regional Water Board to obtain NOI coverage if the Regional Water Board determines that the facility’s discharge has the potential to cause or contribute to an exceedance of applicable water quality objectives/standards or determines that exposure exists at the facility. The Regional Water Board may request information and/or inspect the facility to assess potential water quality impacts and to determine if NOI coverage is required. The Discharger shall take appropriate actions to ensure compliance with the General Permit.

9. Steps to Obtain NEC coverage

This section will walk you through the process of obtaining NEC coverage.

Step 1: Determine if your facility is subject to this General Permit (refer to Attachment A of this General Permit). If yes, proceed to Step 2. If not, stop here.

If your facility is included in Attachment A and conducts industrial activities, you are required to **either** register for NOI coverage or NEC coverage.

Step 2: Determine if your regulated industrial activity meets the definition of “No Exposure” and qualifies for the exclusion from permitting. If yes, proceed to Step 3. If no, stop here and obtain NOI coverage. An

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

evaluation of the facility must be conducted by facility personnel familiar with the facility and its operations. Inspect all facility areas and potential pollutant sources to determine whether the facility satisfies the “No Exposure” conditions.

Step 3: Electronically certify and submit the PRDs for NEC coverage via SMARTS and mail the annual fee to the State Water Board at the following address:

SWRCB
Surface Water Permitting Section
PO Box 1977
Sacramento, CA 95812-1977

To maintain NEC coverage, the NEC must re-certify and pay a fee annually. This may only be done if the condition of “No Exposure” continues to exist at the facility.

Step 4: If requested, staff from the Water Boards, local Municipal Separate Storm Sewer System (MS4), or United States Environmental Protection Agency must be allowed to inspect your facility. All inspection reports will be made publicly available.

Step 5: Maintain a condition of “No Exposure”.

- NEC coverage is not a blanket exemption. Therefore, if facility physical or operational changes occur which cause exposure of industrial activities or materials to storm water, the Discharger must then immediately comply with all the requirements of this General Permit, including obtaining NOI coverage as applicable.
- To maintain the condition of “No Exposure”, the Discharger shall annually evaluate the facility to assure that the conditions of “No Exposure” still exist. More frequent evaluations may be necessary in circumstances when facility operations are rapidly changing.
- Failure to maintain the condition of “No Exposure” or otherwise obtain NOI coverage may lead to the unauthorized discharge of storm water associated with industrial activity to waters of the United States, resulting in penalties under the CWA and Water Code.

C. Frequently Asked Questions:

Q1. Who is eligible for NEC Coverage?

- A. Any Discharger operating a facility described in Attachment A may register for NEC coverage if their facility has a condition of “No Exposure”.

Q2. How does an eligible Discharger file for NEC coverage and where is the annual fee sent?

- A. The PRDs for NEC coverage shall be electronically certified and submitted in accordance with the instructions provided in SMARTS at the State Water Board website at: <https://smarts.waterboards.ca.gov/smarts/faces/SwSmaRtsLogin.jsp>. The fee is currently \$242, but may be changed by regulation. Once NEC coverage is accepted, an invoice will be electronically sent to the Discharger. The annual fee and invoice shall be sent to:
- State Water Resources Control Board
Division of Water Quality
Attention: Industrial Storm Water Unit
P.O. Box 1977
Sacramento, CA 95812-1977

Q3. If my facility’s storm water discharges are covered by an individual permit, can I file for NEC coverage?

- A. Yes. Storm water discharges covered by an individual permit are eligible for NEC coverage if the conditions at the facility satisfy the definition of “No Exposure” and you obtain approval to terminate individual permit coverage from the local Regional Water Board prior to PRD submittal. Approval from the Regional Water Board is mandatory. Many individual permits, for example, contain numeric storm water effluent limitations (“antibacksliding” provisions may prevent these facilities from qualifying for the “No Exposure” conditional exclusion).

Q4. My facility was originally excluded from the Phase I regulations because it was classified as a “light industrial facility”. The facility has never had any exposure to storm water runoff. Do I now need to certify that the facility meets the No Exposure Exclusion from NPDES Storm Water Permitting?

- A. Yes. See answer provided to question number 9, “What is the exclusion “conditional” upon?”

Q5. Do I have to file a Notice of Termination (NOT) and a register for NEC coverage if my facility has NOI coverage and qualifies for NEC coverage?

- A. No. You are only required to register for NEC coverage. You must provide the WDID# in your NEC coverage PRDs in order for the State Water Board to change permit coverage status.

Q6. When and how often is a NEC coverage re-certification required?

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

- A.** Re-certification of NEC coverage is required annually (assuming the facility maintains its “No Exposure” status). The State Water Board will electronically transmit an NEC re-certification and annual fee notification to each facility operator who has filed for NEC coverage.

New Dischargers must register for NEC coverage before the commencement of facility operations. Dischargers that fail to file for NEC coverage or apply for NOI coverage before the commencement of facility operations will be out of compliance and subject to enforcement.

Existing Dischargers have two options for submitting NECs:

1. Facility operators of “light industrial” facilities who have been operating under their original, no-certification-required permitting exemption must submit the NEC at any time prior to October 1, 2015. Dischargers who have not submitted an NEC or applied for permit coverage by this due date will be considered out of compliance and subject to Water Board enforcement.
2. Dischargers who have NOI coverage may register for NEC coverage at any time following completion of facility changes that result in the condition of “No Exposure”.

Q7. What happens if I know of changes that may cause exposure?

- A.** If exposure has the potential to occur in the near future due to some anticipated change at the facility, the Discharger must obtain NOI coverage to avoid potential enforcement for violations of this General Permit.

Q8. Is the NEC coverage transferable to a new Discharger?

- A.** No. If a new operator takes over your facility, the new operator must register for new NEC coverage prior to the transfer. A new application fee is required.

Q9. What is the exclusion “conditional” upon?

- A.** The exclusion from permit coverage requirements is “conditional” upon the certification of the Discharger that the facility does not have exposure of materials or activities to storm water. PRDs for NEC coverage shall be electronically submitted to the State Water Board and will not be accepted if incomplete. The Regional Water Board may review the information, contact and/or inspect the facility, and invalidate the NEC and require the Discharger to obtain NOI coverage. PRDs are

public documents and will be available for public review via SMARTS.

Q10. Can secondary containment around an outdoor exposed area qualify for a condition of “No Exposure”?

- A.** If secondary containment is engineered to always prevent a discharge of collected rainfall (based on the historical rainfall record) and a simultaneous spill of any other industrial materials or liquids, the “No Exposure” condition may be claimed. Note that there must be proper disposal of any water or liquids collected from the containment (i.e., discharged in compliance with another NPDES permit, treated and discharged to the sanitary sewer, or trucked offsite to an appropriate disposal/treatment facility).

D. NEC Checklist

An NEC Checklist must be prepared by the Discharger demonstrating that: (1) the facility has been evaluated, (2) none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation, and (3) all unauthorized NSWs have been eliminated:

1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed;
2. Materials or residuals on the ground or in storm water inlets from spills/leaks;
3. Materials or products from past industrial activity;
4. Material handling equipment (except adequately maintained vehicles);
5. Materials or products during loading/unloading or transporting activities;
6. Materials or products stored outdoors (except final products intended for outside use, i.e., new cars, where exposure to storm water does not result in the discharge of pollutants);
7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;
8. Materials or products handled/stored on roads or railways owned or maintained by the Discharger;
9. Waste material (except waste in covered, non-leaking containers, i.e., dumpsters);

INSTRUCTIONS FOR NO EXPOSURE CERTIFICATION (NEC)

10. Application or disposal of processed wastewater (unless already covered by an NPDES permit); and
11. Particulate matter or visible deposits of residuals from roof stacks/vents evident in the storm water outflow.

APPENDIX 3

WATERBODIES WITH CLEAN WATER ACT SECTION 303(D) LISTED IMPAIRMENTS

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES (GENERAL PERMIT)

The 303(d) impairments below are sourced from the 2010 Integrated Report. The rows in red are impairments for which industrial storm water Dischargers subject to this General Permit are not required to analyze for additional parameters unless directed by the Regional Water Board, because these parameters are typically not associated with industrial storm water. Test methods with substantially similar or more stringent method detection limits may be used if approved by the staff of the State Water Board prior to sampling and analysis and upon approval, will be added into SMARTS. The rows that are not in red are impairments for which Dischargers in the 303(d) impaired watershed are required to analyze for additional parameters, if applicable, because these parameters are more likely to be associated with industrial storm water. See General Permit Section XI.B.6.e. In the event that any of the impairments in this appendix are subsequently delisted, the Dischargers with discharges to that watershed are no longer required to analyze for the additional parameters for those impairments, and the provisions for new Dischargers with discharges to 303(d) impaired water bodies contained in Section VII.B of this General Permit no longer apply for those impairments.

The Excel spreadsheet containing the water bodies with 303(d) impairments is an attachment to this Appendix 3. To view the attachment from an electronic (pdf) version of this Appendix 3, left-click on the paper clip icon to the left of this pdf file to make the attachment window appear, then double-click on the icon of an Excel spreadsheet. The Excel spreadsheet is also available on the Industrial Storm Water program pages of the State Water Resources Control Board's website (<http://www.waterboards.ca.gov/>).

ATTACHMENT F-4



Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board



Arnold Schwarzenegger
Governor

Division of Water Quality

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE
ACTIVITIES

ORDER NO. 2009-0009-DWQ
NPDES NO. **CAS000002**

This Order was adopted by the State Water Resources Control Board on:	September 2, 2009
This Order shall become effective on:	July 1, 2010
This Order shall expire on:	September 2, 2014

IT IS HEREBY ORDERED, that this Order supersedes Order No. 99-08-DWQ [as amended by Order No. 2010-0014-DWQ] except for enforcement purposes. The Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on September 2, 2009.

AYE: Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: Chairman Charles R. Hoppin

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board



Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board



Arnold Schwarzenegger
Governor

Division of Water Quality

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

**ORDER NO. 2010-0014-DWQ
NPDES NO. CAS000002**

Order No. 2009-0009-DWQ was adopted by the State Water Resources Control Board on:	September 2, 2009
Order No. 2009-0009-DWQ became effective on:	July 1, 2010
Order No. 2009-0009-DWQ shall expire on:	September 2, 2014
This Order, which amends Order No. 2009-0009-DWQ, was adopted by the State Water Resources Control Board on:	November 16, 2010
This Order shall become effective on:	February 14, 2011

IT IS HEREBY ORDERED that this Order amends Order No. 2009-0009-DWQ. Additions to Order No. 2009-0009-DWQ are reflected in [blue-underline](#) text and deletions are reflected in ~~red-strikeout~~ text.

IT IS FURTHER ORDERED that staff are directed to prepare and post a conformed copy of Order No. 2009-0009-DWQ incorporating the revisions made by this Order.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on **November 16, 2010**.

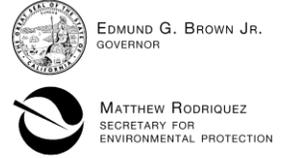
AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: None

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board



State Water Resources Control Board

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

ORDER NO. 2012-0006-DWQ
NPDES NO. CAS000002

Table with 2 columns: Description of order changes and Effective Date. Rows include adoption of 2009-0009-DWQ, effectiveness dates for 2009-0009-DWQ and 2010-0014-DWQ, expiration of 2009-0009-DWQ as amended, adoption of the current order, and its effectiveness date.

IT IS HEREBY ORDERED that this Order amends Order No. 2009-0009-DWQ. Additions to Order No. 2009-0009-DWQ are reflected in blue-underline text and deletions are reflected in red-strikeout text.

IT IS FURTHER ORDERED that staff are directed to prepare and post a conformed copy of Order No. 2009-000-DWQ incorporating the revisions made by this Order.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on July 17, 2012.

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Steven Moore
Board Member Felicia Marcus

NAY: None

ABSENT: None

ABSTAIN: None

Handwritten signature of Jeanine Townsend
Jeanine Townsend
Clerk to the Board

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**STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2009-0009-DWQ
[AS AMENDED BY ORDER NO. 2010-0014-DWQ]
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT NO. CAS000002**

**WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH
CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES**

I. FINDINGS

A. General Findings

The State Water Resources Control Board (State Water Board) finds that:

1. The federal Clean Water Act (CWA) prohibits certain discharges of storm water containing pollutants except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit (Title 33 United States Code (U.S.C.) §§ 1311 and 1342(p); also referred to as Clean Water Act (CWA) §§ 301 and 402(p)). The U.S. Environmental Protection Agency (U.S. EPA) promulgates federal regulations to implement the CWA's mandate to control pollutants in storm water runoff discharges. (Title 40 Code of Federal Regulations (C.F.R.) Parts 122, 123, and 124). The federal statutes and regulations require discharges to surface waters comprised of storm water associated with construction activity, including demolition, clearing, grading, and excavation, and other land disturbance activities (except operations that result in disturbance of less than one acre of total land area and which are not part of a larger common plan of development or sale), to obtain coverage under an NPDES permit. The NPDES permit must require implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate pollutants in storm water runoff. The NPDES permit must also include additional requirements necessary to implement applicable water quality standards.
2. This General Permit authorizes discharges of storm water associated with construction activity so long as the dischargers comply with all requirements, provisions, limitations and prohibitions in the permit. In addition, this General Permit regulates the discharges of storm water associated with construction activities from all Linear

Underground/Overhead Projects resulting in the disturbance of greater than or equal to one acre (Attachment A).

3. This General Permit regulates discharges of pollutants in storm water associated with construction activity (storm water discharges) to waters of the United States from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface.
4. This General Permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to municipal separate storm sewer systems or other watercourses within their jurisdictions.
5. This action to adopt a general NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, et seq.), pursuant to Section 13389 of the California Water Code.
6. Pursuant to 40 C.F.R. § 131.12 and State Water Board [Resolution No. 68-16](#),¹ which incorporates the requirements of § 131.12 where applicable, the State Water Board finds that discharges in compliance with this General Permit will not result in the lowering of water quality standards, and are therefore consistent with those provisions. Compliance with this General Permit will result in improvements in water quality.
7. This General Permit serves as an NPDES permit in compliance with CWA § 402 and will take effect on July 1, 2010 by the State Water Board provided the Regional Administrator of the U.S. EPA has no objection. If the U.S. EPA Regional Administrator objects to its issuance, the General Permit will not become effective until such objection is withdrawn.
8. Following adoption and upon the effective date of this General Permit, the Regional Water Quality Control Boards (Regional Water Boards) shall enforce the provisions herein.
9. Regional Water Boards establish water quality standards in Basin Plans. The State Water Board establishes water quality standards in various statewide plans, including the California Ocean Plan. U.S. EPA establishes water quality standards in the National Toxic Rule (NTR) and the California Toxic Rule (CTR).

¹ Resolution No. 68-16 generally requires that existing water quality be maintained unless degradation is justified based on specific findings.

10. This General Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA § 404 and does not constitute a waiver of water quality certification under CWA § 401.
11. The primary storm water pollutant at construction sites is excess sediment. Excess sediment can cloud the water, which reduces the amount of sunlight reaching aquatic plants, clog fish gills, smother aquatic habitat and spawning areas, and impede navigation in our waterways. Sediment also transports other pollutants such as nutrients, metals, and oils and greases.
12. Construction activities can impact a construction site's runoff sediment supply and transport characteristics. These modifications, which can occur both during and after the construction phase, are a significant cause of degradation of the beneficial uses established for water bodies in California. Dischargers can avoid these effects through better construction site design and activity practices.
13. This General Permit recognizes four distinct phases of construction activities. The phases are Grading and Land Development Phase, Streets and Utilities Phase, Vertical Construction Phase, and Final Landscaping and Site Stabilization Phase. Each phase has activities that can result in different water quality effects from different water quality pollutants. This General Permit also recognizes inactive construction as a category of construction site type.
14. Compliance with any specific limits or requirements contained in this General Permit does not constitute compliance with any other applicable requirements.
15. Following public notice in accordance with State and Federal laws and regulations, the State Water Board heard and considered all comments and testimony in a public hearing on 06/03/2009. The State Water Board has prepared written responses to all significant comments.
16. Construction activities obtaining coverage under the General Permit may have multiple discharges subject to requirements that are specific to general, linear, and/or active treatment system discharge types.
17. The State Water Board may reopen the permit if the U.S. EPA adopts a final effluent limitation guideline for construction activities.

B. Activities Covered Under the General Permit

18. Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.
19. Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or the sale of one or more acres of disturbed land surface.
20. Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to U.S. EPA regulations, such as dairy barns or food processing facilities.
21. Construction activity associated with Linear Underground/Overhead Utility Projects (LUPs) including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.
22. Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.²
23. Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction sites that intend to disturb one or more acres of land within the jurisdictional boundaries of

² Pursuant to the Ninth Circuit Court of Appeals' decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the U.S. EPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the site.

C. Activities Not Covered Under the General Permit

24. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.
25. Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.
26. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.
27. Construction activity and land disturbance involving discharges of storm water within the Lake Tahoe Hydrologic Unit. The Lahontan Regional Water Board has adopted its own permit to regulate storm water discharges from construction activity in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT). Owners of construction sites in this watershed must apply for the Lahontan Regional Water Board permit rather than the statewide Construction General Permit.
28. Construction activity that disturbs less than one acre of land surface, and that is not part of a larger common plan of development or the sale of one or more acres of disturbed land surface.
29. Construction activity covered by an individual NPDES Permit for storm water discharges.
30. Discharges from small (1 to 5 acre) construction activities with an approved Rainfall Erosivity Waiver authorized by U.S. EPA Phase II regulations certifying to the State Board that small construction activity will occur only when the Rainfall Erosivity Factor is less than 5 ("R" in the Revised Universal Soil Loss Equation).
31. Landfill construction activity that is subject to the Industrial General Permit.
32. Construction activity that discharges to Combined Sewer Systems.
33. Conveyances that discharge storm water runoff combined with municipal sewage.
34. Discharges of storm water identified in CWA § 402(l)(2), 33 U.S.C. § 1342(l)(2).

35. Discharges occurring in basins that are not tributary or hydrologically connected to waters of the United States (for more information contact your Regional Water Board).

D. Obtaining and Modifying General Permit Coverage

36. This General Permit requires all dischargers to electronically file all Permit Registration Documents (PRDs), Notices of Termination (NOT), changes of information, annual reporting, and other compliance documents required by this General Permit through the State Water Board's Storm water Multi-Application and Report Tracking System (SMARTS) website.
37. Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.
38. This General Permit grants an exception from the Risk Determination requirements for existing sites covered under Water Quality Orders No. 99-08-DWQ, and [No. 2003-0007-DWQ](#). For certain sites, adding additional requirements may not be cost effective. Construction sites covered under Water Quality Order No. 99-08-DWQ shall obtain permit coverage at the Risk Level 1. LUPs covered under Water Quality Order No. 2003-0007-DWQ shall obtain permit coverage as a Type 1 LUP. The Regional Water Boards have the authority to require Risk Determination to be performed on sites currently covered under Water Quality Orders No. 99-08-DWQ and No. 2003-0007-DWQ where they deem it necessary. The State Water Board finds that there are two circumstances when it may be appropriate for the Regional Water Boards to require a discharger that had filed an NOI under State Water Board Order No. 99-08-DWQ to recalculate the site's risk level. These circumstances are: (1) when the discharger has a demonstrated history of noncompliance with State Water Board Order No. 99-08-DWQ or; (2) when the discharger's site poses a significant risk of causing or contributing to an exceedance of a water quality standard without the implementation of the additional Risk Level 2 or 3 requirements.

E. Prohibitions

39. All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit. Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may

contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural Best Management Practices (BMPs)³. The State Water Board recognizes, however, that certain non-storm water discharges may be necessary for the completion of construction.

40. This General Permit prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
41. This General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the State Water Board and the nine Regional Water Boards.
42. Pursuant to the Ocean Plan, discharges to Areas of Special Biological Significance (ASBS) are prohibited unless covered by an exception that the State Water Board has approved.
43. This General Permit prohibits the discharge of any debris⁴ from construction sites. Plastic and other trash materials can cause negative impacts to receiving water beneficial uses. The State Water Board encourages the use of more environmentally safe, biodegradable materials on construction sites to minimize the potential risk to water quality.

F. Training

44. In order to improve compliance with and to maintain consistent enforcement of this General Permit, all dischargers are required to appoint two positions - the Qualified SWPPP Developer (QSD) and the Qualified SWPPP Practitioner (QSP) - who must obtain appropriate training. Together with the key stakeholders, the State and Regional Water Boards are leading the development of this curriculum through a collaborative organization called The Construction General Permit (CGP) Training Team.
45. The Professional Engineers Act (Bus. & Prof. Code section 6700, et seq.) requires that all engineering work must be performed by a California licensed engineer.

³ BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practice to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

⁴ Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

G. Determining and Reducing Risk

46. The risk of accelerated erosion and sedimentation from wind and water depends on a number of factors, including proximity to receiving water bodies, climate, topography, and soil type.
47. This General Permit requires dischargers to assess the risk level of a site based on both sediment transport and receiving water risk. This General Permit contains requirements for Risk Levels 1, 2 and 3, and LUP Risk Type 1, 2, and 3 (Attachment A). Risk levels are established by determining two factors: first, calculating the site's sediment risk; and second, receiving water risk during periods of soil exposure (i.e. grading and site stabilization). Both factors are used to determine the site-specific Risk Level(s). LUPs can be determined to be Type 1 based on the flowchart in Attachment A.1.
48. Although this General Permit does not mandate specific setback distances, dischargers are encouraged to set back their construction activities from streams and wetlands whenever feasible to reduce the risk of impacting water quality (e.g., natural stream stability and habitat function). Because there is a reduced risk to receiving waters when setbacks are used, this General Permit gives credit to setbacks in the risk determination and post-construction storm water performance standards. The risk calculation and runoff reduction mechanisms in this General Permit are expected to facilitate compliance with any Regional Water Board and local agency setback requirements, and to encourage voluntary setbacks wherever practicable.
49. Rain events can occur at any time of the year in California. Therefore, a Rain Event Action Plan (REAP) is necessary for Risk Level 2 and 3 traditional construction projects (LUPs exempt) to ensure that active construction sites have adequate erosion and sediment controls implemented prior to the onset of a storm event, even if construction is planned only during the dry season.
50. Soil particles smaller than 0.02 millimeters (mm) (i.e., finer than medium silt) do not settle easily using conventional measures for sediment control (i.e., sediment basins). Given their long settling time, dislodging these soils results in a significant risk that fine particles will be released into surface waters and cause unacceptable downstream impacts. If operated correctly, an Active Treatment System (ATS⁵) can prevent or reduce the release of fine particles from construction sites.

⁵ An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electro coagulation in order to reduce turbidity caused by fine suspended sediment.

Use of an ATS can effectively reduce a site's risk of impacting receiving waters.

51. Dischargers located in a watershed area where a Total Maximum Daily Load (TMDL) has been adopted or approved by the Regional Water Board or U.S. EPA may be required by a separate Regional Water Board action to implement additional BMPs, conduct additional monitoring activities, and/or comply with an applicable waste load allocation and implementation schedule. Such dischargers may also be required to obtain an individual Regional Water Board permit specific to the area.

H. Effluent Standards

52. The State Water Board convened a blue ribbon panel of storm water experts that submitted a report entitled, "The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities," dated June 19, 2006. The panel concluded that numeric limits or action levels are technically feasible to control construction storm water discharges, provided that certain conditions are considered. The panel also concluded that numeric effluent limitations (NELs) are feasible for discharges from construction sites that utilize an ATS. The State Water Board has incorporated the expert panel's suggestions into this General Permit, which includes numeric action levels (NALs) for pH and turbidity, and special numeric limits for ATS discharges.

Determining Compliance with Numeric Limitations

53. This General Permit sets a pH NAL of 6.5 to 8.5, and a turbidity NAL of 250 NTU. The purpose of the NAL and its associated monitoring requirement is to provide operational information regarding the performance of the measures used at the site to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges. An exceedance of a NAL does not constitute a violation of this General Permit.
54. This General Permit requires dischargers with NAL exceedances to immediately implement additional BMPs and revise their Storm Water Pollution Prevention Plans (SWPPPs) accordingly to either prevent pollutants and authorized non-storm water discharges from contaminating storm water, or to substantially reduce the pollutants to levels consistently below the NALs. NAL exceedances are reported in the State Water Boards SMARTS system, and the discharger is

required to provide an NAL Exceedance Report when requested by a Regional Water Board.

I. Receiving Water Limitations

55. This General Permit requires all enrolled dischargers to determine the receiving waters potentially affected by their discharges and to comply with all applicable water quality standards, including any more stringent standards applicable to a water body.

J. Sampling, Monitoring, Reporting and Record Keeping

56. Visual monitoring of storm water and non-storm water discharges is required for all sites subject to this General Permit.

57. Records of all visual monitoring inspections are required to remain on-site during the construction period and for a minimum of three years.

58. For all Risk Level 3/LUP Type 3 and Risk Level 2/LUP Type 2 sites, this General Permit requires effluent monitoring for pH and turbidity. Sampling, analysis and monitoring requirements for effluent monitoring for pH and turbidity are contained in this General Permit.

59. Risk Level 3 and LUP Type 3 sites with effluent that exceeds the Receiving Water Monitoring Triggers contained in this General Permit and with direct discharges to receiving water are required to conduct receiving water monitoring. An exceedance of a Receiving Water Monitoring Trigger does not constitute a violation of this General Permit.

60. This General Permit establishes a 5 year, 24 hour (expressed in inches of rainfall) as an exemptions to the receiving water monitoring requirements for Risk Level 3 and LUP Type 3 dischargers.

61. If run-on is caused by a forest fire or any other natural disaster, then receiving water monitoring triggers do not apply.

62. For Risk Level 3 and LUP Type 3 sites larger than 30 acres and with direct discharges to receiving waters, this General Permit requires bioassessment sampling before and after site completion to determine if significant degradation to the receiving water's biota has occurred. Bioassessment sampling guidelines are contained in this General Permit.

63. A summary and evaluation of the sampling and analysis results will be submitted in the Annual Reports.
64. This General Permit contains sampling, analysis and monitoring requirements for non-visible pollutants at all sites subject to this General Permit.
65. Compliance with the General Permit relies upon dischargers to electronically self-report any discharge violations and to comply with any Regional Water Board enforcement actions.
66. This General Permit requires that all dischargers maintain a paper or electronic copy of all required records for three years from the date generated or date submitted, whichever is last. These records must be available at the construction site until construction is completed. For LUPs, these documents may be retained in a crew member's vehicle and made available upon request.

K. Active Treatment System (ATS) Requirements

67. Active treatment systems add chemicals to facilitate flocculation, coagulation and filtration of suspended sediment particles. The uncontrolled release of these chemicals to the environment can negatively affect the beneficial uses of receiving waters and/or degrade water quality (e.g., acute and chronic toxicity). Additionally, the batch storage and treatment of storm water through an ATS' can potentially cause physical impacts on receiving waters if storage volume is inadequate or due to sudden releases of the ATS batches and improperly designed outfalls.
68. If designed, operated and maintained properly an ATS can achieve very high removal rates of suspended sediment (measured as turbidity), albeit at sometimes significantly higher costs than traditional erosion/sediment control practices. As a result, this General Permit establishes NELs consistent with the expected level of typical ATS performance.
69. This General Permit requires discharges of storm water associated with construction activity that undergo active treatment to comply with special operational and effluent limitations to ensure that these discharges do not adversely affect the beneficial uses of the receiving waters or cause degradation of their water quality.
70. For ATS discharges, this General Permit establishes technology-based NELs for turbidity.

71. This General Permit establishes a 10 year, 24 hour (expressed in inches of rainfall) Compliance Storm Event exemption from the technology-based numeric effluent limitations for ATS discharges. Exceedances of the ATS turbidity NEL constitutes a violation of this General Permit.

L. Post-Construction Requirements

72. This General Permit includes performance standards for post-construction that are consistent with State Water Board [Resolution No. 2005-0006](#), "Resolution Adopting the Concept of Sustainability as a Core Value for State Water Board Programs and Directing Its Incorporation," and [2008-0030](#), "Requiring Sustainable Water Resources Management." The requirement for all construction sites to match pre-project hydrology will help ensure that the physical and biological integrity of aquatic ecosystems are sustained. This "runoff reduction" approach is analogous in principle to Low Impact Development (LID) and will serve to protect related watersheds and waterbodies from both hydrologic-based and pollution impacts associated with the post-construction landscape.

73. LUP projects are not subject to post-construction requirements due to the nature of their construction to return project sites to pre-construction conditions.

M. Storm Water Pollution Prevention Plan Requirements

74. This General Permit requires the development of a site-specific SWPPP. The SWPPP must include the information needed to demonstrate compliance with all requirements of this General Permit, and must be kept on the construction site and be available for review. The discharger shall ensure that a QSD develops the SWPPP.

75. To ensure proper site oversight, this General Permit requires a Qualified SWPPP Practitioner to oversee implementation of the BMPs required to comply with this General Permit.

N. Regional Water Board Authorities

76. Regional Water Boards are responsible for implementation and enforcement of this General Permit. A general approach to permitting is not always suitable for every construction site and environmental circumstances. Therefore, this General Permit recognizes that Regional Water Boards must have some flexibility and authority to alter, approve, exempt, or rescind permit authority granted under this

General Permit in order to protect the beneficial uses of our receiving waters and prevent degradation of water quality.

IT IS HEREBY ORDERED that all dischargers subject to this General Permit shall comply with the following conditions and requirements (including all conditions and requirements as set forth in Attachments A, B, C, D, E and F)⁶:

II. CONDITIONS FOR PERMIT COVERAGE

A. Linear Underground/Overhead Projects (LUPs)

1. Linear Underground/Overhead Projects (LUPs) include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g. telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.
2. The Legally Responsible Person is responsible for obtaining coverage under the General Permit where the construction of pipelines, utility lines, fiber-optic cables, or other linear underground/overhead projects will occur across several properties unless the LUP construction activities are covered under another construction storm water permit.
3. Only LUPs shall comply with the conditions and requirements in Attachment A, A.1 & A.2 of this Order. The balance of this Order is not applicable to LUPs except as indicated in Attachment A.

⁶ These attachments are part of the General Permit itself and are not separate documents that are capable of being updated independently by the State Water Board.

B. Obtaining Permit Coverage Traditional Construction Sites

1. The Legally Responsible Person (LRP) (see Special Provisions, Electronic Signature and Certification Requirements, Section IV.I.1) must obtain coverage under this General Permit.
2. To obtain coverage, the LRP must electronically file Permit Registration Documents (PRDs) prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code.
3. PRDs shall consist of:
 - a. Notice of Intent (NOI)
 - b. Risk Assessment (Section VIII)
 - c. Site Map
 - d. Storm Water Pollution Prevention Plan (Section XIV)
 - e. Annual Fee
 - f. Signed Certification Statement

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

Attachment B contains additional PRD information. Dischargers must electronically file the PRDs, and mail the appropriate annual fee to the State Water Board.

4. This permit is effective on July 1, 2010.
 - a. **Dischargers Obtaining Coverage On or After July 1, 2010:** All dischargers requiring coverage on or after July 1, 2010, shall electronically file their PRDs prior to the commencement of construction activities, and mail the appropriate annual fee no later than seven days prior to the commencement of construction activities. Permit coverage shall not commence until the PRDs and the annual fee are received by the State Water Board, and a WDID number is assigned and sent by SMARTS.
 - b. **Dischargers Covered Under 99-08-DWQ and 2003-0007-DWQ:** Existing dischargers subject to State Water Board Order No. 99-08-DWQ (existing dischargers) will continue coverage under 99-08-DWQ until July 1, 2010. After July 1, 2010, all NOIs subject to State Water Board Order No. 99-08-DWQ will be terminated.

Existing dischargers shall electronically file their PRDs no later than July 1, 2010. If an existing discharger's site acreage subject to the annual fee has changed, it shall mail a revised annual fee no less than seven days after receiving the revised annual fee notification, **or else lose permit coverage**. All existing dischargers shall be exempt from the risk determination requirements in Section VIII of this General Permit until two years after permit adoption. All existing dischargers are therefore subject to Risk Level 1 requirements regardless of their site's sediment and receiving water risks. However, a Regional Board retains the authority to require an existing discharger to comply with the Section VIII risk determination requirements.

5. The discharger is only considered covered by this General Permit upon receipt of a Waste Discharger Identification (WDID) number assigned and sent by the State Water Board Storm water Multi-Application and Report Tracking System (SMARTS). In order to demonstrate compliance with this General Permit, the discharger must obtain a WDID number and must present documentation of a valid WDID upon demand.
6. During the period this permit is subject to review by the U.S. EPA, the prior permit (State Water Board Order No. 99-08-DWQ) remains in effect. Existing dischargers under the prior permit will continue to have coverage under State Water Board Order No. 99-08-DWQ until this General Permit takes effect on July 1, 2010. Dischargers who complete their projects and electronically file an NOT prior to July 1, 2010, are not required to obtain coverage under this General Permit.
7. Small Construction Rainfall Erosivity Waiver

EPA's Small Construction Erosivity Waiver applies to sites between one and five acres demonstrating that there are no adverse water quality impacts.

Dischargers eligible for a Rainfall Erosivity Waiver based on low erosivity potential shall complete the electronic Notice of Intent (NOI) and Sediment Risk form through the State Water Board's SMARTS system, certifying that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five. Where the LRP changes or another LRP is added during construction, the new LRP must also submit a waiver certification through the SMARTS system.

If a small construction site continues beyond the projected completion date given on the waiver certification, the LRP shall recalculate the

rainfall erosivity factor for the new project duration and submit this information through the SMARTS system. If the new R factor is below five (5), the discharger shall update through SMARTS all applicable information on the waiver certification and retain a copy of the revised waiver onsite. The LRP shall submit the new waiver certification 30 days prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If the new R factor is five (5) or above, the LRP shall be required to apply for coverage under this Order.

8. In the case of a public emergency that requires immediate construction activities, a discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction, and then shall submit all PRDs within thirty days.

C. Revising Permit Coverage for Change of Acreage or New Ownership

1. The discharger may reduce or increase the total acreage covered under this General Permit when a portion of the site is complete and/or conditions for termination of coverage have been met (See Section II.D Conditions for Termination of Coverage); when ownership of a portion of the site is sold to a different entity; or when new acreage, subject to this General Permit, is added to the site.
2. Within 30 days of a reduction or increase in total disturbed acreage, the discharger shall electronically file revisions to the PRDs that include:
 - a. A revised NOI indicating the new project size;
 - b. A revised site map showing the acreage of the site completed, acreage currently under construction, acreage sold/transferred or added, and acreage currently stabilized in accordance with the Conditions for Termination of Coverage in Section II.D below.
 - c. SWPPP revisions, as appropriate; and
 - d. Certification that any new landowners have been notified of applicable requirements to obtain General Permit coverage. The certification shall include the name, address, telephone number, and e-mail address of the new landowner.
 - e. If the project acreage has increased, dischargers shall mail payment of revised annual fees within 14 days of receiving the revised annual fee notification.

3. The discharger shall continue coverage under the General Permit for any parcel that has not achieved “Final Stabilization” as defined in Section II.D.
4. When an LRP with active General Permit coverage transfers its LRP status to another person or entity that qualifies as an LRP, the existing LRP shall inform the new LRP of the General Permit’s requirements. In order for the new LRP to continue the construction activity on its parcel of property, the new LRP, or the new LRP’s approved signatory, must submit PRDs in accordance with this General Permit’s requirements.

D. Conditions for Termination of Coverage

1. Within 90 days of when construction is complete or ownership has been transferred, the discharger shall electronically file a Notice of Termination (NOT), a final site map, and photos through the State Water Boards SMARTS system. Filing a NOT certifies that all General Permit requirements have been met. The Regional Water Board will consider a construction site complete only when all portions of the site have been transferred to a new owner, or all of the following conditions have been met:
 - a. For purposes of “final stabilization,” the site will not pose any additional sediment discharge risk than it did prior to the commencement of construction activity;
 - b. There is no potential for construction-related storm water pollutants to be discharged into site runoff;
 - c. Final stabilization has been reached;
 - d. Construction materials and wastes have been disposed of properly;
 - e. Compliance with the Post-Construction Standards in Section XIII of this General Permit has been demonstrated;
 - f. Post-construction storm water management measures have been installed and a long-term maintenance plan⁷ has been established; and
 - g. All construction-related equipment, materials and any temporary BMPs no longer needed are removed from the site.

⁷ For the purposes of this requirement a long-term maintenance plan will be designed for a minimum of five years, and will describe the procedures to ensure that the post-construction storm water management measures are adequately maintained.

2. The discharger shall certify that final stabilization conditions are satisfied in their NOT. Failure to certify shall result in continuation of permit coverage and annual billing.
3. The NOT must demonstrate through photos, RUSLE or RUSLE2, or results of testing and analysis that the site meets all of the conditions above (Section II.D.1) and the final stabilization condition (Section II.D.1.a) is attained by one of the following methods:

- a. "70% final cover method," no computational proof required

OR:

- b. "RUSLE or RUSLE2 method," computational proof required

OR:

- c. "Custom method", the discharger shall demonstrate in some other manner than a or b, above, that the site complies with the "final stabilization" requirement in Section II.D.1.a.

III. DISCHARGE PROHIBITIONS

- A.** Dischargers shall not violate any discharge prohibitions contained in applicable Basin Plans or statewide water quality control plans. Waste discharges to Areas of Special Biological Significance (ASBS) are prohibited by the California Ocean Plan, unless granted an exception issued by the State Water Board.
- B.** All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit.
- C.** Authorized non-storm water discharges may include those from de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated ground water from dewatering, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. The discharge of non-storm water is authorized under the following conditions:
1. The discharge does not cause or contribute to a violation of any water quality standard;
 2. The discharge does not violate any other provision of this General Permit;
 3. The discharge is not prohibited by the applicable Basin Plan;
 4. The discharger has included and implemented specific BMPs required by this General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.
 5. The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;
 6. The discharge is monitored and meets the applicable NALs; and
 7. The discharger reports the sampling information in the Annual Report.

If any of the above conditions are not satisfied, the discharge is not authorized by this General Permit. The discharger shall notify the Regional Water Board of any anticipated non-storm water discharges not already authorized by this General Permit or another NPDES permit, to determine whether a separate NPDES permit is necessary.

- D.** Debris resulting from construction activities are prohibited from being discharged from construction sites.
- E.** When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the discharger shall have those soils sampled and tested to ensure proper handling and public safety measures are implemented. The discharger shall notify the appropriate local, State, and federal agency(ies) when contaminated soil is found at a construction site, and will notify the appropriate Regional Water Board.

IV. SPECIAL PROVISIONS

A. Duty to Comply

1. The discharger shall comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.
2. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

B. General Permit Actions

1. This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.
2. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

C. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

D. Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

F. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

G. Duty to Maintain Records and Provide Information

1. The discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be available at the construction site until construction is completed.
2. The discharger shall furnish the Regional Water Board, State Water Board, or U.S. EPA, within a reasonable time, any requested information to determine compliance with this General Permit. The discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit.

H. Inspection and Entry

The discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

2. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;
3. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and
4. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

I. Electronic Signature and Certification Requirements

1. All Permit Registration Documents (PRDs) and Notices of Termination (NOTs) shall be electronically signed, certified, and submitted via SMARTS to the State Water Board. Either the Legally Responsible Person (LRP), as defined in Appendix 5 – Glossary, or a person legally authorized to sign and certify PRDs and NOTs on behalf of the LRP (the LRP's Approved Signatory, as defined in Appendix 5 - Glossary) must submit all information electronically via SMARTS.
2. Changes to Authorization. If an Approved Signatory's authorization is no longer accurate, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted via SMARTS prior to or together with any reports, information or applications to be signed by an Approved Signatory.
3. All Annual Reports, or other information required by the General Permit (other than PRDs and NOTs) or requested by the Regional Water Board, State Water Board, U.S. EPA, or local storm water management agency shall be certified and submitted by the LRP or the LRP's Approved Signatory.

J. Certification

Any person signing documents under Section IV.I above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

K. Anticipated Noncompliance

The discharger shall give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity, which may result in noncompliance with General Permit requirements.

L. Bypass

Bypass⁸ is prohibited. The Regional Water Board may take enforcement action against the discharger for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;⁹
2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventative maintenance;
3. The discharger submitted a notice at least ten days in advance of the need for a bypass to the Regional Water Board; or
4. The discharger may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The discharger shall submit notice of an unanticipated bypass as required.

M. Upset

1. A discharger that wishes to establish the affirmative defense of an upset¹⁰ in an action brought for noncompliance shall demonstrate,

⁸ The intentional diversion of waste streams from any portion of a treatment facility

⁹ Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

¹⁰ An exceptional incident in which there is unintentional and temporary noncompliance the technology based numeric effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. An upset occurred and that the discharger can identify the cause(s) of the upset
 - b. The treatment facility was being properly operated by the time of the upset
 - c. The discharger submitted notice of the upset as required; and
 - d. The discharger complied with any remedial measures required
2. No determination made before an action of noncompliance occurs, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.
 3. In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof

N. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years or by both.

O. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

P. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

Q. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

R. Penalties for Violations of Permit Conditions

1. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed \$37,500¹¹ per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.
2. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which in some cases are greater than those under the CWA.

S. Transfers

This General Permit is not transferable.

T. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

¹¹ May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act.

V. EFFLUENT STANDARDS & RECEIVING WATER MONITORING

A. Narrative Effluent Limitations

1. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
2. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

Table 1- Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level
pH	Field test with calibrated portable instrument	Risk Level 2	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5
		Risk Level 3			lower NAL = 6.5 upper NAL = 8.5
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 2	1	NTU	250 NTU
		Risk Level 3			250 NTU

B. Numeric Action Levels (NALs)

1. For Risk Level 2 and 3 dischargers, the lower storm event average NAL for pH is 6.5 pH units and the upper storm event average NAL for

pH is 8.5 pH units. The discharger shall take actions as described below if the discharge is outside of this range of pH values.

2. For Risk Level 2 and 3 dischargers, the NAL storm event daily average for turbidity is 250 NTU. The discharger shall take actions as described below if the discharge is outside of this range of turbidity values.
3. Whenever the results from a storm event daily average indicate that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the discharger shall conduct a construction site and run-on evaluation to determine whether pollutant source(s) associated with the site's construction activity may have caused or contributed to the NAL exceedance and shall immediately implement corrective actions if they are needed.
4. The site evaluation shall be documented in the SWPPP and specifically address whether the source(s) of the pollutants causing the exceedance of the NAL:
 - a. Are related to the construction activities and whether additional BMPs are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) determine what corrective action(s) were taken or will be taken and with a description of the schedule for completion.

AND/OR:

- b. Are related to the run-on associated with the construction site location and whether additional BMPs measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) what corrective action(s) were taken or will be taken with a description of the schedule for completion.

C. Receiving Water Monitoring Triggers

1. The receiving water monitoring triggers for Risk Level 3 dischargers with direct discharges to surface waters are triggered when the daily average effluent pH values during any site phase when there is a high risk of pH discharge¹² fall outside of the range of 6.0 and 9.0 pH units, or when the daily average effluent turbidity exceeds 500 NTU.

2. Risk Level 3 dischargers with with direct discharges to surface waters shall conduct receiving water monitoring whenever their effluent monitoring results exceed the receiving water monitoring triggers. If the pH trigger is exceeded, the receiving water shall be monitored for pH for the duration of coverage under this General Permit. If the turbidity trigger is exceeded, the receiving water shall be monitored for turbidity and SSC for the duration of coverage under this general permit.
3. Risk Level 3 dischargers with direct discharges to surfaces waters shall initiate receiving water monitoring when the triggers are exceeded unless the storm event causing the exceedance is determined after the fact to equal to or greater than the 5-year 24-hour storm (expressed in inches of rainfall) as determined by using these maps:

<http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif>
<http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif>

Verification of the 5-year 24-hour storm event shall be done by reporting on-site rain gauge readings as well as nearby governmental rain gauge readings.

4. If run-on is caused by a forest fire or any other natural disaster, then receiving water monitoring triggers do not apply.

¹² A period of high risk of pH discharge is defined as a project's complete utilities phase, complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations of the background pH of the discharges.

VI. RECEIVING WATER LIMITATIONS

- A.** The discharger shall ensure that storm water discharges and authorized non-storm water discharges to any surface or ground water will not adversely affect human health or the environment.
- B.** The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants in quantities that threaten to cause pollution or a public nuisance.
- C.** The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).
- D.** Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL has been approved by the U.S. EPA, shall comply with the approved TMDL if it identifies "construction activity" or land disturbance as a source of the pollution.

VII. TRAINING QUALIFICATIONS AND CERTIFICATION REQUIREMENTS

A. General

The discharger shall ensure that all persons responsible for implementing requirements of this General Permit shall be appropriately trained in accordance with this Section. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. Those responsible for preparing and amending SWPPPs shall comply with the requirements in this Section VII.

The discharger shall provide documentation of all training for persons responsible for implementing the requirements of this General Permit in the Annual Reports.

B. SWPPP Certification Requirements

1. **Qualified SWPPP Developer:** The discharger shall ensure that SWPPPs are written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:
 - a. A California registered professional civil engineer;
 - b. A California registered professional geologist or engineering geologist;
 - c. A California registered landscape architect;
 - d. A professional hydrologist registered through the American Institute of Hydrology;
 - e. A Certified Professional in Erosion and Sediment Control (CPESC)TM registered through Enviro Cert International, Inc.;
 - f. A Certified Professional in Storm Water Quality (CPSWQ)TM registered through Enviro Cert International, Inc.; or
 - g. A professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET).

Effective two years after the adoption date of this General Permit, a QSD shall have attended a State Water Board-sponsored or approved QSD training course.

2. The discharger shall list the name and telephone number of the currently designated Qualified SWPPP Developer(s) in the SWPPP.
3. **Qualified SWPPP Practitioner:** The discharger shall ensure that all BMPs required by this General Permit are implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis. Effective two years from the date of adoption of this General Permit, a QSP shall be either a QSD or have one of the following certifications:
 - a. A certified erosion, sediment and storm water inspector registered through Enviro Cert International, Inc.; or
 - b. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.

Effective two years after the adoption date of this General Permit, a QSP shall have attended a State Water Board-sponsored or approved QSP training course.

4. The LRP shall list in the SWPPP, the name of any Approved Signatory, and provide a copy of the written agreement or other mechanism that provides this authority from the LRP in the SWPPP.
5. The discharger shall include, in the SWPPP, a list of names of all contractors, subcontractors, and individuals who will be directed by the Qualified SWPPP Practitioner. This list shall include telephone numbers and work addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers shall also be included.
6. The discharger shall ensure that the SWPPP and each amendment will be signed by the Qualified SWPPP Developer. The discharger shall include a listing of the date of initial preparation and the date of each amendment in the SWPPP.

VIII. RISK DETERMINATION

The discharger shall calculate the site's sediment risk and receiving water risk during periods of soil exposure (i.e. grading and site stabilization) and use the calculated risks to determine a Risk Level(s) using the methodology in

Appendix 1. For any site that spans two or more planning watersheds,¹³ the discharger shall calculate a separate Risk Level for each planning watershed. The discharger shall notify the State Water Board of the site's Risk Level determination(s) and shall include this determination as a part of submitting the PRDs. If a discharger ends up with more than one Risk Level determination, the Regional Water Board may choose to break the project into separate levels of implementation.

IX. RISK LEVEL 1 REQUIREMENTS

Risk Level 1 Dischargers shall comply with the requirements included in Attachment C of this General Permit.

X. RISK LEVEL 2 REQUIREMENTS

Risk Level 2 Dischargers shall comply with the requirements included in Attachment D of this General Permit.

XI. RISK LEVEL 3 REQUIREMENTS

Risk Level 3 Dischargers shall comply with the requirements included in Attachment E of this General Permit.

XII. ACTIVE TREATMENT SYSTEMS (ATS)

Dischargers choosing to implement an ATS on their site shall comply with all of the requirements in Attachment F of this General Permit.

¹³ Planning watershed: defined by the Calwater Watershed documents as a watershed that ranges in size from approximately 3,000 to 10,000 acres <http://cain.ice.ucdavis.edu/calwater/calwfaq.html>, <http://gis.ca.gov/catalog/BrowseRecord.epl?id=22175> .

XIII. POST-CONSTRUCTION STANDARDS

- A.** All dischargers shall comply with the following runoff reduction requirements unless they are located within an area subject to post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved Storm Water Management Plan.
1. This provision shall take effect three years from the adoption date of this permit, or later at the discretion of the Executive Officer of the Regional Board.
 2. The discharger shall demonstrate compliance with the requirements of this section by submitting with their NOI a map and worksheets in accordance with the instructions in Appendix 2. The discharger shall use non-structural controls unless the discharger demonstrates that non-structural controls are infeasible or that structural controls will produce greater reduction in water quality impacts.
 3. The discharger shall, through the use of non-structural and structural measures as described in Appendix 2, replicate the pre-project water balance (for this permit, defined as the volume of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event (or the smallest storm event that generates runoff, whichever is larger). Dischargers shall inform Regional Water Board staff at least 30 days prior to the use of any structural control measure used to comply with this requirement. Volume that cannot be addressed using non-structural practices shall be captured in structural practices and approved by the Regional Water Board. When seeking Regional Board approval for the use of structural practices, dischargers shall document the infeasibility of using non-structural practices on the project site, or document that there will be fewer water quality impacts through the use of structural practices.
 4. For sites whose disturbed area exceeds two acres, the discharger shall preserve the pre-construction drainage density (miles of stream length per square mile of drainage area) for all drainage areas within the area serving a first order stream¹⁴ or larger stream and ensure that post-project time of runoff concentration is equal or greater than pre-project time of concentration.

¹⁴ A first order stream is defined as a stream with no tributaries.

- B.** All dischargers shall implement BMPs to reduce pollutants in storm water discharges that are reasonably foreseeable after all construction phases have been completed at the site (Post-construction BMPs).

XIV. SWPPP REQUIREMENTS

- A.** The discharger shall ensure that the Storm Water Pollution Prevention Plans (SWPPPs) for all traditional project sites are developed and amended or revised by a QSD. The SWPPP shall be designed to address the following objectives:
1. All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled;
 2. Where not otherwise required to be under a Regional Water Board permit, all non-storm water discharges are identified and either eliminated, controlled, or treated;
 3. Site BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from construction activity to the BAT/BCT standard;
 4. Calculations and design details as well as BMP controls for site run-on are complete and correct, and
 5. Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.
- B.** To demonstrate compliance with requirements of this General Permit, the QSD shall include information in the SWPPP that supports the conclusions, selections, use, and maintenance of BMPs.
- C.** The discharger shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

XV. REGIONAL WATER BOARD AUTHORITIES

- A.** In the case where the Regional Water Board does not agree with the discharger's self-reported risk level (e.g., they determine themselves to be a Level 1 Risk when they are actually a Level 2 Risk site), Regional Water Boards may either direct the discharger to reevaluate the Risk Level(s) for their site or terminate coverage under this General Permit.
- B.** Regional Water Boards may terminate coverage under this General Permit for dischargers who fail to comply with its requirements or where they determine that an individual NPDES permit is appropriate.
- C.** Regional Water Boards may require dischargers to submit a Report of Waste Discharge / NPDES permit application for Regional Water Board consideration of individual requirements.
- D.** Regional Water Boards may require additional Monitoring and Reporting Program Requirements, including sampling and analysis of discharges to sediment-impaired water bodies.
- E.** Regional Water Boards may require dischargers to retain records for more than the three years required by this General Permit.

XVI. ANNUAL REPORTING REQUIREMENTS

- A.** All dischargers shall prepare and electronically submit an Annual Report no later than September 1 of each year.
- B.** The discharger shall certify each Annual Report in accordance with the Special Provisions.
- C.** The discharger shall retain an electronic or paper copy of each Annual Report for a minimum of three years after the date the annual report is filed.
- D.** The discharger shall include storm water monitoring information in the Annual Report consisting of:
 - 1. a summary and evaluation of all sampling and analysis results, including copies of laboratory reports;
 - 2. the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit");
 - 3. a summary of all corrective actions taken during the compliance year;
 - 4. identification of any compliance activities or corrective actions that were not implemented;
 - 5. a summary of all violations of the General Permit;
 - 6. the names of individual(s) who performed the facility inspections, sampling, visual observation (inspections), and/or measurements;
 - 7. the date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge); and
 - 8. the visual observation and sample collection exception records and reports specified in Attachments C, D, and E.
- E.** The discharger shall provide training information in the Annual Report consisting of:
 - 1. documentation of all training for individuals responsible for all activities associated with compliance with this General Permit;

2. documentation of all training for individuals responsible for BMP installation, inspection, maintenance, and repair; and
3. documentation of all training for individuals responsible for overseeing, revising, and amending the SWPPP.

**ATTACHMENT A
Linear Underground/ Overhead Requirements**

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All Linear Underground/Overhead project dischargers who submit permit registration documents (PRDs) indicating their intention to be regulated under the provisions of this General Permit shall comply with the following:

A. DEFINITION OF LINEAR UNDERGROUND/OVERHEAD PROJECTS

1. Linear Underground/Overhead Projects (LUPs) include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio, or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

2. LUP evaluation shall consist of two tasks:

- a. Confirm that the project or project section(s) qualifies as an LUP. The State Water Board website contains a project determination guidance flowchart.
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constructionpermits.shtml
 - b. Identify which Type(s) (1, 2 or 3 described in Section I below) are applicable to the project or project sections based on project sediment and receiving water risk. (See Attachment A.1)
- 3.** A Legally Responsible Person (LRP) for a Linear Underground/Overhead project is required to obtain CGP coverage under one or more permit registration document (PRD) electronic submittals to the State Water Board's Storm Water Multi-Application and Report Tracking (SMARTs) system. Attachment A.1 contains a flow chart to be used when determining if a linear project qualifies for coverage and to determine LUP Types. Since a LUP may be constructed within both developed and undeveloped locations and portions of LUPs may be constructed by different contractors, LUPs may be broken into logical permit sections. Sections may be determined based on portions of a project conducted by one contractor. Other situations may also occur, such as the time period in which the sections of a project will be constructed (e.g. project phases), for which separate permit coverage is possible. For projects that are broken into separate sections, a description of how each section relates to the overall project and the definition of the boundaries between sections shall be clearly stated.
- 4.** Where construction activities transverse or enter into different Regional Water Board jurisdictions, LRPs shall obtain permit coverage for each Regional Water Board area involved prior to the commencement of construction activities.
- 5.** Small Construction Rainfall Erosivity Waiver

EPA's Small Construction Erosivity Waiver applies to sites between one and five acres demonstrating that there are no adverse water quality impacts.

Dischargers eligible for a Rainfall Erosivity Waiver based on low erosivity potential shall complete the electronic Notice of Intent (NOI) and Sediment Risk form through the State Water Board's SMARTS system, certifying that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five. Where the LRP changes or another LRP is added during construction, the new LRP must also submit a waiver certification through the SMARTS system.

If a small linear construction site continues beyond the projected completion date given on the waiver certification, the LRP shall recalculate the rainfall erosivity factor for the new project duration and submit this information through the SMARTS system. If the new R factor is below five (5), the discharger shall update through SMARTS all applicable information on the waiver certification and retain a copy of the revised waiver onsite. The LRP shall submit the new waiver certification 30 days prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If the new R factor is five (5) or above, the LRP shall be required to apply for coverage under this Order.

B. LINEAR PROJECT PERMIT REGISTRATION DOCUMENTS (PRDs)

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted. PRDs shall consist of the following:

1. Notice of Intent (NOI)

Prior to construction activities, the LRP of a proposed linear underground/overhead project shall utilize the processes and methods provided in Attachment A.2, Permit Registration Documents (PRDs) – General Instructions for Linear Underground/Overhead Projects to comply with the Construction General Permit.

2. Site Maps

LRPs submitting PRDs shall include at least 3 maps. The first map will be a zoomed¹ 1000-1500 ft vicinity map that shows the starting point of the project. The second will be a zoomed map of 1000-1500 ft showing the ending location of the project. The third will be a larger view vicinity map, 1000 ft to 2000 ft, displaying the entire project location depending on the project size, and indicating the LUP type (1, 2 or 3) areas within the total project footprint.

3. Drawings

LRPs submitting PRDs shall include a construction drawing(s) or other appropriate drawing(s) or map(s) that shows the locations of storm drain

¹ An image with a close-up/enhanced detailed view of site features that show minute details such as streets and neighboring structures.

Or: An image with a close-up/enhanced detailed view of the site's surrounding infrastructure.

Or: An image with a close up detailed view of the project and its surroundings.

inlets and waterbodies² that may receive discharges from the construction activities and that shows the locations of BMPs to be installed for all those BMPs that can be illustrated on the revisable drawing(s) or map(s). If storm drain inlets, waterbodies, and/or BMPs cannot be adequately shown on the drawing(s) or map(s) they should be described in detail within the SWPPP.

4. Storm Water Pollution Prevention Plan (SWPPP)

LUP dischargers shall comply with the SWPPP Preparation, Implementation, and Oversight requirements in Section K of this Attachment.

5. Contact information

LUP dischargers shall include contact information for all contractors (or subcontractors) responsible for each area of an LUP project. This should include the names, telephone numbers, and addresses of contact personnel. Specific areas of responsibility of each contact, and emergency contact numbers should also be included.

6. In the case of a public emergency that requires immediate construction activities, a discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction, and then shall submit all PRDs within thirty days.

C. LINEAR PROJECT TERMINATION OF COVERAGE REQUIREMENTS

The LRP may terminate coverage of an LUP when construction activities are completed by submitting an electronic notice of termination (NOT) through the State Water Board's SMARTS system. Termination requirements are different depending on the complexity of the LUP. An LUP is considered complete when: (a) there is no potential for construction-related storm water pollution; (b) all elements of the SWPPP have been completed; (c) construction materials and waste have been disposed of properly; (d) the site is in compliance with all local storm water management requirements; and (e) the LRP submits a notice of termination (NOT) and has received approval for termination from the appropriate Regional Water Board office.

1. LUP Stabilization Requirements

The LUP discharger shall ensure that all disturbed areas of the construction site are stabilized prior to termination of coverage under this General Permit. Final stabilization for the purposes of submitting an NOT

² Includes basin(s) that the MS4 storm sewer systems may drain to for Hydromodification or Hydrological Conditional of Concerns under the MS4 permits.

is satisfied when all soil disturbing activities are completed and one of the following criteria is met:

- a. In disturbed areas that were vegetated prior to construction activities of the LUP, the area disturbed must be re-established to a uniform vegetative cover equivalent to 70 percent coverage of the preconstruction vegetative conditions. Where preconstruction vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: if the preconstruction vegetation covers 50 percent of the ground surface, 70 percent of 50 percent ($.70 \times .50 = .35$) would require 35 percent total uniform surface coverage; or
- b. Where no vegetation is present prior to construction, the site is returned to its original line and grade and/or compacted to achieve stabilization; or
- c. Equivalent stabilization measures have been employed. These measures include, but are not limited to, the use of such BMPs as blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments.

2. LUP Termination of Coverage Requirements

The LRP shall file an NOT through the State Water Board's SMARTS system. By submitting an NOT, the LRP is certifying that construction activities for an LUP are complete and that the project is in full compliance with requirements of this General Permit and that it is now compliant with soil stabilization requirements where appropriate. Upon approval by the appropriate Regional Water Board office, permit coverage will be terminated.

3. Revising Coverage for Change of Acreage

When the LRP of a portion of an LUP construction project changes, or when a phase within a multi-phase project is completed, the LRP may reduce the total acreage covered by this General Permit. In reducing the acreage covered by this General Permit, the LRP shall electronically file revisions to the PRDs that include:

- a. a revised NOI indicating the new project size;
- b. a revised site map showing the acreage of the project completed, acreage currently under construction, acreage sold, transferred or added, and acreage currently stabilized.
- c. SWPPP revisions, as appropriate; and
- d. certification that any new LRPs have been notified of applicable requirements to obtain General Permit coverage. The certification shall include the name, address, telephone number, and e-mail address (if known) of the new LRP.

If the project acreage has increased, dischargers shall mail payment of revised annual fees within 14 days of receiving the revised annual fee notification.

D. DISCHARGE PROHIBITIONS

1. LUP dischargers shall not violate any discharge prohibitions contained in applicable Basin Plans or statewide water quality control plans. Waste discharges to Areas of Special Biological Significance (ASBS) are prohibited by the California Ocean Plan, unless granted an exception issued by the State Water Board.
2. LUP dischargers are prohibited from discharging non-storm water that is not otherwise authorized by this General Permit. Non-storm water discharges authorized by this General Permit³ may include, fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, street cleaning, dewatering,⁴ uncontaminated groundwater from dewatering, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. Such discharges are allowed by this General Permit provided they are not relied upon to clean up failed or inadequate construction or post-construction BMPs designed to keep materials on site. These authorized non-storm water discharges:

³ Dischargers must identify all authorized non-storm water discharges in the LUP's SWPPP and identify BMPs that will be implemented to either eliminate or reduce pollutants in non-storm water discharges. Regional Water Boards may direct the discharger to discontinue discharging such non-storm water discharges if determined that such discharges discharge significant pollutants or threaten water quality.

⁴Dewatering activities may be prohibited or need coverage under a separate permit issued by the Regional Water Boards. Dischargers shall check with the appropriate Regional Water Boards for any required permit or basin plan conditions prior to initial dewatering activities to land, storm drains, or waterbodies.

- a. Shall not cause or contribute to a violation of any water quality standard;
- b. Shall not violate any other provision of this General Permit;
- c. Shall not violate any applicable Basin Plan;
- d. Shall comply with BMPs as described in the SWPPP;
- e. Shall not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;
- f. Shall be monitored and meets the applicable NALs; and
- g. Shall be reported by the discharger in the Annual Report.

If any of the above conditions are not satisfied, the discharge is not authorized by this General Permit. The discharger shall notify the Regional Water Board of any anticipated non-storm water discharges not authorized by this General Permit to determine the need for a separate NPDES permit.

Additionally, some LUP dischargers may be required to obtain a separate permit if the applicable Regional Water Board has adopted a General Permit for dewatering discharges. Wherever feasible, alternatives, that do not result in the discharge of non-storm water, shall be implemented in accordance with this Attachment's Section K.2 - SWPPP Implementation Schedule.

3. LUP dischargers shall ensure that trench spoils or any other soils disturbed during construction activities that are contaminated⁵ are not discharged with storm water or non-storm water discharges into any storm drain or water body except pursuant to an NPDES permit.

When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the LUP discharger shall have those soils sampled and tested to ensure that proper handling and public safety measures are

⁵ Contaminated soil contains pollutants in concentrations that exceed the appropriate thresholds that various regulatory agencies set for those substances. Preliminary testing of potentially contaminated soils will be based on odor, soil discoloration, or prior history of the site's chemical use and storage and other similar factors. When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the discharger shall have those soils sampled and tested to ensure proper handling and public safety measures are implemented. The legally responsible person will notify the appropriate local, State, or federal agency(ies) when contaminated soil is found at a construction site, and will notify the Regional Water Board by submitting an NOT at the completion of the project.

implemented. The LUP discharger shall notify the appropriate local, State, and federal agency(ies) when contaminated soil is found at a construction site, and will notify the appropriate Regional Water Board.

4. Discharging any pollutant-laden water that will cause or contribute to an exceedance of the applicable Regional Water Board's Basin Plan from a dewatering site or sediment basin into any receiving water or storm drain is prohibited.
5. Debris⁶ resulting from construction activities are prohibited from being discharged from construction project sites.

E. SPECIAL PROVISIONS

1. Duty to Comply

- a. The LUP discharger must comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.
- b. The LUP discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

- a. This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

⁶ Litter, rubble, discarded refuse, and remains of something destroyed.

- b. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an LUP discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The LUP discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The LUP discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit and with the requirements of the Storm Water Pollution Prevention Plan (SWPPP). Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

7. Duty to Maintain Records and Provide Information

- a. The LUP discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be kept at the construction site or in a crew

member's vehicle until construction is completed, and shall be made available upon request.

- b. The LUP discharger shall furnish the Regional Water Board, State Water Board, or USEPA, within a reasonable time, any requested information to determine compliance with this General Permit. The LUP discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit.

8. Inspection and Entry

The LUP discharger shall allow the Regional Water Board, State Water Board, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;
- b. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;
- c. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and
- d. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

9. Electronic Signature and Certification Requirements

- a. All Permit Registration Documents (PRDs) and Notices of Termination (NOTs) shall be electronically signed, certified, and submitted via SMARTS to the State Water Board. Either the Legally Responsible Person (LRP), as defined in Appendix 5 – Glossary, or a person legally authorized to sign and certify PRDs and NOTs on behalf of the LRP (the LRP's Approved Signatory, as defined in Appendix 5 - Glossary) must submit all information electronically via SMARTS.
- b. Changes to Authorization. If an Approved Signatory's authorization is no longer accurate, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted via SMARTS prior to or

together with any reports, information or applications to be signed by an Approved Signatory.

- c. All SWPPP revisions, annual reports, or other information required by the General Permit (other than PRDs and NOTs) or requested by the Regional Water Board, State Water Board, USEPA, or local storm water management agency shall be certified and submitted by the LRP or the LRP's Approved Signatory.

10. Certification

Any person signing documents under Section E.9 above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. Anticipated Noncompliance

The LUP discharger shall give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity, which may result in noncompliance with General Permit requirements.

12. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years or by both.

13. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the LUP discharger is or may be subject to under Section 311 of the CWA.

14. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

15. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

16. Penalties for Violations of Permit Conditions

- a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed \$37,500⁷ per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.
- b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which in some cases are greater than those under the CWA.

17. Transfers

This General Permit is not transferable. A new LRP of an ongoing construction activity must submit PRDs in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit. An LRP who is a property owner with active General Permit coverage who sells a fraction or all the land shall inform the new property owner(s) of the requirements of this General Permit.

18. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those

⁷ May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act

dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

F. EFFLUENT STANDARDS & RECEIVING WATER MONITORING

1. Narrative Effluent Limitations

- a. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges regulated by this General Permit do not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
- b. LUP dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of structural or non-structural controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

Table 1. Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level
pH	Field test with calibrated portable instrument	LUP Type 2	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5
		LUP Type 3			lower NAL = 6.5 upper NAL = 8.5
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	LUP Type 2	1	NTU	250 NTU
		LUP Type 3			250 NTU

2. Numeric Action Levels (NALs)

- a. For LUP Type 2 and 3 dischargers, the lower storm event daily average NAL for pH is 6.5 pH units and the upper storm event daily average NAL for pH is 8.5 pH units. The LUP discharger shall take actions as described below if the storm event daily average discharge is outside of this range of pH values.
- b. For LUP Type 2 and 3 dischargers, the storm event daily average NAL for turbidity is 250 NTU. The discharger shall take actions as described below if the storm event daily average discharge is outside of this range of turbidity values.
- c. Whenever daily average analytical effluent monitoring results indicate that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the LUP discharger shall conduct a construction site and run-on evaluation to determine whether pollutant source(s) associated with the site's construction activity may have caused or contributed to the NAL exceedance and shall immediately implement corrective actions if they are needed.
- d. The site evaluation will be documented in the SWPPP and specifically address whether the source(s) of the pollutants causing the exceedance of the NAL:
 - i. Are related to the construction activities and whether additional BMPs or SWPPP implementation measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) determine what corrective action(s) were taken or will be taken and with a description of the schedule for completion.

AND/OR:

- ii. Are related to the run-on associated with the construction site location and whether additional BMPs or SWPPP implementation measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) decide what corrective action(s) were taken or will be taken, including a description of the schedule for completion.

3. Receiving Water Monitoring Triggers

- a. The receiving water monitoring triggers for LUP Type 3 dischargers with direct discharges to surface waters are triggered when the daily average effluent pH values during any site phase when there is a high risk of pH discharge⁸ fall outside of the range of 6.0 and 9.0 pH units, or when the daily average effluent turbidity exceeds 500 NTU.
- b. LUP Type 3 dischargers with direct discharges to surface waters shall conduct receiving water monitoring whenever their effluent monitoring results exceed the receiving water monitoring triggers. If the pH trigger is exceeded, the receiving water shall be monitored for pH for the duration of coverage under this General Permit. If the turbidity trigger is exceeded, the receiving water shall be monitored for turbidity and SSC for the duration of coverage under this General Permit.
- c. LUP Type 3 dischargers with direct discharges to surface waters shall initiate receiving water monitoring when the triggers are exceeded unless the storm event causing the exceedance is determined after the fact to equal to or greater than the 5-year 24-hour storm (expressed in inches of rainfall) as determined by using these maps:

<http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif>
<http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif>

 Verification of the 5-year 24-hour storm event shall be done by reporting on-site rain gauge readings as well as nearby governmental rain gauge readings.
- d. If run-on is caused by a forest fire or any other natural disaster, then receiving water monitoring triggers do not apply.

G. RECEIVING WATER LIMITATIONS

1. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges to any surface or ground water will not adversely affect human health or the environment.
2. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants in quantities that threaten to cause pollution or a public nuisance.
3. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or

⁸ A period of high risk of pH discharge is defined as a project's complete utilities phase, complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations of the background pH of the discharges.

contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).

H. TRAINING QUALIFICATIONS

1. General

All persons responsible for implementing requirements of this General Permit shall be appropriately trained. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. Persons responsible for preparing, amending and certifying SWPPPs shall comply with the requirements in this Section H.

2. SWPPP Certification Requirements

- a. **Qualified SWPPP Developer:** The LUP discharger shall ensure that all SWPPPs be written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:
 - i A California registered professional civil engineer;
 - ii A California registered professional geologist or engineering geologist;
 - iii A California registered landscape architect;
 - iv A professional hydrologist registered through the American Institute of Hydrology;
 - v A certified professional in erosion and sediment control (CPESC)TM registered through Enviro Cert International, Inc;
 - vi A certified professional in storm water quality (CPSWQ)TM registered through Enviro Cert International, Inc.; or
 - vii A certified professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET).

Effective two years after the adoption date of this General Permit, a QSD shall have attended a State Water Board-sponsored or approved QSD training course.

- b. The LUP discharger shall ensure that the SWPPP is written and amended, as needed, to address the specific circumstances for each construction site covered by this General Permit prior to commencement of construction activity for any stage.
- c. The LUP discharger shall list the name and telephone number of the currently designated Qualified SWPPP Developer(s) in the SWPPP.
- d. **Qualified SWPPP Practitioner:** The LUP discharger shall ensure that all elements of any SWPPP for each project will be implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis, and for ensuring full compliance with the permit and implementation of all elements of the SWPPP. Effective two years from the date of adoption of this General Permit, a QSP shall be either a QSD or have one of the following certifications:
 - i. A certified erosion, sediment and storm water inspector registered through Certified Professional in Erosion and Sediment Control, Inc.; or
 - ii. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.

Effective two years after the adoption date of this General Permit, a QSP shall have attended a State Water Board-sponsored or approved QSP training course.

- e. The LUP discharger shall ensure that the SWPPP include a list of names of all contractors, subcontractors, and individuals who will be directed by the Qualified SWPPP Practitioner, and who is ultimately responsible for implementation of the SWPPP. This list shall include telephone numbers and work addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers shall also be included.
- f. The LUP discharger shall ensure that the SWPPP and each amendment be signed by the Qualified SWPPP Developer. The LUP discharger shall include a listing of the date of initial preparation and the dates of each amendment in the SWPPP.

I. TYPES OF LINEAR PROJECTS

This attachment establishes three types (Type 1, 2 & 3) of complexity for areas within an LUP or project section based on threat to water quality. Project area Types are determined through Attachment A.1.

The Type 1 requirements below establish the baseline requirements for all LUPs subject to this General Permit. Additional requirements for Type 2 and Type 3 LUPs are labeled.

1. Type 1 LUPs:

LUP dischargers with areas of a LUP designated as Type 1 shall comply with the requirements in this Attachment. Type 1 LUPs are:

- a. Those construction areas where 70 percent or more of the construction activity occurs on a paved surface and where areas disturbed during construction will be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day; or
- b. Where greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them where:
 - i. Areas disturbed during construction will be returned to preconstruction conditions or equivalent protection is established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition, and
 - ii. Areas where established vegetation was disturbed during construction will be stabilized and re-vegetated by the end of project. When required, adequate temporary stabilization BMPs will be installed and maintained until vegetation is established to meet minimum cover requirements established in this General Permit for final stabilization.
- c. Where the risk determination is as follows:
 - i. Low sediment risk, low receiving water risk, or
 - ii. Low sediment risk, medium receiving water risk, or
 - iii. Medium sediment risk, low receiving water risk

2. Type 2 LUPs:

Type 2 LUPs are determined by the Combined Risk Matrix in Attachment A.1. Type 2 LUPs have the specified combination of risk:

- d. High sediment risk, low receiving water risk, or
- e. Medium sediment risk, medium receiving water risk, or
- f. Low sediment risk, high receiving water risk

Receiving water risk is either considered “Low” for those areas of the project that are not in close proximity to a sensitive receiving watershed, “Medium” for those areas of the project within a sensitive receiving watershed yet outside of the flood plain of a sensitive receiving water body, and “High” where the soil disturbance is within close proximity to a sensitive receiving water body. Project sediment risk is calculated based on the Risk Factor Worksheet in Attachment C of this General Permit.

3. Type 3 LUPs:

Type 3 LUPs are determined by the Combined Risk Matrix in Attachment A.1. Type 3 LUPs have the specified combination of risk:

- a. High sediment risk, high receiving water risk, or
- b. High sediment risk, medium receiving water risk, or
- c. Medium sediment risk, high receiving water risk

Receiving water risk is either considered “Medium” for those areas of the project within a sensitive receiving watershed yet outside of the flood plain of a sensitive receiving water body, or “High” where the soil disturbance is within close proximity to a sensitive receiving water body. Project sediment risk is calculated based on the Risk Factor Worksheet in Attachment C.

J. LUP TYPE-SPECIFIC REQUIREMENTS**1. Effluent Standards**

- a. Narrative – LUP dischargers shall comply with the narrative effluent standards below.

- i Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
 - ii LUP dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.
- b. Numeric – LUP Type 1 dischargers are not subject to a numeric effluent standard
 - c. Numeric –LUP Type 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.
 - d. Numeric – LUP Type 3 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

2. Good Site Management "Housekeeping"

- a. LUP dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, the good housekeeping measures shall consist of the following:
 - i Identify the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - ii Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).
 - iii Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).
 - iv Minimize exposure of construction materials to precipitation (not applicable to materials designed to be outdoors and exposed to the environment).

- v Implement BMPs to control the off-site tracking of loose construction and landscape materials.
- b. LUP dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:
 - i Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.
 - ii Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.
 - iii Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.
 - iv Cover waste disposal containers at the end of every business day and during a rain event.
 - v Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.
 - vi Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.
 - vii Implement procedures that effectively address hazardous and non-hazardous spills.
 - viii Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:
 - (1) Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and
 - (2) Appropriate spill response personnel are assigned and trained.
 - ix Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

- c. LUP dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:
 - i. Prevent oil, grease, or fuel from leaking into the ground, storm drains or surface waters.
 - ii. Implement appropriate BMPs whenever equipment or vehicles are fueled, maintained or stored.
 - iii. Clean leaks immediately and disposing of leaked materials properly.

- d. LUP dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:
 - i. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.
 - ii. Contain fertilizers and other landscape materials when they are not actively being used.
 - iii. Discontinue the application of any erodible landscape material at least 2 days before a forecasted rain event⁹ or during periods of precipitation.
 - iv. Applying erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.
 - v. Stacking erodible landscape material on pallets and covering or storing such materials when not being used or applied.

- e. LUP dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, LUP dischargers shall do the following:

⁹ 50% or greater chance of producing precipitation.

- i Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.
 - ii Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.
 - iii Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.
 - iv Ensure retention of sampling, visual observation, and inspection records.
 - v Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.
- f. LUP dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations.

3. Non-Storm Water Management

- a. LUP dischargers shall implement measures to control all non-storm water discharges during construction.
- b. LUP dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.
- c. LUP dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

4. Erosion Control

- a. LUP dischargers shall implement effective wind erosion control.
- b. LUP dischargers shall provide effective soil cover for inactive¹⁰ areas and all finished slopes, and utility backfill.

¹⁰ Areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days

- c. LUP dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

5. Sediment Controls

- a. LUP dischargers shall establish and maintain effective perimeter controls as needed, and implement effective BMPs for all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.
- b. On sites where sediment basins are to be used, LUP dischargers shall, at minimum, design sediment basins according to the guidance provided in CASQA’s Construction BMP Handbook.
- c. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths¹¹ in accordance with Table 2 below.

Table 2 – Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

- d. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent off-site tracking of sediment.
- e. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.
- f. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall inspect all immediate access roads. At a minimum daily and prior to any rain event, the discharger shall remove any

¹¹ Sheet flow length is the length that shallow, low velocity flow travels across a site.

sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

- g. **Additional LUP Type 3 Requirement:** The Regional Water Board may require LUP Type 3 dischargers to implement additional site-specific sediment control requirements if the implementation of the other requirements in this section are not adequately protecting the receiving waters.

6. Run-on and Run-off Controls

- a. LUP dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this Attachment.
- b. Run-on and runoff controls are not required for Type 1 LUPs unless the evaluation of quantity and quality of run-on and runoff deems them necessary or visual inspections show that the site requires such controls.

7. Inspection, Maintenance and Repair

- a. All inspection, maintenance repair and sampling activities at the discharger's LUP location shall be performed or supervised by a QSP representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.
- b. LUP dischargers shall conduct visual inspections and observations daily during working hours (not recorded). At least once each 24-hour period during extended storm events, **LUP Type 2 & 3 dischargers** shall conduct visual inspections to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.
- c. Upon identifying failures or other shortcomings, as directed by the QSP, LUP dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.
- d. For each pre- and post-rain event inspection required, LUP dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format that includes the information described below.

- e. The LUP discharger shall ensure that the checklist remains on-site or with the SWPPP. At a minimum, an inspection checklist should include:
 - i Inspection date and date the inspection report was written.
 - ii Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.
 - iii Site information, including stage of construction, activities completed, and approximate area of the site exposed.
 - iv A description of any BMPs evaluated and any deficiencies noted.
 - v If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.
 - vi Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.
 - vii Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.
 - viii Photographs taken during the inspection, if any.
 - ix Inspector's name, title, and signature.

K. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS

1. Objectives

SWPPPs for all LUPs shall be developed and amended or revised by a QSD. The SWPPP shall be designed to address the following objectives:

- a. All pollutants and their sources, including sources of sediment, associated with construction activities associated with LUP activity are controlled;
- b. All non-storm water discharges are identified and either eliminated, controlled, or treated;
- c. BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from LUPs during construction; and
- d. Stabilization BMPs installed to reduce or eliminate pollutants after construction is completed are effective and maintained.

2. SWPPP Implementation Schedule

- a. LUPs for which PRDs have been submitted to the State Water Board shall develop a site/project location SWPPP prior to the start of land-disturbing activity in accordance with this Section and shall implement the SWPPP concurrently with commencement of soil-disturbing activities.
- b. For an ongoing LUP involving a change in the LRP, the new LRP shall review the existing SWPPP and amend it, if necessary, or develop a new SWPPP within 15 calendar days to conform to the requirements set forth in this General Permit.

3. Availability

The SWPPP shall be available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

L. REGIONAL WATER BOARD AUTHORITIES

1. Regional Water Boards shall administer the provisions of this General Permit. Administration of this General Permit may include, but is not limited to, requesting the submittal of SWPPPs, reviewing SWPPPs, reviewing monitoring and sampling and analysis reports, conducting compliance inspections, gathering site information by any medium including sampling, photo and video documentation, and taking enforcement actions.
2. Regional Water Boards may terminate coverage under this General Permit for dischargers who fail to comply with its requirements or where they determine that an individual NPDES permit is appropriate.
3. Regional Water Boards may issue separate permits for discharges of storm water associated with construction activity to individual dischargers, categories of dischargers, or dischargers in a geographic area. Upon issuance of such permits by a Regional Water Board, dischargers subject to those permits shall no longer be regulated by this General Permit.
4. Regional Water Boards may direct the discharger to reevaluate the LUP Type(s) for the project (or elements/areas of the project) and impose the appropriate level of requirements.
5. Regional Water Boards may terminate coverage under this General Permit for dischargers who negligently or with willful intent incorrectly determine or report their LUP Type (e.g., they determine themselves to be a LUP Type 1 when they are actually a Type 2).
6. Regional Water Boards may review PRDs and reject or accept applications for permit coverage or may require dischargers to submit a Report of Waste Discharge / NPDES permit application for Regional Water Board consideration of individual requirements.
7. Regional Water Boards may impose additional requirements on dischargers to satisfy TMDL implementation requirements or to satisfy provisions in their Basin Plans.
8. Regional Water Boards may require additional Monitoring and Reporting Program Requirements, including sampling and analysis of discharges to sediment-impaired water bodies.
9. Regional Water Boards may require dischargers to retain records for more than the three years required by this General Permit.

- 10.** Based on an LUP's threat to water quality and complexity, the Regional Water Board may determine on a case-by-case basis that an LUP, or a portion of an LUP, is not eligible for the linear project requirements contained in this Attachment, and require that the discharger comply with all standard requirements in this General Permit.

- 11.** The Regional Water Board may require additional monitoring and reporting program requirements including sampling and analysis of discharges to CWA § 303(d)-listed water bodies. Additional requirements imposed by the Regional Water Board shall be consistent with the overall monitoring effort in the receiving waters.

M. MONITORING AND REPORTING REQUIREMENTS

Table 3. LUP Summary of Monitoring Requirements

LUP Type	Visual Inspections				Sample Collection		
	Daily Site BMP	Pre-storm Event	Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water	Non-Visible (when applicable)
		Baseline					
1	X						X
2	X	X	X	X	X		X
3	X	X	X	X	X	X	X

1. Objectives

LUP dischargers shall prepare a monitoring and reporting program (M&RP) prior to the start of construction and immediately implement the program at the start of construction for LUPs. The monitoring program must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The M&RP must be a part of the SWPPP, included as an appendix or separate SWPPP chapter.

2. M&RP Implementation Schedule

- a. LUP dischargers shall implement the requirements of this Section at the time of commencement of construction activity. LUP dischargers are responsible for implementing these requirements until construction activity is complete and the site is stabilized.
- b. LUP dischargers shall revise the M&RP when:
 - i. Site conditions or construction activities change such that a change in monitoring is required to comply with the requirements and intent of this General Permit.
 - ii. The Regional Water Board requires the discharger to revise its M&RP based on its review of the document. Revisions may include, but not be limited to, conducting additional site inspections, submitting reports, and certifications. Revisions shall be submitted via postal mail or electronic e-mail.

- iii The Regional Water Board may require additional monitoring and reporting program requirements including sampling and analysis of discharges to CWA § 303(d)-listed water bodies. Additional requirements imposed by the Regional Water Board shall be consistent with the overall monitoring effort in the receiving waters.

3. LUP Type 1 Monitoring and Reporting Requirements

a. LUP Type 1 Inspection Requirements

- i LUP Type 1 dischargers shall ensure that all inspections are conducted by trained personnel. The name(s) and contact number(s) of the assigned inspection personnel should be listed in the SWPPP.
- ii LUP Type 1 dischargers shall ensure that all visual inspections are conducted daily during working hours and in conjunction with other daily activities in areas where active construction is occurring.
- iii LUP Type 1 dischargers shall ensure that photographs of the site taken before, during, and after storm events are taken during inspections, and submitted through the State Water Board's SMARTS website once every three rain events.
- iv LUP Type 1 dischargers shall conduct daily visual inspections to verify that:
 - (1) Appropriate BMPs for storm water and non-storm water are being implemented in areas where active construction is occurring (including staging areas);
 - (2) Project excavations are closed, with properly protected spoils, and that road surfaces are cleaned of excavated material and construction materials such as chemicals by either removing or storing the material in protective storage containers at the end of every construction day;
 - (3) Land areas disturbed during construction are returned to pre-construction conditions or an equivalent protection is used at the end of each workday to eliminate or minimize erosion and the possible discharge of sediment or other pollutants during a rain event.
- v Inspections may be discontinued in non-active construction areas where soil-disturbing activities are completed and final soil stabilization is achieved (e.g., paving is completed, substructures

are installed, vegetation meets minimum cover requirements for final stabilization, or other stabilization requirements are met).

- vi Inspection programs are required for LUP Type 1 projects where temporary and permanent stabilization BMPs are installed and are to be monitored after active construction is completed. Inspection activities shall continue until adequate permanent stabilization is established and, in areas where re-vegetation is chosen, until minimum vegetative coverage is established in accordance with Section C.1 of this Attachment.

b. LUP Type 1 Monitoring Requirements for Non-Visible Pollutants

LUP Type 1 dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with (1) construction sites; (2) activities producing pollutants that are not visually detectable in storm water discharges; and (3) activities which could cause or contribute to an exceedance of water quality objectives in the receiving waters.

- i Sampling and analysis for non-visible pollutants is only required where the LUP Type 1 discharger believes pollutants associated with construction activities have the potential to be discharged with storm water runoff due to a spill or in the event there was a breach, malfunction, failure and/or leak of any BMP. Also, failure to implement BMPs may require sample collection.
 - (1) Visual observations made during the monitoring program described above will help the LUP Type 1 discharger determine when to collect samples.
 - (2) The LUP Type 1 discharger is not required to sample if one of the conditions described above (e.g., breach or spill) occurs and the site is cleaned of material and pollutants and/or BMPs are implemented prior to the next storm event.
- ii LUP Type 1 dischargers shall collect samples down-gradient from all discharge locations where the visual observations were made triggering the monitoring, and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples.
- iii If sampling for non-visible pollutant parameters is required, LUP Type 1 dischargers shall ensure that samples be analyzed for parameters indicating the presence of pollutants identified in the pollutant source assessment required in Section J.2.a.i.

- iv LUP Type 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.
 - v LUP Type 1 dischargers shall ensure that a sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample¹²) will be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.
 - vi LUP Type 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and Total Dissolved Solids (TDS).
 - vii For laboratory analyses, all sampling, sample preservation, and other analyses must be conducted according to test procedures pursuant to 40 C.F.R. Part 136. LUP Type 1 dischargers shall ensure that field samples are collected and analyzed according to manufacturer specifications of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification.
 - viii LUP Type 1 dischargers shall ensure that all field and/or analytical data are kept in the SWPPP document.
- c. LUP Type 1 Visual Observation Exceptions
- i LUP Type 1 dischargers shall be prepared to collect samples and conduct visual observation (inspections) to meet the minimum visual observation requirements of this Attachment. The Type 1 LUP discharger is not required to physically collect samples or conduct visual observation (inspections) under the following conditions:
 - (1) During dangerous weather conditions such as flooding and electrical storms;
 - (2) Outside of scheduled site business hours.
 - (3) When access to the site is unsafe due to storm events.

¹² Sample collected at a location unaffected by construction activities.

- ii If the LUP Type 1 discharger does not collect the required samples or visual observation (inspections) due to these exceptions, an explanation why the sampling or visual observation (inspections) were not conducted shall be included in both the SWPPP and the Annual Report.
- d. Particle Size Analysis for Risk Justification

LUP Type 1 dischargers utilizing justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

4. LUP Type 2 & 3 Monitoring and Reporting Requirements

- a. LUP Type 2 & 3 Inspection Requirements
- i LUP Type 2 & 3 dischargers shall ensure that all inspections are conducted by trained personnel. The name(s) and contact number(s) of the assigned inspection personnel should be listed in the SWPPP.
 - ii LUP Type 2 & 3 dischargers shall ensure that all visual inspections are conducted daily during working hours and in conjunction with other daily activities in areas where active construction is occurring.
 - iii LUP Type 2 & 3 dischargers shall ensure that photographs of the site taken before, during, and after storm events are taken during inspections, and submitted through the State Water Board's SMARTS website once every three rain events.
 - iv LUP Type 2 & 3 dischargers shall conduct daily visual inspections to verify that appropriate BMPs for storm water and non-storm water are being implemented and in place in areas where active construction is occurring (including staging areas).
 - v LUP Type 2 & 3 dischargers shall conduct inspections of the construction site prior to anticipated storm events, during extended storm events, and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity. Pre-storm inspections are to ensure that BMPs are properly installed and maintained; post-storm inspections are to assure that BMPs have functioned adequately. During

extended storm events, inspections shall be required during normal working hours for each 24-hour period.

- vi Inspections may be discontinued in non-active construction areas where soil-disturbing activities are completed and final soil stabilization is achieved (e.g., paving is completed, substructures are installed, vegetation meets minimum cover requirements for final stabilization, or other stabilization requirements are met).
- vii LUP Type 2 & 3 dischargers shall implement a monitoring program for inspecting projects that require temporary and permanent stabilization BMPs after active construction is complete. Inspections shall ensure that the BMPs are adequate and maintained. Inspection activities shall continue until adequate permanent stabilization is established and, in vegetated areas, until minimum vegetative coverage is established in accordance with Section C.1 of this Attachment.
- viii If possible, LUP Type 2 & 3 dischargers shall install a rain gauge on-site at an accessible and secure location with readings made during all storm event inspections. When readings are unavailable, data from the closest rain gauge with publically available data may be used.
- ix LUP Type 2 & 3 dischargers shall include and maintain a log of the inspections conducted in the SWPPP. The log will provide the date and time of the inspection and who conducted the inspection.

b. LUP Type 2 & 3 Storm Water Effluent Monitoring Requirements

Table 4. LUP Type 2 & 3 Effluent Monitoring Requirements

LUP Type	Frequency	Effluent Monitoring
2	Minimum of 3 samples per day characterizing discharges associated with construction activity from the project active areas of construction.	Turbidity, pH, and non-visible pollutant parameters (if applicable)
3	Minimum of 3 samples per day characterizing discharges associated with construction activity from the project active areas of construction.	turbidity, pH, and non-visible pollutant parameters (if applicable)

- i LUP Type 2 & 3 dischargers shall collect storm water grab samples from sampling locations characterizing discharges associated with activity from the LUP active areas of construction. At a minimum, 3 samples shall be collected per day of discharge.

- ii LUP Type 2 & 3 dischargers shall collect samples of stored or contained storm water that is discharged subsequent to a storm event producing precipitation of ½ inch or more at the time of discharge.
- iii LUP Type 2 & 3 dischargers shall ensure that storm water grab sample(s) obtained be representative of the flow and characteristics of the discharge.
- iv LUP Type 2 & 3 dischargers shall analyze their effluent samples for:
 - (1) pH and turbidity
 - (2) Any additional parameter for which monitoring is required by the Regional Water Board.

c. LUP Type 2 & 3 Storm Water Effluent Sampling Locations

- i LUP Type 2 & 3 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire disturbed project or area.
- ii LUP Type 2 & 3 dischargers may monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to exceedance of NALs.
- iii LUP Type 2 & 3 dischargers shall select analytical test methods from the list provided in Table 5 below.
- iv LUP Type 2 & 3 dischargers shall ensure that all storm water sample collection preservation and handling shall be conducted in accordance with the “Storm Water Sample Collection and Handling Instructions” below.

d. LUP Type 3 Receiving Water Monitoring Requirements

- i In the event that an LUP Type 3 discharger’s effluent exceeds the receiving water monitoring triggers of 500 NTU turbidity or pH range of 6.0-9.0, contained in this General Permit and has a direct discharge to receiving waters, the LUP discharger shall subsequently sample Receiving Waters (RWs) for turbidity, pH (if applicable) and SSC for the duration of coverage under this General Permit. In the event that an LUP Tupe 3 discharger utilizing ATS with direct discharges into receiving waters discharges effluent that exceeds the NELs in this permit, the discharger shall

subsequently sample RWs for turbidity, pH (if applicable), and SSC for the duration of coverage under this General Permit.

- ii LUP Type 3 dischargers that meet the project criteria in Appendix 3 of this General Permit and have more than 30 acres of soil disturbance in the project area or project section area designated as Type 3, shall comply with the Bioassessment requirements prior to commencement of construction activity.
 - iii LUP Type 3 dischargers shall obtain RW samples in accordance with the requirements of the Receiving Water Sampling Locations section (Section M.4.c. of this Attachment).
- e. LUP Type 3 Receiving Water Sampling Locations
- i **Upstream/up-gradient RW samples:** LUP Type 3 dischargers shall obtain any required upstream/up-gradient receiving water samples from a representative and accessible location as close as possible to and upstream from the effluent discharge point.
 - ii **Downstream/down-gradient RW samples:** LUP Type 3 dischargers shall obtain any required downstream/down-gradient receiving water samples from a representative and accessible location as close as possible to and downstream from the effluent discharge point.
 - iii If two or more discharge locations discharge to the same receiving water, LUP Type 3 dischargers may sample the receiving water at a single upstream and downstream location.

f. LUP Type 2 & 3 Monitoring Requirements for Non-Visible Pollutants

LUP Type 2 & 3 dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with (1) construction sites; (2) activities producing pollutants that are not visually detectable in storm water discharges; and (3) activities which could cause or contribute to an exceedance of water quality objectives in the receiving waters.

- i Sampling and analysis for non-visible pollutants is only required where LUP Type 2 & 3 dischargers believe pollutants associated with construction activities have the potential to be discharged with storm water runoff due to a spill or in the event there was a breach, malfunction, failure and/or leak of any BMP. Also, failure to implement BMPs may require sample collection.

- (1) Visual observations made during the monitoring program described above will help LUP Type 2 & 3 dischargers determine when to collect samples.
 - (2) LUP Type 2 & 3 dischargers are not required to sample if one of the conditions described above (e.g., breach or spill) occurs and the site is cleaned of material and pollutants and/or BMPs are implemented prior to the next storm event.
- ii LUP Type 2 & 3 dischargers shall collect samples down-gradient from the discharge locations where the visual observations were made triggering the monitoring and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples.
 - iii If sampling for non-visible pollutant parameters is required, LUP Type 2 & 3 dischargers shall ensure that samples be analyzed for parameters indicating the presence of pollutants identified in the pollutant source assessment required in Section J.2.a.i.
 - iv LUP Type 2 & 3 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.
 - v LUP Type 2 & 3 dischargers shall ensure that a sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample¹³) will be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.
 - vi LUP Type 2 & 3 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and Total Dissolved Solids (TDS).
 - vii For laboratory analyses, all sampling, sample preservation, and other analyses must be conducted according to test procedures pursuant to 40 C.F.R. Part 136. LUP Type 2 & 3 dischargers shall ensure that field samples are collected and analyzed according to manufacturer specifications of the sampling devices employed.

¹³ Sample collected at a location unaffected by construction activities

Portable meters shall be calibrated according to manufacturer's specification.

viii LUP Type 2 & 3 dischargers shall ensure that all field and/or analytical data are kept in the SWPPP document.

g. LUP Type 2 & 3 Visual Observation and Sample Collection Exceptions

i LUP Type 2 & 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) to meet the minimum visual observation requirements of this Attachment. Type 2 & 3 LUP dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

(1) During dangerous weather conditions such as flooding and electrical storms;

(2) Outside of scheduled site business hours.

(3) When access to the site is unsafe due to storm events.

ii If the LUP Type 2 or 3 discharger does not collect the required samples or visual observation (inspections) due to these exceptions, an explanation why the sampling or visual observation (inspections) were not conducted shall be included in both the SWPPP and the Annual Report.

h. LUP Type 2 & 3 Storm Water Sample Collection and Handling Instructions

LUP Type 2 & 3 dischargers shall refer to Table 5 below for test Methods, detection Limits, and reporting Units. During storm water sample collection and handling, the LUP Type 2 & 3 discharger shall:

i Identify the parameters required for testing and the number of storm water discharge points that will be sampled. Request the laboratory to provide the appropriate number of sample containers, types of containers, sample container labels, blank chain of custody forms, and sample preservation instructions.

ii Determine how to ship the samples to the laboratory. The testing laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory). The options are to either deliver the samples to the laboratory, arrange to have the laboratory pick them up, or ship them overnight to the laboratory.

- iii Use only the sample containers provided by the laboratory to collect and store samples. Use of any other type of containers could contaminate your samples.
- iv Prevent sample contamination, by not touching, or putting anything into the sample containers before collecting storm water samples.
- v Not overfilling sample containers. Overfilling can change the analytical results.
- vi Tightly screw the cap of each sample container without stripping the threads of the cap.
- vii Complete and attach a label to each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.
- viii Carefully pack sample containers into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment. Remember to place frozen ice packs into the shipping container. Samples should be kept as close to 4° C (39° F) as possible until arriving at the laboratory. Do not freeze samples.
- ix Complete a Chain of Custody form for each set of samples. The Chain of Custody form shall include the discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, and the analysis that is required for each sample container.
- x Upon shipping/delivering the sample containers, obtain both the signatures of the persons relinquishing and receiving the sample containers.
- xi Designate and train personnel to collect, maintain, and ship samples in accordance with the above sample protocols and good laboratory practices.
- xii Refer to the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP) for more

information on sampling collection and analysis. See http://www.waterboards.ca.gov/water_issues/programs/swamp/¹⁴

Table 5. Test Methods, Detection Limits, Reporting Units and Applicable NALs

Parameter	Test Method	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Levels	(LUP Type 3) Receiving Water Monitoring Trigger
pH	Field test with calibrated portable instrument	Type 2 & 3	0.2	pH units	Lower = 6.5 upper = 8.5	Lower = 6.0 upper = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Type 2 & 3	1	NTU	250 NTU	500 NTU
SSC	ASTM Method D 3977-97 ¹⁵	Type 3 if Receiving Water Monitoring Trigger is exceeded	5	Mg/L	N/A	N/A
Bioassessment	(STE) Level I of (SAFIT), ¹⁶ fixed-count of 600 org/sample	Type 3 LUPs > 30 acres	N/A	N/A	N/A	N/A

i. LUP Type 2 & 3 Monitoring Methods

i The LUP Type 2 or 3 discharger’s project M&RP shall include a description of the following items:

- (1) Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

¹⁴ Additional information regarding SWAMP’s QAPrP can be found at: http://www.waterboards.ca.gov/water_issues/programs/swamp/.

¹⁵ ASTM, 1999, Standard Test Method for Determining Sediment Concentration in Water Samples: American Society of Testing and Materials, D 3977-97, Vol. 11.02, pp. 389-394

¹⁶ The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board’s SWAMP website.

- (2) Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program a copy of the Chain of Custody form used when handling and shipping samples.
 - (3) Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section M.4.f above.
- ii LUP Type 2 & 3 dischargers shall ensure that all sampling and sample preservation be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses shall be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses shall be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services (SSC exception). The LUP discharger shall conduct its own field analysis of pH and may conduct its own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.
- j. LUP Type 2 & 3 Analytical Methods

LUP Type 2 & 3 dischargers shall refer to Table 5 above for test Methods, detection Limits, and reporting Units.

- i **pH:** LUP Type 2 & 3 dischargers shall perform pH analysis on-site with a calibrated pH meter or pH test kit. The LUP discharger shall record pH monitoring results on paper and retain these records in accordance with Section M.4.o, below.
- ii **Turbidity:** LUP Type 2 & 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results shall

be recorded in the site log book in Nephelometric Turbidity Units (NTU).

- iii **Suspended sediment concentration (SSC):** LUP Type 3 dischargers exceeding the turbidity Receiving Water Monitoring Trigger, shall perform SSC analysis using ASTM Method D3977-97.
- iv **Bioassessment:** LUP Type 3 dischargers shall perform bioassessment sampling and analysis according to Appendix 3 of this General Permit.

k. Watershed Monitoring Option

If an LUP Type 2 or 3 discharger is part of a qualified regional watershed-based monitoring program the LUP Type 2 or 3 discharger may be eligible for relief from the monitoring requirements in this Attachment. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program if it determines that the watershed-based monitoring program will provide information to determine each discharger's compliance with the requirements of this General Permit.

l. Particle Size Analysis for Risk Justification

LUP Type 2 & 3 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

m. NAL Exceedance Report

- i In the event that any effluent sample exceeds an applicable NAL, the Regional Water Boards may require LUP Type 2 & 3 dischargers to submit NAL Exceedance Reports.
- ii LUP Type 2 & 3 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.
- iii LUP Type 2 & 3 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the exceedance report is filed.
- iv LUP Type 2 & 3 dischargers shall include in the NAL Exceedance Report:

- (1) the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”); and
- (2) the date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.
- (3) Description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

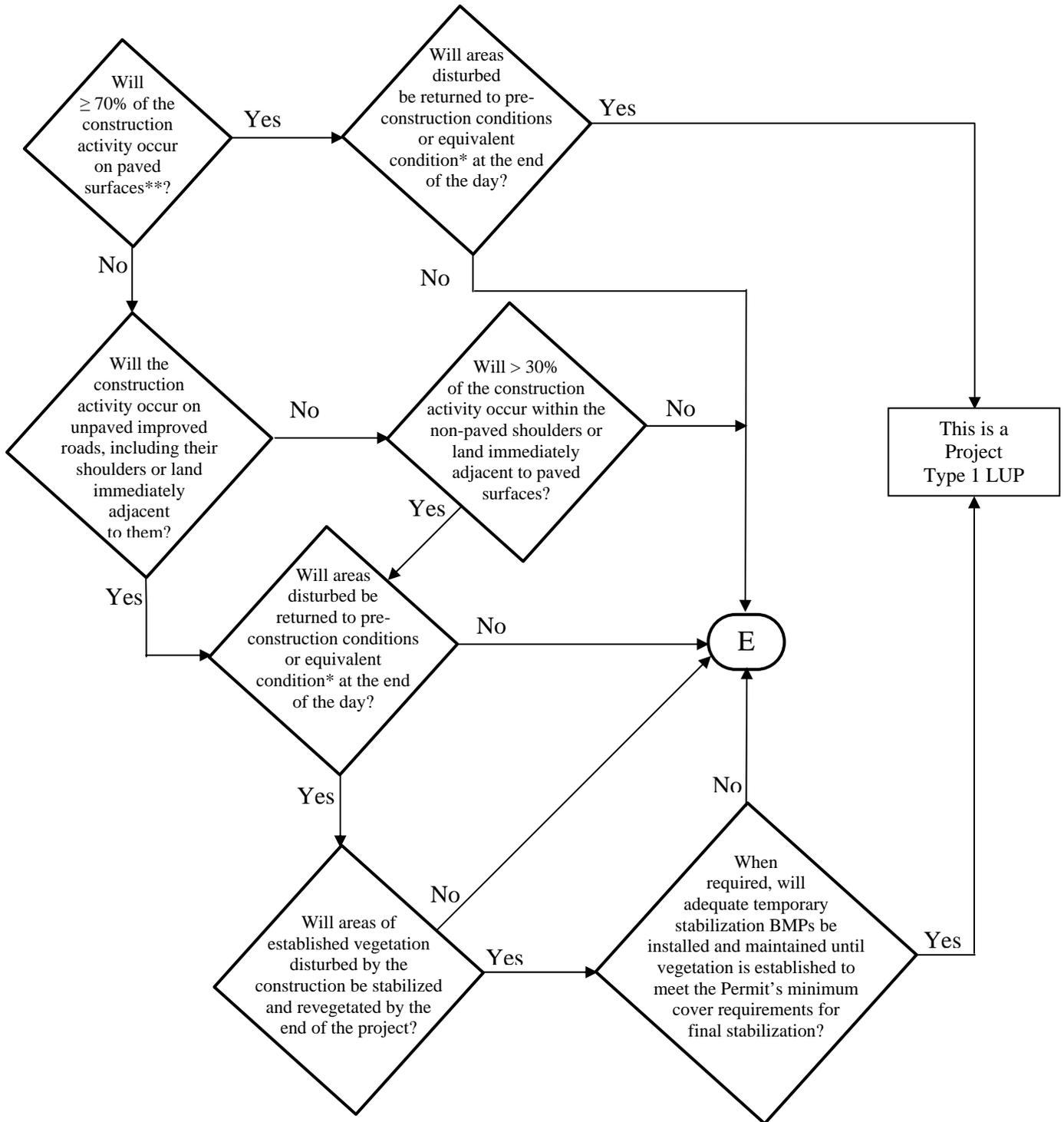
n. Monitoring Records

LUP Type 2 & 3 dischargers shall ensure that records of all storm water monitoring information and copies of all reports (including Annual Reports) required by this General Permit be retained for a period of at least three years. LUP Type 2 & 3 dischargers may retain records off-site and make them available upon request. These records shall include:

- i The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge);
- ii The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements;
- iii The date and approximate time of analyses;
- iv The individual(s) who performed the analyses;
- v A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and all chain of custody forms;
- vi Quality assurance/quality control records and results;
- vii Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Section M.4.a above);
- viii Visual observation and sample collection exception records (see Section M.4.g above); and

- ix The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

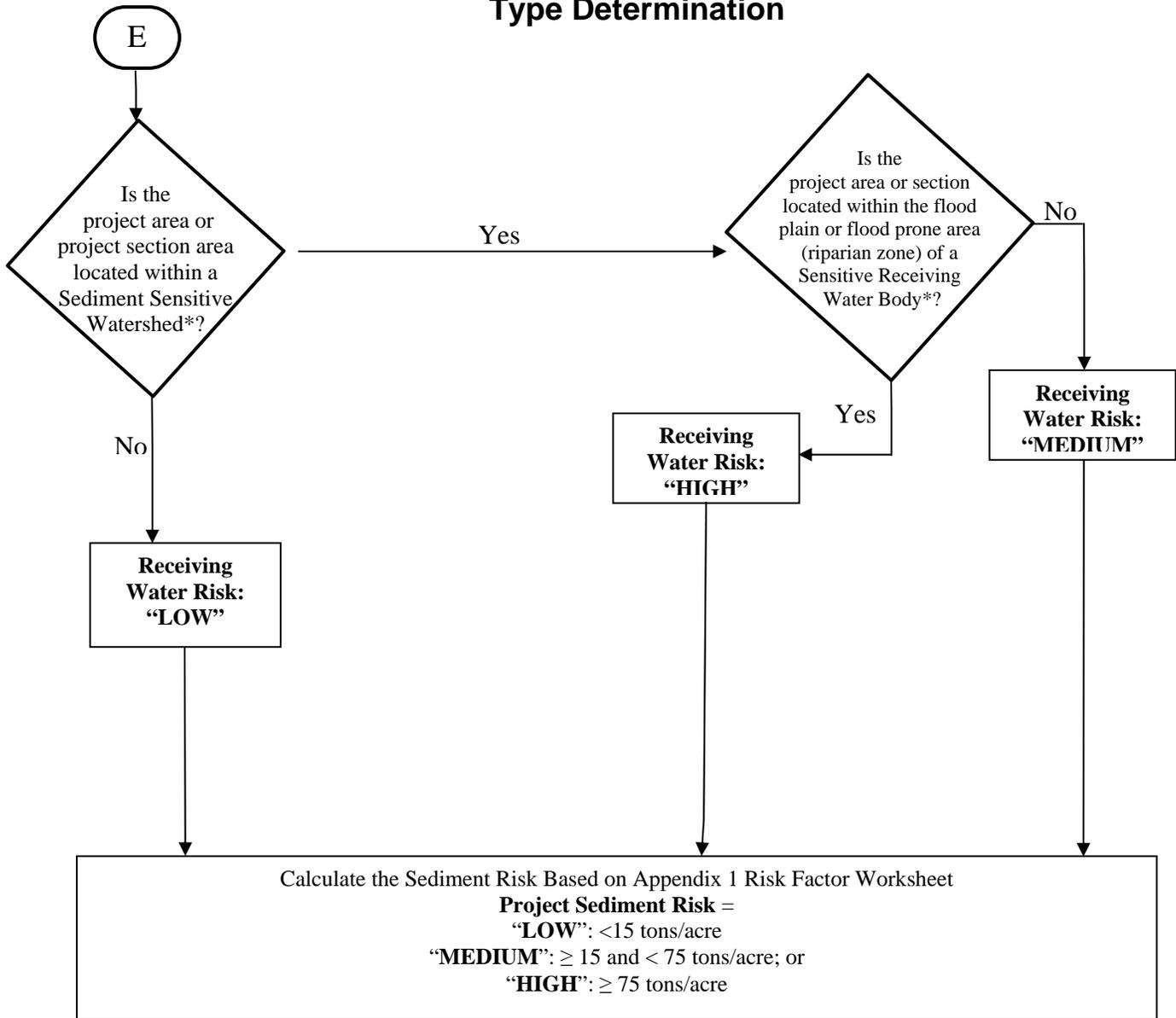
ATTACHMENT A.1 LUP Project Area or Project Section Area Type Determination



*See Definition of Terms

** Or: "Will < 30% of the soil disturbance occur on unpaved surfaces?"

ATTACHMENT A.1 LUP Project Area or Project Section Area Type Determination



* See Definition of Terms

PROJECT SEDIMENT RISK

RECEIVING WATER RISK

	LOW	MEDIUM	HIGH
LOW	Type 1	Type 1	Type 2
MEDIUM	Type 1	Type 2	Type 3
HIGH	Type 2	Type 3	Type 3

ATTACHMENT A.1 Definition of Terms

1. **Equivalent Condition** – Means disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered (e.g., metal plates, pavement, plastic covers over spoil piles) at the end of the construction day.
2. **Linear Construction Activity** – Linear construction activity consists of underground/ overhead facilities that typically include, but are not limited to, any conveyance, pipe or pipeline for the transportation of any gaseous, liquid (including water, wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/ tower pad and cable/ wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/ borrow locations.
3. **Sediment Sensitive Receiving Water Body** – Defined as a water body segment that is listed on EPA's approved CWA 303(d) list for sedimentation/siltation, turbidity, or is designated with beneficial uses of SPAWN, MIGRATORY, and COLD.
4. **Sediment Sensitive Watershed** – Defined as a watershed draining into a receiving water body listed on EPA's approved CWA 303(d) list for sedimentation/siltation, turbidity, or a water body designated with beneficial uses of SPAWN, MIGRATORY, and COLD.

**ATTACHMENT A.2
PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS FOR LINEAR UNDERGROUND/OVERHEAD PROJECTS TO
COMPLY WITH THE CONSTRUCTION GENERAL PERMIT**

GENERAL INSTRUCTIONS

Who Must Submit

This permit is effective on July 1, 2010.

The Legally Responsible Person (LRP) for construction activities associated with linear underground/overhead project (LUP) must electronically apply for coverage under this General Permit on or after July 1, 2010. If it is determined that the LUP construction activities require an NPDES permit, the Legally Responsible Person¹ (LRP) shall submit PRDs for this General Permit in accordance with the following:

LUPs associated with Private or Municipal Development Projects

1. For LUPs associated with pre-development and pre-redevelopment construction activities:

The LRP must obtain coverage² under this General Permit for its pre-development and pre-redevelopment construction activities where the total disturbed land area of these construction activities is greater than 1 acre.

2. For LUPs associated with new development and redevelopment construction projects:

The LRP must obtain coverage under this General Permit for LUP construction activities associated with new development and redevelopment projects where the total disturbed land area of the LUP is greater than 1 acre. Coverage under this permit is not required where the same LUP construction activities are covered by another NPDES permit.

LUPs not associated with private or municipal new development or redevelopment projects:

The LRP must obtain coverage under this General Permit on or after July 1, 2010 for its LUP construction activities where the total disturbed land area is greater than 1 acre.

PRD Submittal Requirements

Prior to the start of construction activities a LRP must submit PRDs and fees to the State Water Board for each LUP.

New and Ongoing LUPs

Dischargers of new LUPs that commence construction activities after the adoption date of this General Permit shall file PRDs prior to the commencement of construction and implement the SWPPP upon the start of construction.

¹ person possessing the title of the land on which the construction activities will occur for the regulated site

² obtain coverage means filing PRDs for the project.

PERMIT REGISTRATION DOCUMENTS (PRDs) GENERAL INSTRUCTIONS (CONTINUED)

Dischargers of ongoing LUPs that are currently covered under State Water Board Order No. 2003-0007 (Small LUP General Permit) shall electronically file Permit Registration Documents no later than July 1, 2010. After July 1, 2010, all NOIs subject to State Water Board Order No. 2003-0007-DWQ will be terminated. All existing dischargers shall be exempt from the risk determination requirements in Attachment A. All existing dischargers are therefore subject to LUP Type 1 requirements regardless of their project's sediment and receiving water risks. However, a Regional Board retains the authority to require an existing discharger to comply with the risk determination requirements in Attachment A.

Where to Apply

The Permit Registration Documents (PRDs) can be found at www.waterboards.ca.gov/water_issues/programs/stormwater/

Fees

The annual fee for storm water permits are established through the State of California Code of Regulations.

When Permit Coverage Commences

To obtain coverage under the General Permit, the LRP must include the complete PRDs and the annual fee. All PRDs deemed incomplete will be rejected with an explanation as to what is required to complete submittal. Upon receipt of complete PRDs and associated fee, each discharger will be sent a waste discharger's identification (WDID) number.

Projects and Activities Not Defined As Construction Activity

1. LUP construction activity does not include routine maintenance projects to maintain original line and grade, hydraulic capacity, or original purpose of the facility. Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements or other legally binding agreements of the discharger. Routine maintenance projects include, but are not limited to projects that are conducted to:
 - Maintain the original purpose of the facility, or hydraulic capacity.
 - Update existing lines³ and facilities to comply with applicable codes, standards and regulations regardless if such projects result in increased capacity.
 - Repairing leaks.

Routine maintenance does not include construction of new⁴ lines or facilities resulting from compliance with applicable codes, standards and regulations.

³ Update existing lines includes replacing existing lines with new materials or pipes.

⁴ New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

**PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)**

Routine maintenance projects do not include those areas of maintenance projects that are outside of an existing right-of-way, franchise, easements, or agreements. When a project must acquire new areas, those areas may be subject to this General Permit based on the area of disturbed land outside the original right-of-way, easement, or agreement.

2. LUP construction activity does not include field activities associated with the planning and design of a project (e.g., activities associated with route selection).
3. Tie-ins conducted immediately adjacent to “energized” or “pressurized” facilities by the discharger are not considered small construction activities where all other LUP construction activities associated with the tie-in are covered by a NOI and SWPPP of a third party or municipal agency.

Calculating Land Disturbance Areas of LUPs

The total land area disturbed for LUPs is the sum of the:

- Surface areas of trenches, laterals and ancillary facilities, plus
- Area of the base of stockpiles on unpaved surfaces, plus
- Surface area of the borrow area, plus
- Areas of paved surfaces constructed for the project, plus
- Areas of new roads constructed or areas of major reconstruction to existing roads (e.g. improvements to two-track surfaces or road widening) for the sole purpose of accessing construction activities or as part of the final project, plus
- Equipment and material storage, staging, and preparation areas (laydown areas) not on paved surfaces, plus
- Soil areas outside the surface area of trenches, laterals and ancillary facilities that will be graded, and/or disturbed by the use of construction equipment, vehicles and machinery during construction activities.

Stockpiling Areas

Stockpiling areas, borrow areas and the removal of soils from a construction site may or may not be included when calculating the area of disturbed soil for a site depending on the following conditions:

- For stockpiling of soils onsite or immediately adjacent to a LUP site and the stockpile is not on a paved surface, the area of the base of the stockpile is to be included in the disturbed area calculation.
- The surface area of borrow areas that are onsite or immediately adjacent to a project site are to be included in the disturbed area calculation.
- For soil that is hauled offsite to a location owned or operated by the discharger that is not a paved surface, the area of the base of the stockpile is to be included in the disturbed area calculation except when the offsite location is already subject to a separate storm water permit.

**PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)**

- For soil that is brought to the project from an off-site location owned or operated by the discharger the surface area of the borrow pit is to be included in the disturbed area calculation except when the offsite location is already subject to a separate storm water permit.
- Trench spoils on a paved surface that are either returned to the trench or excavation or hauled away from the project daily for disposal or reuse will not be included in the disturbed area calculation.

If you have any questions concerning submittal of PRDs, please call the State Water Board at (866) 563-3107.

**ATTACHMENT B
PERMIT REGISTRATION DOCUMENTS (PRDs) TO COMPLY WITH THE TERMS
OF THE GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH CONSTRUCTION ACTIVITY**

GENERAL INSTRUCTIONS

- A.** All Linear Construction Projects shall comply with the PRD requirements in Attachment A.2 of this Order.

B. Who Must Submit

Discharges of storm water associated with construction that results in the disturbance of one acre or more of land must apply for coverage under the General Construction Storm Water Permit (General Permit). Any construction activity that is a part of a larger common plan of development or sale must also be permitted, regardless of size. (For example, if 0.5 acre of a 20-acre subdivision is disturbed by the construction activities of discharger A and the remaining 19.5 acres is to be developed by discharger B, discharger A must obtain a General Storm Water Permit for the 0.5 acre project).

Other discharges from construction activities that are covered under this General Permit can be found in the General Permit Section II.B.

It is the LRP's responsibility to obtain coverage under this General Permit by electronically submitting complete PRDs (Permit Registration Documents).

In all cases, the proper procedures for submitting the PRDs must be completed before construction can commence.

C. Construction Activity Not Covered By This General Permit

Discharges from construction that are not covered under this General Permit can be found in the General Permit Sections II.A & B..

D. Annual Fees and Fee Calculation

Annual fees are calculated based upon the total area of land to be disturbed not the total size of the acreage owned. However, the calculation includes all acres to be disturbed during the duration of the project. For example, if 10 acres are scheduled to be disturbed the first year and 10 in each subsequent year for 5 years, the annual fees would be based upon 50 acres of disturbance. The State Water Board will evaluate adding acreage to an existing Permit Waste Discharge Identification (WDID) number on a case-by-case basis. In general, any acreage to be considered must be contiguous to the permitted land area and the existing

SWPPP must be appropriate for the construction activity and topography of the acreage under consideration. As acreage is built out and stabilized or sold, the Change of Information (COI) form enables the applicant to remove those acres from inclusion in the annual fee calculation. Checks should be made payable to: State Water Board.

The Annual fees are established through regulations adopted by the State Water Board. The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI, based on the total acreage to be disturbed during the life of the project. Annual fees are subject to change by regulation.

Dischargers that apply for and satisfy the Small Construction Erosivity Waiver requirements shall pay a fee of \$200.00 plus an applicable surcharge, see the General Permit Section II.B.7.

E. When to Apply

LRP's proposing to conduct construction activities subject to this General Permit must submit their PRDs prior to the commencement of construction activity.

F. Requirements for Completing Permit Registration Documents (PRDs)

All dischargers required to comply with this General Permit shall electronically submit the required PRDs for their type of construction as defined below.

G. Standard PRD Requirements (All Dischargers)

1. Notice of Intent
2. Risk Assessment (Standard or Site-Specific)
3. Site Map
4. SWPPP
5. Annual Fee
6. Certification

H. Additional PRD Requirements Related to Construction Type

1. Discharger in unincorporated areas of the State (not covered under an adopted Phase I or II SUSMP requirements) and that are not a linear project shall also submit a completed:
 - a. Post-Construction Water Balance Calculator (Appendix 2).
2. Dischargers who are proposing to implement ATS shall submit:
 - a. Complete ATS Plan in accordance with Attachment F at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation.

- b. Certification proof that design done by a professional in accordance with Attachment F.
- 3. Dischargers who are proposing an alternate Risk Justification:
 - a. Particle Size Analysis.

I. Exceptions to Standard PRD Requirements

Construction sites with an R value less than 5 as determined in the Risk Assessment are not required to submit a SWPPP.

J. Description of PRDs

1. Notice of Intent (NOI)
2. Site Map(s) Includes:
 - a. The project's surrounding area (vicinity)
 - b. Site layout
 - c. Construction site boundaries
 - d. Drainage areas
 - e. Discharge locations
 - f. Sampling locations
 - g. Areas of soil disturbance (temporary or permanent)
 - h. Active areas of soil disturbance (cut or fill)
 - i. Locations of all runoff BMPs
 - j. Locations of all erosion control BMPs
 - k. Locations of all sediment control BMPs
 - l. ATS location (if applicable)
 - m. Locations of sensitive habitats, watercourses, or other features which are not to be disturbed
 - n. Locations of all post-construction BMPs
 - o. Locations of storage areas for waste, vehicles, service, loading/unloading of materials, access (entrance/exits) points to construction site, fueling, and water storage, water transfer for dust control and compaction practices
3. **SWPPPs**
A site-specific SWPPP shall be developed by each discharger and shall be submitted with the PRDs.
4. **Risk Assessment**
All dischargers shall use the Risk Assessment procedure as describe in the General Permit Appendix 1.
 - a. The Standard Risk Assessment includes utilization of the following:
 - i. Receiving water Risk Assessment interactive map

- ii. EPA Rainfall Erosivity Factor Calculator Website
 - iii. Sediment Risk interactive map
 - iv. Sediment sensitive water bodies list
- b. The Site-Specific Risk Assessment includes the completion of the hand calculated R value Risk Calculator
5. **Post-Construction Water Balance Calculator**
All dischargers subject to this requirement shall complete the Water Balance Calculator (in Appendix 2) in accordance with the instructions.
6. **ATS Design Document and Certification**
All dischargers using ATS must submit electronically their system design (as well as any supporting documentation) and proof that the system was designed by a qualified ATS design professional (See Attachment F).

To obtain coverage under the General Permit PRDs must be included and completed. If any of the required items are missing, the PRD submittal is considered incomplete and will be rejected. Upon receipt of a complete PRD submittal, the State Water Board will process the application package in the order received and assign a (WDID) number.

Questions?

If you have any questions on completing the PRDs please email stormwater@waterboards.ca.gov or call (866) 563-3107.

ATTACHMENT C RISK LEVEL 1 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 1 dischargers shall comply with the narrative effluent standards listed below:
 - a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
 - b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.
2. Numeric – Risk Level 1 dischargers are not subject to a numeric effluent standard.

B. Good Site Management "Housekeeping"

1. Risk Level 1 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 1 dischargers shall implement the following good housekeeping measures:
 - a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

- c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).
 - d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.
2. Risk Level 1 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:
- a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.
 - b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.
 - c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.
 - d. Cover waste disposal containers at the end of every business day and during a rain event.
 - e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.
 - f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.
 - g. Implement procedures that effectively address hazardous and non-hazardous spills.
 - h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:
 - i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

- ii. Appropriate spill response personnel are assigned and trained.
 - i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.
3. Risk Level 1 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:
- a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.
 - b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.
 - c. Clean leaks immediately and disposing of leaked materials properly.
4. Risk Level 1 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:
- a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.
 - b. Contain fertilizers and other landscape materials when they are not actively being used.
 - c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.
 - d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.
 - e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.
5. Risk Level 1 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 1 dischargers shall do the following:

- a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.
 - b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.
 - c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.
 - d. Ensure retention of sampling, visual observation, and inspection records.
 - e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.
6. Risk Level 1 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

C. Non-Storm Water Management

1. Risk Level 1 dischargers shall implement measures to control all non-storm water discharges during construction.
2. Risk Level 1 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.
3. Risk Level 1 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 1 dischargers shall implement effective wind erosion control.
2. Risk Level 1 dischargers shall provide effective soil cover for inactive¹ areas and all finished slopes, open space, utility backfill, and completed lots.
3. Risk Level 1 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 1 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.
2. On sites where sediment basins are to be used, Risk Level 1 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

F. Run-on and Runoff Controls

Risk Level 1 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 1 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.
2. Risk Level 1 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended

¹ Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 1 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.
4. For each inspection required, Risk Level 1 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.
5. Risk Level 1 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:
 - a. Inspection date and date the inspection report was written.
 - b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.
 - c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.
 - d. A description of any BMPs evaluated and any deficiencies noted.
 - e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.
 - f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.
 - g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.
 - h. Photographs taken during the inspection, if any.
 - i. Inspector's name, title, and signature.

H. Rain Event Action Plan

Not required for Risk Level 1 dischargers.

I. Risk Level 1 Monitoring and Reporting Requirements

Table 1- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
1	X	X		X	X		

1. Construction Site Monitoring Program Requirements

- a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.
- b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Programs to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.
- c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. Objectives

The CSMP shall be developed and implemented to address the following objectives:

- a. To demonstrate that the site is in compliance with the Discharge Prohibitions;

- b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
 - c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges; and
 - d. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.
- 3. Risk Level 1 - Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**
- a. Risk Level 1 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.
 - b. Risk Level 1 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.
 - c. Risk Level 1 dischargers shall conduct visual observations (inspections) during business hours only.
 - d. Risk Level 1 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.
 - e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 1 dischargers shall visually observe (inspect):
 - i. All storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.
 - ii. All BMPs to identify whether they have been properly implemented in accordance with the SWPPP. If needed, the discharger shall implement appropriate corrective actions.

- iii. Any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.
- f. For the visual observations (inspections) described in e.i and e.iii above, Risk Level 1 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.
- g. Within two business days (48 hours) after each qualifying rain event, Risk Level 1 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.
- h. Risk Level 1 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. Risk Level 1 – Visual Observation Exemptions

- a. Risk Level 1 dischargers shall be prepared to conduct visual observation (inspections) until the minimum requirements of Section I.3 above are completed. Risk Level 1 dischargers are not required to conduct visual observation (inspections) under the following conditions:
 - i. During dangerous weather conditions such as flooding and electrical storms.
 - ii. Outside of scheduled site business hours.
- b. If no required visual observations (inspections) are collected due to these exceptions, Risk Level 1 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the visual observations (inspections) were not conducted.

5. Risk Level 1 – Monitoring Methods

Risk Level 1 dischargers shall include a description of the visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures in the CSMP.

6. Risk Level 1 – Non-Storm Water Discharge Monitoring Requirements

- a. Visual Monitoring Requirements:
 - i. Risk Level 1 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.
 - ii. Risk Level 1 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).
 - iii. Risk Level 1 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 1 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

7. Risk Level 1 – Non-Visible Pollutant Monitoring Requirements

- a. Risk Level 1 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.
- b. Risk Level 1 dischargers shall ensure that water samples are large enough to characterize the site conditions.
- c. Risk Level 1 dischargers shall collect samples at all discharge locations that can be safely accessed.
- d. Risk Level 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.
- e. Risk Level 1 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the

presence of pollutants identified in the pollutant source assessment required (Risk Level 1 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

- f. Risk Level 1 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.
- g. Risk Level 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.²
- h. Risk Level 1 dischargers shall keep all field /or analytical data in the SWPPP document.

8. Risk Level 1 – Particle Size Analysis for Project Risk Justification

Risk Level 1 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

9. Risk Level 1 – Records

Risk Level 1 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 1 dischargers shall retain all records on-site while construction is ongoing. These records include:

- a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.
- b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.
- c. The date and approximate time of analyses.
- d. The individual(s) who performed the analyses.

² For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

- e. A summary of all analytical results from the last three years, the method detection limits and reporting units, and the analytical techniques or methods used.
- f. Rain gauge readings from site inspections.
- g. Quality assurance/quality control records and results.
- h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.6 above).
- i. Visual observation and sample collection exception records (see Section I.4 above).
- j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

ATTACHMENT D RISK LEVEL 2 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 2 dischargers shall comply with the narrative effluent standards listed below:
 - a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
 - b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.
2. Numeric – Risk level 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

B. Good Site Management "Housekeeping"

1. Risk Level 2 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 2 dischargers shall implement the following good housekeeping measures:
 - a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

- c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).
 - d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.
2. Risk Level 2 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:
- a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.
 - b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.
 - c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.
 - d. Cover waste disposal containers at the end of every business day and during a rain event.
 - e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.
 - f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.
 - g. Implement procedures that effectively address hazardous and non-hazardous spills.
 - h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require:
 - i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly.

- ii. Appropriate spill response personnel are assigned and trained.
 - i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.
3. Risk Level 2 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:
 - a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.
 - b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.
 - c. Clean leaks immediately and disposing of leaked materials properly.
4. Risk Level 2 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:
 - a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.
 - b. Contain all fertilizers and other landscape materials when they are not actively being used.
 - c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.
 - d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.
 - e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.
5. Risk Level 2 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 2 dischargers shall do the following:

- a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.
 - b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.
 - c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.
 - d. Ensure retention of sampling, visual observation, and inspection records.
 - e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.
6. Risk Level 2 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.
 7. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall document all housekeeping BMPs in the SWPPP and REAP(s) in accordance with the nature and phase of the construction project. Construction phases at traditional land development projects include Grading and Land Development Phase, Streets and Utilities, or Vertical Construction for traditional land development projects.

C. Non-Storm Water Management

1. Risk Level 2 dischargers shall implement measures to control all non-storm water discharges during construction.
2. Risk Level 2 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 2 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 2 dischargers shall implement effective wind erosion control.
2. Risk Level 2 dischargers shall provide effective soil cover for inactive¹ areas and all finished slopes, open space, utility backfill, and completed lots.
3. Risk Level 2 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 2 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.
2. On sites where sediment basins are to be used, Risk Level 2 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.
3. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active² construction.
4. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths³ in accordance with Table 1.

¹ Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

² Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage.

³ Sheet flow length is the length that shallow, low velocity flow travels across a site.

Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

5. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent offsite tracking of sediment.
6. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.
7. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall inspect on a daily basis all immediate access roads daily. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

F. Run-on and Run-off Controls

Risk Level 2 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 2 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the task(s).
2. Risk Level 2 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 2 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.
4. For each inspection required, Risk Level 2 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.
5. Risk Level 2 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:
 - a. Inspection date and date the inspection report was written.
 - b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.
 - c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.
 - d. A description of any BMPs evaluated and any deficiencies noted.
 - e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.
 - f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.
 - g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.
 - h. Photographs taken during the inspection, if any.
 - i. Inspector's name, title, and signature.

H. Rain Event Action Plan

1. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any

likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The discharger shall ensure a QSP obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at <http://www.srh.noaa.gov/forecast>).

2. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).
3. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:
 - a. Site Address
 - b. Calculated Risk Level (2 or 3)
 - c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number
 - d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
 - e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number
4. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP include in the REAP, at a minimum, the following project phase information:
 - a. Activities associated with each construction phase
 - b. Trades active on the construction site during each construction phase
 - c. Trade contractor information
 - d. Suggested actions for each project phase
5. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:
 - a. Site Address
 - b. Calculated Risk Level (2 or 3)
 - c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number

- d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
 - e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number
 - f. Trades active on site during Inactive Construction
 - g. Trade contractor information
 - h. Suggested actions for inactive construction sites
6. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.
7. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

I. Risk Level 2 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
2	X	X	X	X	X	X	

1. Construction Site Monitoring Program Requirements

- a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.
- b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Program to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.
- c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. Objectives

The CSMP shall be developed and implemented to address the following objectives:

- a. To demonstrate that the site is in compliance with the Discharge Prohibitions and applicable Numeric Action Levels (NALs).

- b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.
 - c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.
 - d. To determine whether BMPs included in the SWPPP/Rain Event Action Plan (REAP) are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.
- 3. Risk Level 2 – Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**
- a. Risk Level 2 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.
 - b. Risk Level 2 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.
 - c. Risk Level 2 dischargers shall conduct visual observations (inspections) during business hours only.
 - d. Risk Level 2 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.
 - e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 2 dischargers shall visually observe (inspect):
 - i. all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.
 - ii. all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, the discharger shall implement appropriate corrective actions.

- iii. any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.
- f. For the visual observations (inspections) described in c.i and c.iii above, Risk Level 2 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.
- g. Within two business days (48 hours) after each qualifying rain event, Risk Level 2 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.
- h. Risk Level 2 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. Risk Level 2 – Water Quality Sampling and Analysis

- a. Risk Level 2 dischargers shall collect storm water grab samples from sampling locations, as defined in Section I.5. The storm water grab sample(s) obtained shall be representative of the flow and characteristics of the discharge.
- b. At minimum, Risk Level 2 dischargers shall collect 3 samples per day of the qualifying event.
- c. Risk Level 2 dischargers shall ensure that the grab samples collected of stored or contained storm water are from discharges subsequent to a qualifying rain event (producing precipitation of ½ inch or more at the time of discharge).

Storm Water Effluent Monitoring Requirements

- d. Risk Level 2 dischargers shall analyze their effluent samples for:
 - i. pH and turbidity.
 - ii. Any additional parameters for which monitoring is required by the Regional Water Board.

5. Risk Level 2 – Storm Water Discharge Water Quality Sampling Locations

Effluent Sampling Locations

- a. Risk Level 2 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.
- b. Risk Level 2 dischargers shall collect effluent samples at all discharge points where storm water is discharged off-site.
- c. Risk Level 2 dischargers shall ensure that storm water discharge collected and observed represent⁴ the effluent in each drainage area based on visual observation of the water and upstream conditions.
- d. Risk Level 2 dischargers shall monitor and report site run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.
- e. Risk Level 2 dischargers who deploy an ATS on their site, or a portion on their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.
- f. Risk Level 2 dischargers shall select analytical test methods from the list provided in Table 3 below.
- g. All storm water sample collection preservation and handling shall be conducted in accordance with Section I.7 “Storm Water Sample Collection and Handling Instructions” below.

6. Risk Level 2 – Visual Observation and Sample Collection Exemptions

- a. Risk Level 2 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk Level 2 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

⁴ For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample shall be taken of drainage from the relevant work area. Similarly, if sediment laden water is flowing through some parts of a silt fence, samples shall be taken of the sediment-laden water even if most water flowing through the fence is clear.

- i. During dangerous weather conditions such as flooding and electrical storms.
 - ii. Outside of scheduled site business hours.
- b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 2 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.
- 7. Risk Level 2 – Storm Water Sample Collection and Handling Instructions**

- a. Risk Level 2 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.
- b. Risk Level 2 dischargers shall ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and shall use only the sample containers provided by the laboratory to collect and store samples.
- c. Risk Level 2 dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP).⁵

8. Risk Level 2 – Monitoring Methods

- a. Risk Level 2 dischargers shall include a description of the following items in the CSMP:
 - i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.
 - ii. Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program

⁵ Additional information regarding SWAMP's QAPrP can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/.
QAPrP:http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf.

an example Chain of Custody form used when handling and shipping samples.

- iii. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section I.4 above.
- b. Risk Level 2 dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Risk Level 2 dischargers shall ensure that all laboratory analyses are conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services. Risk Level 2 dischargers shall conduct their own field analysis of pH and may conduct their own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

9. Risk Level 2 – Analytical Methods

- a. Risk Level 2 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.
- b. **pH:** Risk Level 2 dischargers shall perform pH analysis on-site with a calibrated pH meter or a pH test kit. Risk Level 2 dischargers shall record pH monitoring results on paper and retain these records in accordance with Section I.14, below.
- c. **Turbidity:** Risk Level 2 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results will be recorded in the site log book in Nephelometric Turbidity Units (NTU).

10. Risk Level 2 - Non-Storm Water Discharge Monitoring Requirements

- a. Visual Monitoring Requirements:
 - i. Risk Level 2 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.
 - ii. Risk Level 2 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).
 - iii. Risk Level 2 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 2 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.
- b. Effluent Sampling Locations:
 - i. Risk Level 2 dischargers shall sample effluent at all discharge points where non-storm water and/or authorized non-storm water is discharged off-site.
 - ii. Risk Level 2 dischargers shall send all non-storm water sample analyses to a laboratory certified for such analyses by the State Department of Health Services.
 - iii. Risk Level 2 dischargers shall monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.

11. Risk Level 2 – Non-Visible Pollutant Monitoring Requirements

- a. Risk Level 2 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual

inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

- b. Risk Level 2 dischargers shall ensure that water samples are large enough to characterize the site conditions.
- c. Risk Level 2 dischargers shall collect samples at all discharge locations that can be safely accessed.
- d. Risk Level 2 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.
- e. Risk Level 2 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the presence of pollutants identified in the pollutant source assessment required (Risk Level 2 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).
- f. Risk Level 2 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.
- g. Risk Level 2 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.⁶
- h. Risk Level 2 dischargers shall keep all field /or analytical data in the SWPPP document.

12. Risk Level 2 – Watershed Monitoring Option

Risk Level 2 dischargers who are part of a qualified regional watershed-based monitoring program may be eligible for relief from the requirements in Sections I.5. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program by determining if the watershed-based monitoring program will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of this General Permit.

⁶ For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

13. Risk Level 2 – Particle Size Analysis for Project Risk Justification

Risk Level 2 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

14. Risk Level 2 – Records

Risk Level 2 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 2 dischargers shall retain all records on-site while construction is ongoing. These records include:

- a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.
- b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.
- c. The date and approximate time of analyses.
- d. The individual(s) who performed the analyses.
- e. A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and the chain of custody forms.
- f. Rain gauge readings from site inspections;
- g. Quality assurance/quality control records and results.
- h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.10 above).
- i. Visual observation and sample collection exception records (see Section I.6 above).
- j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

15. Risk Level 2 – NAL Exceedance Report

- a. In the event that any effluent sample exceeds an applicable NAL, Risk Level 2 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event. The Regional Boards have the authority to require the submittal of an NAL Exceedance Report.
- b. Risk Level 2 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.
- c. Risk Level 2 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.
- d. Risk Level 2 dischargers shall include in the NAL Exceedance Report:
 - i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”).
 - ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.
 - iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

Table 3 – Risk Level 2 Test Methods, Detection Limits, Reporting Units and Applicable NALs/NELs

Parameter	Test Method / Protocol	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Level
pH	Field test with calibrated portable instrument	Risk Level 2 Discharges	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 2 Discharges other than ATS	1	NTU	250 NTU
		For ATS discharges	1	NTU	N/A

ATTACHMENT E RISK LEVEL 3 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 3 dischargers shall comply with the narrative effluent standards listed below:
 - a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
 - b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.
2. Numeric – Risk Level 3 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

B. Good Site Management "Housekeeping"

1. Risk Level 3 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 3 dischargers shall implement the following good housekeeping measures:
 - a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

- c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).
 - d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.
2. Risk Level 3 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:
- a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.
 - b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.
 - c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.
 - d. Cover waste disposal containers at the end of every business day and during a rain event.
 - e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.
 - f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.
 - g. Implement procedures that effectively address hazardous and non-hazardous spills.
 - h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:
 - i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

- ii. Appropriate spill response personnel are assigned and trained.
 - i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.
3. Risk Level 3 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:
- a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.
 - b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.
 - c. Clean leaks immediately and disposing of leaked materials properly.
4. Risk Level 3 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:
- a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.
 - b. Contain fertilizers and other landscape materials when they are not actively being used.
 - c. Discontinuing the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.
 - d. Applying erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.
 - e. Stacking erodible landscape material on pallets and covering or storing such materials when not being used or applied.
5. Risk Level 3 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 3 dischargers shall do the following:

- a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.
 - b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.
 - c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.
 - d. Ensure retention of sampling, visual observation, and inspection records.
 - e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.
6. Risk Level 3 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.
7. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall document all housekeeping BMPs in the SWPPP and REAP(s) in accordance with the nature and phase of the construction project. Construction phases at traditional land development projects include Grading and Land Development Phase, Streets and Utilities, or Vertical Construction for traditional land development projects.

C. Non-Storm Water Management

1. Risk Level 3 dischargers shall implement measures to control all non-storm water discharges during construction.
2. Risk Level 3 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 3 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 3 dischargers shall implement effective wind erosion control.
2. Risk Level 3 dischargers shall provide effective soil cover for inactive¹ areas and all finished slopes, open space, utility backfill, and completed lots.
3. Dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 3 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.
2. On sites where sediment basins are to be used, Risk Level 3 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.
3. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active² construction.
4. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths³ in accordance with Table 1.

¹ Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

² Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage

³ Sheet flow length is the length that shallow, low velocity flow travels across a site.

Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25%	20 feet
25-50%	15 feet
Over 50%	10 feet

5. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent offsite tracking of sediment.
6. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.
7. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall inspect on a daily basis all immediate access roads daily. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).
8. **Additional Risk Level 3 Requirement:** The Regional Water Board may require Risk Level 3 dischargers to implement additional site-specific sediment control requirements if the implementation of the other requirements in this section are not adequately protecting the receiving waters.

F. Run-on and Run-off Controls

Risk Level 3 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 3 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the task(s).

2. Risk Level 3 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.
3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 3 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.
4. For each inspection required, Risk Level 3 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.
5. Risk Level 3 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:
 - a. Inspection date and date the inspection report was written.
 - b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.
 - c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.
 - d. A description of any BMPs evaluated and any deficiencies noted.
 - e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.
 - f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.
 - g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.
 - h. Photographs taken during the inspection, if any.

- i. Inspector's name, title, and signature.

H. Rain Event Action Plan

1. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The QSP shall obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at <http://www.srh.noaa.gov/forecast>).
2. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).
3. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:
 - a. Site Address.
 - b. Calculated Risk Level (2 or 3).
 - c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number.
 - d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number.
 - e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number.
4. **Additional Risk Level 3 Requirement:** The QSP shall include in the REAP, at a minimum, the following project phase information:
 - a. Activities associated with each construction phase.
 - b. Trades active on the construction site during each construction phase.
 - c. Trade contractor information.
 - d. Suggested actions for each project phase.
5. **Additional Risk Level 3 Requirement:** The QSP shall develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:

- a. Site Address.
 - b. Calculated Risk Level (2 or 3).
 - c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number.
 - d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number.
 - e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number.
 - f. Trades active on site during Inactive Construction.
 - g. Trade contractor information.
 - h. Suggested actions for inactive construction sites.
6. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.
7. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

I. Risk Level 3 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
3	X	X	X	X	X	X	X⁴

1. Construction Site Monitoring Program Requirements

- a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.
- b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Program to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Program in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.
- c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. Objectives

The CSMP shall be developed and implemented to address the following objectives:

⁴ When receiving water monitoring trigger is exceeded

- a. To demonstrate that the site is in compliance with the Discharge Prohibitions and applicable Numeric Action Levels (NALs) of this General Permit.
 - b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.
 - c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.
 - d. To determine whether BMPs included in the SWPPP/Rain Event Action Plan (REAP) are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.
- 3. Risk Level 3 – Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**
- a. Risk Level 3 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.
 - b. Risk Level 3 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.
 - c. Risk Level 3 dischargers shall conduct visual observations (inspections) during business hours only.
 - d. Risk Level 3 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.
 - e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 3 dischargers shall visually observe (inspect):
 - i. all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

- ii. all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, the discharger shall implement appropriate corrective actions.
 - iii. any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.
- f. For the visual observations (inspections) described in c.i. and c.iii above, Risk Level 3 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.
 - g. Within two business days (48 hours) after each qualifying rain event, Risk Level 3 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.
 - h. Risk Level 3 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. Risk Level 3 – Water Quality Sampling and Analysis

- a. Risk Level 3 dischargers shall collect storm water grab samples from sampling locations, as defined in Section I.5. The storm water grab sample(s) obtained shall be representative of the flow and characteristics of the discharge.
- b. At minimum, Risk Level 3 dischargers shall collect 3 samples per day of the qualifying event.
- c. Risk Level 3 dischargers shall ensure that the grab samples collected of stored or contained storm water are from discharges subsequent to a qualifying rain event (producing precipitation of ½ inch or more at the time of discharge).

Storm Water Effluent Monitoring Requirements

- d. Risk Level 3 dischargers shall analyze their effluent samples for:
 - i. pH and turbidity.

- ii. Any additional parameters for which monitoring is required by the Regional Water Board.
- e. Risk 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event.

Receiving Water Monitoring Requirements

- f. In the event that a Risk Level 3 discharger's effluent exceeds the daily average receiving water monitoring trigger of 500 NTU turbidity or the daily average pH range 6.0-9.0 contained in this General Permit and has a direct discharge into receiving waters, the Risk Level 3 discharger shall subsequently sample receiving waters (RWs) for turbidity, pH (if applicable), and SSC for the duration of coverage under this General Permit. If a Risk Level 3 discharger utilizing ATS with direct discharges into receiving waters discharges effluent that exceeds the NELs in this permit, the discharger shall subsequently sample RWs for turbidity, pH (if applicable), and SSC for the duration of coverage under this General Permit.
- g. Risk Level 3 dischargers disturbing 30 acres or more of the landscape and with direct discharges into receiving waters shall conduct or participate in benthic macroinvertebrate bioassessment of RWs prior to commencement of construction activity (See Appendix 3).
- h. Risk Level 3 dischargers shall obtain RW samples in accordance with the Receiving Water sampling location section (Section I.5), below.

5. Risk Level 3 – Storm Water Discharge Water Quality Sampling Locations

Effluent Sampling Locations

- a. Risk Level 3 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.
- b. Risk Level 3 dischargers shall collect effluent samples at all discharge points where storm water is discharged off-site.

- c. Risk Level 3 dischargers shall ensure that storm water discharge collected and observed represent⁵ the effluent in each drainage area based on visual observation of the water and upstream conditions.
- d. Risk Level 3 dischargers shall monitor and report site run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.
- e. Risk Level 3 dischargers who deploy an ATS on their site, or a portion on their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.
- f. Risk Level 3 dischargers shall select analytical test methods from the list provided in Table 3 below.
- g. All storm water sample collection preservation and handling shall be conducted in accordance with Section 1.7 “Storm Water Sample Collection and Handling Instructions” below.

Receiving Water Sampling Locations

- h. **Upstream/up-gradient RW samples:** Risk Level 3 dischargers shall obtain any required upstream/up-gradient receiving water samples from a representative and accessible location as close as possible and upstream from the effluent discharge point.
- i. **Downstream/down-gradient RW samples:** Risk Level 3 dischargers shall obtain any required downstream/down-gradient receiving water samples from a representative and accessible location as close as possible and downstream from the effluent discharge point.
- j. If two or more discharge locations discharge to the same receiving water, Risk Level 3 dischargers may sample the receiving water at a single upstream and downstream location.

⁵ For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample shall be taken of drainage from the relevant work area. Similarly, if sediment-laden water is flowing through some parts of a silt fence, samples shall be taken of the sediment laden water even if most water flowing through the fence is clear.

6. Risk Level 3 – Visual Observation and Sample Collection Exemptions

- a. Risk Level 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk Level 3 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:
 - i. During dangerous weather conditions such as flooding and electrical storms.
 - ii. Outside of scheduled site business hours.
- b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 3 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.

7. Risk Level 3 – Storm Water Sample Collection and Handling Instructions

- a. Risk Level 3 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.
- b. Risk Level 3 dischargers shall ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and shall use only the sample containers provided by the laboratory to collect and store samples.
- c. Risk Level 3 dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP).⁶

⁶ Additional information regarding SWAMP's QAPrP can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/.

QAPrP:http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf

8. Risk Level 3 – Monitoring Methods

- a. Risk Level 3 dischargers shall include a description of the following items in the CSMP:
 - i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.
 - ii. Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program an example Chain of Custody form used when handling and shipping samples.
 - iii. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section I.4 above.
- b. Risk Level 3 dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Risk Level 3 dischargers shall ensure that all laboratory analyses are conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services (SSC exception). Risk Level 3 dischargers shall conduct their own field analysis of pH and may conduct their own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

9. Risk Level 3 – Analytical Methods

- a. Risk Level 3 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

- b. **pH:** Risk Level 3 dischargers shall perform pH analysis on-site with a calibrated pH meter or a pH test kit. Risk Level 3 dischargers shall record pH monitoring results on paper and retain these records in accordance with Section I.14, below.
- c. **Turbidity:** Risk Level 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results will be recorded in the site log book in Nephelometric Turbidity Units (NTU).
- d. **Suspended sediment concentration (SSC):** Risk Level 3 dischargers that exceed the turbidity Receiving Water Monitoring Trigger shall perform SSC analysis using ASTM Method D3977-97.
- e. **Bioassessment:** Risk Level 3 dischargers shall perform bioassessment sampling and analysis according to Appendix 3 of this General Permit.

10. Risk Level 3 - Non-Storm Water Discharge Monitoring Requirements

- a. Visual Monitoring Requirements:
 - i. Risk Level 3 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.
 - ii. Risk Level 3 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).
 - iii. Risk Level 3 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 3 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to

reduce or prevent pollutants from contacting non-storm water discharges.

- b. Effluent Sampling Locations:
 - i. Risk Level 3 dischargers shall sample effluent at all discharge points where non-storm water and/or authorized non-storm water is discharged off-site.
 - ii. Risk Level 3 dischargers shall send all non-storm water sample analyses to a laboratory certified for such analyses by the State Department of Health Services.
 - iii. Risk Level 3 dischargers shall monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.

11. Risk Level 3 – Non-Visible Pollutant Monitoring Requirements

- a. Risk Level 3 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.
- b. Risk Level 3 dischargers shall ensure that water samples are large enough to characterize the site conditions.
- c. Risk Level 3 dischargers shall collect samples at all discharge locations that can be safely accessed.
- d. Risk Level 3 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.
- e. Risk Level 3 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the presence of pollutants identified in the pollutant source assessment required (Risk Level 3 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).
- f. Risk Level 3 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

- g. Risk Level 3 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.⁷
- h. Risk Level 3 dischargers shall keep all field /or analytical data in the SWPPP document.

12. Risk Level 3 – Watershed Monitoring Option

Risk Level 3 dischargers who are part of a qualified regional watershed-based monitoring program may be eligible for relief from the requirements in Sections I.5. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program by determining if the watershed-based monitoring program will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of this General Permit.

13. Risk Level 3 – Particle Size Analysis for Project Risk Justification

Risk Level 3 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

14. Risk Level 3 – Records

Risk Level 3 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 3 dischargers shall retain all records on-site while construction is ongoing. These records include:

- a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.
- b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.
- c. The date and approximate time of analyses.

⁷ For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

- d. The individual(s) who performed the analyses.
- e. A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and the chain of custody forms.
- f. Rain gauge readings from site inspections.
- g. Quality assurance/quality control records and results.
- h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.10 above).
- i. Visual observation and sample collection exception records (see Section I.6 above).
- j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

15. Risk Level 3 – NAL Exceedance Report

- a. Risk Level 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event. The Regional Boards have the authority to require the submittal of an NAL Exceedance Report.
- b. Risk Level 3 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity In this General Permit.
- c. Risk Level 3 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.
- d. Risk Level 3 dischargers shall include in the NAL Exceedance Report:
 - i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”).

- ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.
- iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

16. Risk Level 3 – Bioassessment

- a. Risk Level 3 dischargers with a total project-related ground disturbance exceeding 30 acres shall:
 - i. Conduct bioassessment monitoring, as described in Appendix 3.
 - ii. Include the collection and reporting of specified in stream biological data and physical habitat.
 - iii. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP).⁸
 - b. Risk Level 3 dischargers qualifying for bioassessment, where construction commences out of an index period for the site location shall:
 - i. Receive Regional Board approval for the sampling exception.
 - ii. Conduct bioassessment monitoring, as described in Appendix 3.
 - iii. Include the collection and reporting of specified instream biological data and physical habitat.
 - iv. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP).
- OR
- v. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.

⁸ http://www.waterboards.ca.gov/water_issues/programs/swamp/.

- vi. Send a copy of the check to the Regional Water Board office for the site's region.
- vii. Invest **\$7,500.00 X The number of samples required** into the SWAMP program as compensation (upon regional board approval).

Table 3 – Risk Level 3 Test Methods, Detection Limits, Reporting Units and Applicable NALs

Parameter	Test Method / Protocol	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Level	Numeric Effluent Limitation	Receiving Water Monitoring Trigger
pH	Field test with calibrated portable instrument	Risk Level 3 Discharges	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5	N/A	lower limit = 6.0 upper limit = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 3 Discharges other than ATS	1	NTU	250 NTU	N/A	500 NTU
		For ATS discharges	1	NTU	N/A	10 NTU for Daily Weighted Average & 20 NTU for Any Single Sample	10 NTU for Daily Weighted Average & 20 NTU for Any Single Sample
SSC	ASTM Method D 3977-97 ⁹	Risk Level 3 (if Receiving Water Monitoring Trigger exceeded)	5	mg/L	N/A	N/A	N/A
Bioassessment	(STE) Level I of (SAFIT), ¹⁰ fixed-count of 600 org/sample	Risk Level 3 projects > 30 acres	N/A	N/A	N/A	N/A	N/A

⁹ ASTM, 1999, Standard Test Method for Determining Sediment Concentration in Water Samples: American Society of Testing and Materials, D 3977-97, Vol. 11.02, pp. 389-394.

¹⁰ The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

ATTACHMENT F: Active Treatment System (ATS) Requirements

Table 1 – Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
Turbidity	EPA 0180.1 and/or field test with a calibrated portable instrument	For ATS discharges	1	NTU	N/A	10 NTU for Daily Flow-Weighted Average & 20 NTU for Any Single Sample

A. Dischargers choosing to implement an Active Treatment System (ATS) on their site shall comply with all of the requirements in this Attachment.

B. The discharger shall maintain a paper copy of each ATS specification onsite in compliance with the record retention requirements in the Special Provisions of this General Permit.

C. ATS Design, Operation and Submittals

1. The ATS shall be designed and approved by a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Professional in Storm Water Quality (CPSWQ); a California registered civil engineer; or any other California registered engineer.
2. The discharger shall ensure that the ATS is designed in a manner to preclude the accidental discharge of settled floc¹ during floc pumping or related operations.
3. The discharger shall design outlets to dissipate energy from concentrated flows.
4. The discharger shall install and operate an ATS by assigning a lead person (or project manager) who has either a minimum of five years construction storm

¹ Floc is defined as a clump of solids formed by the chemical action in ATS systems.

water experience or who is a licensed contractors specifically holding a California Class A Contractors license.²

5. The discharger shall prepare an ATS Plan that combines the site-specific data and treatment system information required to safely and efficiently operate an ATS. The ATS Plan shall be electronically submitted to the State Water Board at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation. At a minimum, the ATS Plan shall include:
 - a. ATS Operation and Maintenance Manual for All Equipment.
 - b. ATS Monitoring, Sampling & Reporting Plan, including Quality Assurance/Quality Control (QA/QC).
 - c. ATS Health and Safety Plan.
 - d. ATS Spill Prevention Plan.
6. The ATS shall be designed to capture and treat (within a 72-hour period) a volume equivalent to the runoff from a 10-year, 24-hour storm event using a watershed runoff coefficient of 1.0.

D. Treatment – Chemical Coagulation/Flocculation

1. Jar tests shall be conducted using water samples selected to represent typical site conditions and in accordance with ASTM D2035-08 (2003).
2. The discharger shall conduct, at minimum, six site-specific jar tests (per polymer with one test serving as a control) for each project to determine the proper polymer and dosage levels for their ATS.
3. Single field jar tests may also be conducted during a project if conditions warrant, for example if construction activities disturb changing types of soils, which consequently cause change in storm water and runoff characteristics.

E. Residual Chemical and Toxicity Requirements

1. The discharger shall utilize a residual chemical test method that has a method detection limit (MDL) of 10% or less than the maximum allowable threshold

² Business and Professions Code Division 3, Chapter 9, Article 4, Class A Contractor: A general engineering contractor is a contractor whose principal contracting business is in connection with fixed works requiring specialized engineering knowledge and skill. [<http://www.cslb.ca.gov/General-Information/library/licensing-classifications.asp>].

concentration³ (MATC) for the specific coagulant in use and for the most sensitive species of the chemical used.

2. The discharger shall utilize a residual chemical test method that produces a result within one hour of sampling.
3. The discharger shall have a California State certified laboratory validate the selected residual chemical test. Specifically the lab will review the test protocol, test parameters, and the detection limit of the coagulant. The discharger shall electronically submit this documentation as part of the ATS Plan.
4. If the discharger cannot utilize a residual chemical test method that meets the requirements above, the discharger shall operate the ATS in Batch Treatment⁴ mode.
5. A discharger planning to operate in Batch Treatment mode shall perform toxicity testing in accordance with the following:
 - a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge⁵. All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS) Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.⁶
 - b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas* (fathead minnow). Acute toxicity for *Oncorhynchus mykiss* (Rainbow Trout) may be used as a substitute for testing fathead minnows.
 - c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.
 - d. The discharger shall electronically report all acute toxicity testing.

³ The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. A typical MATC would be: The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

⁴ Batch Treatment mode is defined as holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full.

⁵ This requirement only requires that the test be initiated prior to discharge.

⁶ http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.

F. Filtration

1. The ATS shall include a filtration step between the coagulant treatment train and the effluent discharge. This is commonly provided by sand, bag, or cartridge filters, which are sized to capture suspended material that might pass through the clarifier tanks.
2. Differential pressure measurements shall be taken to monitor filter loading and confirm that the final filter stage is functioning properly.

G. Residuals Management

1. Sediment shall be removed from the storage or treatment cells as necessary to ensure that the cells maintain their required water storage (i.e., volume) capability.
2. Handling and disposal of all solids generated during ATS operations shall be done in accordance with all local, state, and federal laws and regulations.

H. ATS Instrumentation

1. The ATS shall be equipped with instrumentation that automatically measures and records effluent water quality data and flow rate.
2. The minimum data recorded shall be consistent with the Monitoring and Reporting requirements below, and shall include:
 - a. Influent Turbidity
 - b. Effluent Turbidity
 - c. Influent pH
 - d. Effluent pH
 - e. Residual Chemical
 - f. Effluent Flow rate
 - g. Effluent Flow volume
3. Systems shall be equipped with a data recording system, such as data loggers or webserver-based systems, which records each measurement on a frequency no longer than once every 15 minutes.

4. Cumulative flow volume shall be recorded daily. The data recording system shall have the capacity to record a minimum of seven days continuous data.
5. Instrumentation systems shall be interfaced with system control to provide auto shutoff or recirculation in the event that effluent measurements exceed turbidity or pH.
6. The system shall also assure that upon system upset, power failure, or other catastrophic event, the ATS will default to a recirculation mode or safe shut down.
7. Instrumentation (flow meters, probes, valves, streaming current detectors, controlling computers, etc.) shall be installed and maintained per manufacturer's recommendations, which shall be included in the QA/QC plan.
8. The QA/QC plan shall also specify calibration procedures and frequencies, instrument method detection limit or sensitivity verification, laboratory duplicate procedures, and other pertinent procedures.
9. The instrumentation system shall include a method for controlling coagulant dose, to prevent potential overdosing. Available technologies include flow/turbidity proportional metering, periodic jar testing and metering pump adjustment, and ionic charge measurement controlling the metering pump.

I. ATS Effluent Discharge

1. ATS effluent shall comply with all provisions and prohibitions in this General Permit, specifically the NELs.
2. NELs for discharges from an ATS:
 - a. Turbidity of all ATS discharges shall be less than 10 NTU for daily flow-weighted average of all samples and 20 NTU for any single sample.
 - b. Residual Chemical shall be < 10% of MATC⁷ for the most sensitive species of the chemical used.

⁷ The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

3. If an analytical effluent sampling result exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General Permit and shall electronically file the results in violation within 24-hours of obtaining the results.
4. If ATS effluent is authorized to discharge into a sanitary sewer system, the discharger shall comply with any pre-treatment requirements applicable for that system. The discharger shall include any specific criteria required by the municipality in the ATS Plan.
5. Compliance Storm Event:

Discharges of storm water from ATS shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event (expressed in inches of rainfall). The Compliance Storm Event for ATS discharges is the 10 year, 24 hour storm, as determined using these maps:

<http://www.wrcc.dri.edu/pcpnfreq/nca10y24.gif>
<http://www.wrcc.dri.edu/pcpnfreq/sca10y24.gif>

This exemption is dependent on the submission of rain gauge data verifying the storm event is equal to or larger than the Compliance Storm.

J. Operation and Maintenance Plan

1. Each Project shall have a site-specific Operation and Maintenance (O&M) Manual covering the procedures required to install, operate and maintain the ATS.⁸
2. The O&M Manual shall only be used in conjunction with appropriate project-specific design specifications that describe the system configuration and operating parameters.
3. The O&M Manual shall have operating manuals for specific pumps, generators, control systems, and other equipment.

K. Sampling and Reporting Quality Assurance/ Quality Check (QA/QC) Plan

4. A project-specific QA/QC Plan shall be developed for each project. The QA/QC Plan shall include at a minimum:
 - a. Calibration – Calibration methods and frequencies for all system and field instruments shall be specified.

⁸ The manual is typically in a modular format covering generalized procedures for each component that is utilized in a particular system.

- b. Method Detection Limits (MDLs) – The methods for determining MDLs shall be specified for each residual coagulant measurement method. Acceptable minimum MDLs for each method, specific to individual coagulants, shall be specified.
- c. Laboratory Duplicates – Requirements for monthly laboratory duplicates for residual coagulant analysis shall be specified.

L. Personnel Training

- 1. Operators shall have training specific to using an ATS and liquid coagulants for storm water discharges in California.
- 2. The training shall be in the form of a formal class with a certificate and requirements for testing and certificate renewal.
- 3. Training shall include a minimum of eight hours classroom and 32 hours field training. The course shall cover the following topics:
 - a. Coagulation Basics –Chemistry and physical processes
 - b. ATS System Design and Operating Principles
 - c. ATS Control Systems
 - d. Coagulant Selection – Jar testing, dose determination, etc.
 - e. Aquatic Safety/Toxicity of Coagulants, proper handling and safety
 - f. Monitoring, Sampling, and Analysis
 - g. Reporting and Recordkeeping
 - h. Emergency Response

M. Active Treatment System (ATS) Monitoring Requirements

Any discharger who deploys an ATS on their site shall conduct the following:

- 1. Visual Monitoring
 - a. A designated responsible person shall be on site daily at all times during treatment operations.

- b. Daily on-site visual monitoring of the system for proper performance shall be conducted and recorded in the project data log.
 - i. The log shall include the name and phone number of the person responsible for system operation and monitoring.
 - ii. The log shall include documentation of the responsible person's training.

2. Operational and Compliance Monitoring

- a. Flow shall be continuously monitored and recorded at not greater than 15-minute intervals for total volume treated and discharged.
- b. Influent and effluent pH must be continuously monitored and recorded at not greater than 15-minute intervals.
- c. Influent and effluent turbidity (expressed in NTU) must be continuously monitored and recorded at not greater than 15-minute intervals.
- d. The type and amount of chemical used for pH adjustment, if any, shall be monitored and recorded.
- e. Dose rate of chemical used in the ATS system (expressed in mg/L) shall be monitored and reported 15-minutes after startup and every 8 hours of operation.
- f. Laboratory duplicates – monthly laboratory duplicates for residual coagulant analysis must be performed and records shall be maintained onsite.
- g. Effluent shall be monitored and recorded for residual chemical/additive levels.
- h. If a residual chemical/additive test does not exist and the ATS is operating in a batch treatment mode of operation refer to the toxicity monitoring requirements below.

3. Toxicity Monitoring

A discharger operating in batch treatment mode shall perform toxicity testing in accordance with the following:

- a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge.⁹ All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS)

⁹ This requirement only requires that the test be initiated prior to discharge.

Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.¹⁰

- b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in “Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012” for Fathead minnow, *Pimephales promelas* or Rainbow trout *Oncorhynchus mykiss* may be used as a substitute for fathead minnow.
- c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.¹¹

4. Reporting and Recordkeeping

At a minimum, every 30 days a LRP representing the discharger shall access the State Water Boards Storm Water Multi-Application and Report Tracking system (SMARTS) and electronically upload field data from the ATS. Records must be kept for three years after the project is completed .

5. Non-compliance Reporting

- a. Any indications of toxicity or other violations of water quality objectives shall be reported to the appropriate regulatory agency as required by this General Permit.
- b. Upon any measurements that exceed water quality standards, the system operator shall immediately notify his supervisor or other responsible parties, who shall notify the Regional Water Board.
- c. If any monitoring data exceeds any applicable NEL in this General Permit, the discharger shall electronically submit a NEL Violation Report to the State Water Board within 24 hours after the NEL exceedance has been identified.
 - i. ATS dischargers shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity in this General Permit.
 - ii. ATS dischargers shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the annual report is filed.
 - iii. ATS dischargers shall include in the NEL Violation Report:

¹⁰ http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.

¹¹ <http://www.epa.gov/waterscience/methods/wet/>.

- (1) The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as “less than the method detection limit”);
 - (2) The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation; and
 - (3) A description of the current onsite BMPs, and the proposed corrective actions taken to manage the NEL exceedance.
- iv. Compliance Storm Exemption - In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, ATS dischargers shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification.

	A	B	C
1	Sediment Risk Factor Worksheet		Entry
2	A) R Factor		
3	Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site.		
4	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
5		R Factor Value	0
6	B) K Factor (weighted average, by area, for all site soils)		
7	The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted.		
8	Site-specific K factor guidance		
9		K Factor Value	0
10	C) LS Factor (weighted average, by area, for all slopes)		
11	The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction.		
12	LS Table		
13		LS Factor Value	0
14			
15	Watershed Erosion Estimate (=R_xK_xLS) in tons/acre		0
16	Site Sediment Risk Factor		Low
17	Low Sediment Risk: < 15 tons/acre		
18	Medium Sediment Risk: >=15 and <75 tons/acre		
19	High Sediment Risk: >= 75 tons/acre		
20			
21			
22			
23	GIS Map Method:		
24	1. The R factor for the project is calculated using the online calculator at:		
25	http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm		
26			
27	2. The K and LS factors may be obtained by accessing the GIS maps located on the State Water Board FTP website at:		
28	ftp://swrcb2a.waterboards.ca.gov/pub/swrcb/dwq/cgp/Risk/		
29			

Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	yes/no	
A.1. Does the disturbed area discharge (either directly or indirectly) to a 303(d)-listed waterbody impaired by sediment (For help with impaired waterbodies please visit the link below) or has a USEPA approved TMDL implementation plan for sediment ? http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml	no	Low
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan)		
http://www.waterboards.ca.gov/waterboards_map.shtml		
Region 1 Basin Plan Region 2 Basin Plan Region 3 Basin Plan Region 4 Basin Plan Region 5 Basin Plan Region 6 Basin Plan Region 7 Basin Plan Region 8 Basin Plan Region 9 Basin Plan		

Combined Risk Level Matrix

		<u>Sediment Risk</u>		
		Low	Medium	High
<u>Receiving Water Risk</u>	Low	Level 1	Level 2	
	High	Level 2		Level 3

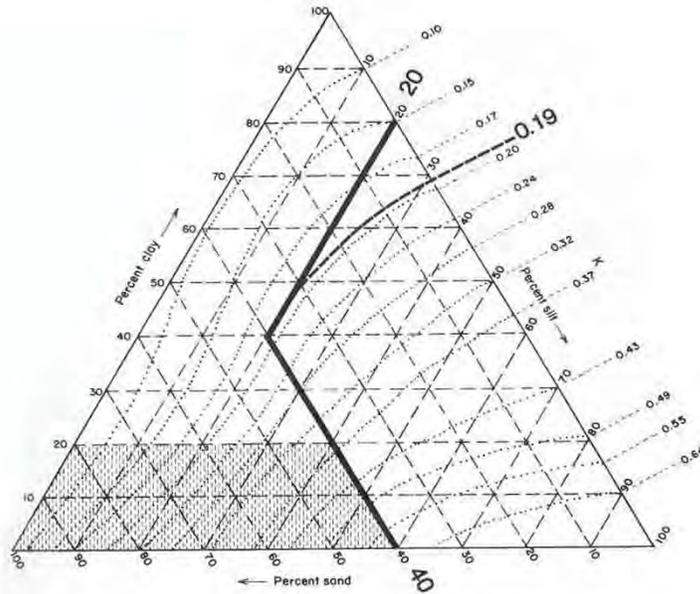
Project Sediment Risk: **Low**

Project RW Risk: **Low**

Project Combined Risk: **Level 1**

Soil Erodibility Factor (K)

The K factor can be determined by using the nomograph method, which requires that a particle size analysis (ASTM D-422) be done to determine the percentages of sand, very fine sand, silt and clay. Use the figure below to determine appropriate K value.



Erickson triangular nomograph used to estimate soil erodibility (K) factor.

The figure above is the USDA nomograph used to determine the K factor for a soil, based on its texture (% silt plus very fine sand, % sand, % organic matter, soil structure, and permeability). *Nomograph from Erickson 1977 as referenced in Goldman et. al., 1986.*

Sheet Flow Length (ft)	Average Watershed Slope (%)																		
	0.2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	25.0	30.0	40.0	50.0	60.0
<3	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.35	0.36	0.38	0.39	0.41	0.45	0.48	0.53	0.58	0.63
6	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.37	0.41	0.45	0.49	0.56	0.64	0.72	0.85	0.97	1.07
9	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.38	0.45	0.51	0.56	0.67	0.80	0.91	1.13	1.31	1.47
12	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.39	0.47	0.55	0.62	0.76	0.93	1.08	1.37	1.62	1.84
15	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.40	0.49	0.58	0.67	0.84	1.04	1.24	1.59	1.91	2.19
25	0.05	0.07	0.10	0.16	0.21	0.26	0.31	0.36	0.45	0.57	0.71	0.85	0.98	1.24	1.56	1.86	2.41	2.91	3.36
50	0.05	0.08	0.13	0.21	0.30	0.38	0.46	0.54	0.70	0.91	1.15	1.40	1.64	2.10	2.67	3.22	4.24	5.16	5.97
75	0.05	0.08	0.14	0.25	0.36	0.47	0.58	0.69	0.91	1.20	1.54	1.87	2.21	2.86	3.67	4.44	5.89	7.20	8.37
100	0.05	0.09	0.15	0.28	0.41	0.55	0.68	0.82	1.10	1.46	1.88	2.31	2.73	3.57	4.59	5.58	7.44	9.13	10.63
150	0.05	0.09	0.17	0.33	0.50	0.68	0.86	1.05	1.43	1.92	2.51	3.09	3.68	4.85	6.30	7.70	10.35	12.75	14.89
200	0.06	0.10	0.18	0.37	0.57	0.79	1.02	1.25	1.72	2.34	3.07	3.81	4.56	6.04	7.88	9.67	13.07	16.16	18.92
250	0.06	0.10	0.19	0.40	0.64	0.89	1.16	1.43	1.99	2.72	3.60	4.48	5.37	7.16	9.38	11.55	15.67	19.42	22.78
300	0.06	0.10	0.20	0.43	0.69	0.98	1.28	1.60	2.24	3.09	4.09	5.11	6.15	8.23	10.81	13.35	18.17	22.57	26.51
400	0.06	0.11	0.22	0.48	0.80	1.14	1.51	1.90	2.70	3.75	5.01	6.30	7.60	10.24	13.53	16.77	22.95	28.60	33.67
600	0.06	0.12	0.24	0.56	0.96	1.42	1.91	2.43	3.52	4.95	6.67	8.45	10.26	13.94	18.57	23.14	31.89	39.95	47.18
800	0.06	0.12	0.26	0.63	1.10	1.65	2.25	2.89	4.24	6.03	8.17	10.40	12.69	17.35	23.24	29.07	40.29	50.63	59.93
1000	0.06	0.13	0.27	0.69	1.23	1.86	2.55	3.30	4.91	7.02	9.57	12.23	14.96	20.57	27.66	34.71	48.29	60.84	72.15

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

APPENDIX 2: Post-Construction Water Balance Performance Standard Spreadsheet

The discharger shall submit with their Notice of Intent (NOI) the following information to demonstrate compliance with the New and Re-Development Water Balance Performance Standard.

Map Instructions

The discharger must submit a small-scale topographic map of the site to show the existing contour elevations, pre- and post-construction drainage divides, and the total length of stream in each watershed area. Recommended scales include 1 in. = 20 ft., 1 in. = 30 ft., 1 in. = 40 ft., or 1 in. = 50 ft. The suggested contour interval is usually 1 to 5 feet, depending upon the slope of the terrain. The contour interval may be increased on steep slopes. Other contour intervals and scales may be appropriate given the magnitude of land disturbance.

Spreadsheet Instructions

The intent of the spreadsheet is to help dischargers calculate the project-related increase in runoff volume and select impervious area and runoff reduction credits to reduce the project-related increase in runoff volume to pre-project levels.

The discharger has the option of using the spreadsheet (**Appendix 2.1**) or a more sophisticated, watershed process-based model (e.g. Storm Water Management Model, Hydrological Simulation Program Fortran) to determine the project-related increase in runoff volume.

In Appendix 4.1, you must complete the worksheet for each land use/soil type combination for each project sub-watershed.

Steps 1 through 9 pertain specifically to the Runoff Volume Calculator:

Step 1: Enter the county where the project is located in cell H3.

Step 2: Enter the soil type in cell H6.

Step 3: Enter the existing pervious (dominant) land use type in cell H7.

Step 4: Enter the proposed pervious (dominant) land use type in cell H8.

Step 5: Enter the total project site area in cell H11 or J11.

Step 6: Enter the sub-watershed area in cell H12 or J12.

- Step 7: Enter the existing rooftop area in cell H17 or J17, the existing non-rooftop impervious area in cell H18 or J18, the proposed rooftop area in cell H19 or J19, and the proposed non-rooftop impervious area in cell H20 or J20
- Step 8: Work through each of the impervious area reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.
- Step 9: Work through each of the impervious volume reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Non-structural Practices Available for Crediting

- ***Porous Pavement***
- ***Tree Planting***
- ***Downspout Disconnection***
- ***Impervious Area Disconnection***
- ***Green Roof***
- ***Stream Buffer***
- ***Vegetated Swales***
- ***Rain Barrels and Cisterns***
- ***Landscaping Soil Quality***

Post-Construction Water Balance Calculator

1	Post-Construction Water Balance Calculator											
2												
3	User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.		(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below		(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.		SACRAMENTO					
4			(Step 1c) If you would like a more precise value select the location closest to your site. If you do not recognize any of these locations, leave this drop-down menu at location. The average value for the County will be used.		SACRAMENTO FAA ARPT							
5	Project Information				Runoff Calculations							
6	Project Name:		Optional		(Step 2) Indicate the Soil Type (dropdown menu to right):		Group C Soils		Low infiltration. Sandy clay loam. Infiltration rate 0.05 to 0.15 inch/hr when wet.			
7	Waste Discharge Identification (WDID):		Optional		(Step 3) Indicate the existing dominant non-built land Use Type (dropdown menu to right):		Wood & Grass: <50% ground cover					
8	Date:		Optional		(Step 4) Indicate the proposed dominant non-built land Use Type (dropdown menu to right):		Lawn, Grass, or Pasture covering more than 75% of the open space					
9	Sub Drainage Area Name (from map):		Optional				Complete Either					
10	Runoff Curve Numbers						Sq Ft		Acres			
11	Existing Pervious Runoff Curve Number		82		(Step 5) Total Project Site Area:		5.00		5.00			
12	Proposed Development Pervious Runoff Curve Number		74		(Step 6) Sub-watershed Area:		5.00		5.00			
13	Design Storm				Percent of total project :		100%					
14	Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.		0.62		in							
15	The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)		0.44		In		(Step 7) Sub-watershed Conditions		Complete Either			
16	P used for calculations (in) (the greater of the above two criteria)		0.62		In		Sub-watershed Area (acres)		Calculated Acres			
17	^Available at www.cabmphandbooks.com				Existing Rooftop Impervious Coverage		0		0.00			
18							Existing Non-Rooftop Impervious Coverage		0		0.00	
19					Proposed Rooftop Impervious Coverage		0		0.00			
20					Proposed Non-Rooftop Impervious Coverage		0		0.00			
21					Credits		Acres		Square Feet			
22					Porous Pavement		0.00		0			
23					Tree Planting		0.00		0			
24												
25	Pre-Project Runoff Volume (cu ft)		247		Cu.Ft.		Downspout Disconnection		0			
26	Project-Related Runoff Volume Increase w/o credits (cu ft)		0		Cu.Ft.		Impervious Area Disconnection		0			
27							Green Roof		0			
28							Stream Buffer		0			
29							Vegetated Swales		0			
30	Project-Related Volume Increase with Credits (cu ft)		0		Cu.Ft.		Subtotal		0.00			
31							Subtotal		0 Cu. Ft.			
32	You have achieved your minimum requirements						(Step 9) Impervious Volume Reduction Credits		Volume (cubic feet)			
33									Rain Barrels/Cisterns		0 Cu. Ft.	
34									Soil Quality		0 Cu. Ft.	
35									Subtotal		0 Cu. Ft.	
36									Subtotal		0 Cu. Ft.	
37							Total		0 Cu. Ft.			
38												
39												

Porous Pavement Credit Worksheet

Please fill out a porous pavement credit worksheet for each project sub-watershed.

For the PROPOSED Development:

Proposed Porous Pavement	Runoff Reduction*	Fill in either Acres or SqFt		Equivalent Acres
		In SqFt.	In Acres	
Area of Brick without Grout on <u>less than 12 inches</u> of base with at least 20% void space over soil	0.45			0.00
Area of Brick without Grout on <u>more than 12 inches</u> of base with at least 20% void space over soil	0.90			0.00
Area of Cobbles <u>less than 12 inches</u> deep and over soil	0.30			0.00
Area of Cobbles <u>less than 12 inches</u> deep and over soil	0.60			0.00
Area of Reinforced Grass Pavement on <u>less than 12 inches</u> of base with at least 20% void space over soil	0.45			0.00
Area of Reinforced Grass Pavement on <u>at least 12 inches</u> of base with at least 20% void space over soil	0.90			0.00
Area of Porous Gravel Pavement on <u>less than 12 inches</u> of base with at least 20% void space over soil	0.38			0.00
Area of Porous Gravel Pavement on <u>at least 12 inches</u> of base with at least 20% void space over soil	0.75			0.00
Area of Poured Porous Concrete or Asphalt Pavement with <u>less than 4 inches</u> of gravel base (washed stone)	0.40			0.00
Area of Poured Porous Concrete or Asphalt Pavement with <u>4 to 8 inches</u> of gravel base (washed stone)	0.60			0.00
Area of Poured Porous Concrete or Asphalt Pavement with <u>8 to 12 inches</u> of gravel base (washed stone)	0.80			0.00
Area of Poured Porous Concrete or Asphalt Pavement with <u>12 or more</u> inches of gravel base (washed stone)	1.00			0.00

*=1-Rv**

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**Using Site Design Techniques to meet Development Standards for Stormwater Quality (BASMAA 2003)
 **NCDENR Stormwater BMP Manual (2007)

Tree Planting Credit Worksheet

Please fill out a tree canopy credit worksheet for each project sub-watershed.

Tree Canopy Credit Criteria	Number of Trees Planted	Credit (acres)
Number of proposed evergreen trees to be planted (credit = number of trees x 0.005)*	0	0.00
Number of proposed deciduous trees to be planted (credit = number of trees x 0.0025)*		0.00
	Square feet Under Canopy	
Square feet under an existing tree canopy, that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is LESS than 12 in diameter.		0.00
Square feet under an existing tree canopy that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is 12 in diameter or GREATER.		0.00
Please describe below how the project will ensure that these trees will be maintained.		

0

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* credit amount based on credits from Stormwater Quality Design Manual for the Sacramento and South Placer Regions

Downspout Disconnection Credit Worksheet

Please fill out a downspout disconnection credit worksheet for each project subwatershed. If you answer yes to all questions, all rooftop area draining to each downspout will be subtracted from your proposed rooftop impervious coverage.

Downspout Disconnection Credit Criteria					
Do downspouts and any extensions extend at least six feet from a basement and two feet from a crawl space or concrete slab?				<input type="radio"/> Yes	<input checked="" type="radio"/> No
Is the area of rooftop connecting to each disconnected downspout 600 square feet or less?				<input type="radio"/> Yes	<input checked="" type="radio"/> No
Is the roof runoff from the design storm event fully contained in a raised bed or planter box or does it drain as sheet flow to a landscaped area large enough to contain the roof runoff from the design storm event?				<input type="radio"/> Yes	<input checked="" type="radio"/> No
The Stream Buffer and/or Vegetated Swale credits will not be taken in this sub-watershed area?				<input type="radio"/> Yes	<input checked="" type="radio"/> No
Percentage of existing	0.00	Acres	of rooftop surface has disconnected downspouts		
Percentage of the proposed	0.00	Acres	of rooftop surface has disconnected downspouts		
				Return to Calculator	

Impervious Area Disconnection Credit Worksheet

Please fill out an impervious area disconnection credit worksheet for each project sub-watershed. If you answer yes to all questions, all non-rooftop impervious surface area will be subtracted from your proposed non-rooftop impervious coverage.

Non-Rooftop Disconnection Credit Criteria	Response
Is the maximum contributing impervious flow path length less than 75 feet or, if equal or greater than 75 feet, is a storage device (e.g. French drain, bioretention area, gravel trench) implemented to achieve the required disconnection length?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Is the impervious area to any one discharge location less than 5,000 square feet?	<input checked="" type="radio"/> Yes <input type="radio"/> No
The Stream Buffer credit will not be taken in this sub-watershed area?	<input checked="" type="radio"/> Yes <input type="radio"/> No

Percentage of existing	0.00	Acres non-rooftop surface area disconnected	
Percentage of the proposed	0.00	Acres non-rooftop surface area disconnected	70

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Stream Buffer Credit Worksheet

Please fill out a stream buffer credit worksheet for each project sub-watershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout and/or Impervious Area Disconnection credits.

Stream Buffer Credit Criteria				Response
Does runoff enter the floodprone width* or within 500 feet (whichever is larger) of a stream channel as sheet flow**?				<input type="radio"/> Yes <input checked="" type="radio"/> No
Is the contributing overland slope 5% or less, or if greater than 5%, is a level spreader used?				<input type="radio"/> Yes <input checked="" type="radio"/> No
Is the buffer area protected from vehicle or other traffic barriers to reduce compaction?				<input type="radio"/> Yes <input checked="" type="radio"/> No
Will the stream buffer be maintained in an ungraded and uncompacted condition and will the vegetation be maintained in a natural condition?				<input type="radio"/> Yes <input checked="" type="radio"/> No
Percentage of existing	0.00	Acres	impervious surface area draining into a stream buffer:	
Percentage of the proposed	0.00	Acres	impervious surface area that will drain into a stream buffer:	
Please describe below how the project will ensure that the buffer areas will remain in ungraded and uncompacted condition and that the vegetation will be maintained in a natural condition.				

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* floodprone width is the width at twice the bankfull depth.

** the maximum contributing length shall be 75 feet for impervious area

Vegetated Swale Credit Worksheet

Please fill out a vegetated swale worksheet for each project subwatershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout Disconnection credit.

Vegetated Swale Credit Criteria

Have all vegetated swales been designed in accordance with Treatment Control BMP 30 (TC-30 - Vegetated Swale) from the California Stormwater BMP Handbook, New Development and Redevelopment (available at www.cabmphandbooks.com)?

<input type="radio"/> Yes <input checked="" type="radio"/> No

Is the maximum flow velocity for runoff from the design storm event less than or equal to 1.0 foot per second?

<input type="radio"/> Yes <input checked="" type="radio"/> No

Percentage of existing	0.00	Acres of impervious area draining to a vegetated swale	
Percentage of the proposed	0.00	Acres of impervious area draining to a vegetated swale	

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Rain Barrel/Cistern Credit Worksheet

Please fill out a rain barrel/cistern worksheet for each project sub-watershed.

Rain Barrel/Cistern Credit Criteria	Response
Total number of rain barrel(s)/cisterns	
Average capacity of rain barrel(s)/cistern(s) (in gallons)	
Total capacity rain barrel(s)/cistern(s) (in cu ft) ¹	0

¹ accounts for 10% loss

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Please fill out a soil quality worksheet for each project sub-watershed.

	Response
Will the landscaped area be lined with an impervious membrane?	
Will the soils used for landscaping meet the ideal bulk densities listed in Table 1 below? ¹	<input type="radio"/> Yes <input checked="" type="radio"/> No
If you answered yes to the question above, and you know the area-weighted bulk density within the top 12 inches for soils used for landscaping (in g/cm ³)*, fill in the cell to the right and skip to cell G11. If not select from the drop-down menu in G10.	1.3
If you answered yes to the question above, but you do not know the exact bulk density, which of the soil types in the drop down menu to the right best describes the top 12 inches for soils used for landscaping (in g/cm ³).	Sandy loams, loams
What is the average depth of your landscaped soil media meeting the above criteria (inches)?	12
What is the total area of the landscaped areas meeting the above criteria (in acres)?	2.97

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Table 1

Sands, loamy sands	<1.6
Sandy loams, loams	<1.4
Sandy clay loams, loams, clay loams	<1.4
Silts, silt loams	<1.3
Silt loams, silty clay loams	<1.1
Sandy clays, silty clays, some clay loams (35-45% clay)	<1.1
Clays (>45% clay)	<1.1

Porosity (%) 50.94%

Mineral grains in many soils are mainly quartz and feldspar, so 2.65 a good average for particle density. To determine percent porosity, use the formula: Porosity (%) = (1-Bulk Density/2.65) X 100

¹ USDA NRCS. "Soil Quality Urban Technical Note No.2-Urban Soil Compaction". March 2000.

http://soils.usda.gov/sqi/management/files/sq_utn_2.pdf

* To determine how to calculate density see:

<http://www.globe.gov/tctg/bulkden.pdf?sectionID=94>

APPENDIX 3 Bioassessment Monitoring Guidelines

Bioassessment monitoring is required for projects that meet all of the following criteria:

1. The project is rated Risk Level 3 or LUP Type 3
2. The project directly discharges runoff to a freshwater wadeable stream (or streams) that is either: (a) listed by the State Water Board or USEPA as impaired due to sediment, and/or (b) tributary to any downstream water body that is listed for sediment; and/or have the beneficial use SPAWN & COLD & MIGRATORY
3. Total project-related ground disturbance exceeds 30 acres.

For all such projects, the discharger shall conduct bioassessment monitoring, as described in this section, to assess the effect of the project on the biological integrity of receiving waters.

Bioassessment shall include:

1. The collection and reporting of specified instream biological data
2. The collection and reporting of specified instream physical habitat data

Bioassessment Exception

If a site qualifies for bioassessment, but construction commences out of an index period for the site location, the discharger shall:

1. Receive Regional Water Board approval for the sampling exception
2. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.
3. Send a copy of the check to the Regional Water Board office for the site's region
4. Invest **7,500.00 X The number of samples required** into the SWAMP program as compensation (upon Regional Water Board approval).
5. Conduct bioassessment monitoring, as described in Appendix 4
6. Include the collection and reporting of specified instream biological data and physical habitat
7. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP)

Site Locations and Frequency

Macroinvertebrate samples shall be collected both before ground disturbance is initiated and after the project is completed. The "after" sample(s) shall be collected after at least one winter season resulting in surface runoff has transpired after project-related ground disturbance has ceased. "Before" and "after" samples shall be collected both upstream and downstream of the project's

discharge. Upstream samples should be taken immediately before the sites outfall and downstream samples should be taken immediately after the outfall (when safe to collect the samples). Samples should be collected for each freshwater wadeable stream that is listed as impaired due to sediment, or tributary to a water body that is listed for sediment. Habitat assessment data shall be collected concurrently with all required macroinvertebrate samples.

Index Period (Timing of Sample Collection)

Macroinvertebrate sampling shall be conducted during the time of year (i.e., the “index period”) most appropriate for bioassessment sampling, depending on ecoregion. This map is posted on the State Water Board’s Website: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml

Field Methods for Macroinvertebrate Collections

In collecting macroinvertebrate samples, the discharger shall use the “Reachwide Benthos (Multi-habitat) Procedure” specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007).¹

Physical - Habitat Assessment Methods

The discharger shall conduct, concurrently with all required macroinvertebrate collections, the “Full” suite of physical habitat characterization measurements as specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007), and as summarized in the Surface Water Ambient Monitoring Program’s *Stream Habitat Characterization Form — Full Version*.

Laboratory Methods

Macroinvertebrates shall be identified and classified according to the Standard Taxonomic Effort (STE) Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT),² and using a fixed-count of 600 organisms per sample.

Quality Assurance

The discharger or its consultant(s) shall have and follow a quality assurance (QA) plan that covers the required bioassessment monitoring. The QA plan shall include, or be supplemented to include, a specific requirement for external QA checks (i.e., verification of taxonomic identifications and correction of data where

¹ This document is available on the Internet at: http://www.swrcb.ca.gov/swamp/docs/phab_sopr6.pdf.
http://swamp.mpsl.mlml.calstate.edu/wp-content/uploads/2009/04/swamp_sop_bioassessment_collection_020107.pdf.

² The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf
http://www.safit.org/Docs/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board’s SWAMP website.

errors are identified). External QA checks shall be performed on one of the discharger's macroinvertebrate samples collected per calendar year, or ten percent of the samples per year (whichever is greater). QA samples shall be randomly selected. The external QA checks shall be paid for by the discharger, and performed by the California Department of Fish and Game's Aquatic Bioassessment Laboratory. An alternate laboratory with equivalent or better expertise and performance may be used if approved in writing by State Water Board staff.

Sample Preservation and Archiving

The original sample material shall be stored in 70 percent ethanol and retained by the discharger until: 1) all QA analyses specified herein and in the relevant QA plan are completed; and 2) any data corrections and/or re-analyses recommended by the external QA laboratory have been implemented. The remaining subsampled material shall be stored in 70 percent ethanol and retained until completeness checks have been performed according to the relevant QA plan. The identified organisms shall be stored in 70 percent ethanol, in separate glass vials for each final ID taxon. (For example, a sample with 45 identified taxa would be archived in a minimum of 45 vials, each containing all individuals of the identified taxon.) Each of the vials containing identified organisms shall be labeled with taxonomic information (i.e., taxon name, organism count) and collection information (i.e., site name/site code, waterbody name, date collected, method of collection). The identified organisms shall be archived (i.e., retained) by the discharger for a period of not less than three years from the date that all QA steps are completed, and shall be checked at least once per year and "topped off" with ethanol to prevent desiccation. The identified organisms shall be relinquished to the State Water Board upon request by any State Water Board staff.

Data Submittal

The macroinvertebrate results (i.e., taxonomic identifications consistent with the specified SAFIT STEs, and number of organisms within each taxa) shall be submitted to the State Water Board in electronic format. The State Water Board's Surface Water Ambient Monitoring Program (SWAMP) is currently developing standardized formats for reporting bioassessment data. All bioassessment data collected after those formats become available shall be submitted using the SWAMP formats. Until those formats are available, the biological data shall be submitted in MS-Excel (or equivalent) format.³

The physical/habitat data shall be reported using the standard format titled *SWAMP Stream Habitat Characterization Form — Full Version*.⁴

³ Any version of Excel, 2000 or later, may be used.

⁴ Available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf

Invasive Species Prevention

In conducting the required bioassessment monitoring, the discharger and its consultants shall take precautions to prevent the introduction or spread of aquatic invasive species. At minimum, the discharger and its consultants shall follow the recommendations of the California Department of Fish and Game to minimize the introduction or spread of the New Zealand mudsnail.⁵

⁵ Instructions for controlling the spread of NZ mudsnails, including decontamination methods, can be found at: <http://www.dfg.ca.gov/invasives/mudsnail/>
More information on AIS More information on AIS
http://www.waterboards.ca.gov/water_issues/programs/swamp/ais/

Appendix 4 Non Sediment TMDLs

Region 1 Lost River-DIN and CBOD

Region 1 Source: Cal Trans Construction TMDL Completion Date: 12 30 2008 TMDL Type: River, Lake Watershed Area= 2996 mi ²	Pollutant Stressors/WLA	
	Dissolved inorganic nitrogen (DIN) (metric tons/yr)	Carbonaceous biochemical oxygen demand (CBOD) (metric tons/yr)
Lost River from the Oregon border to Tule Lake	.1	.2
Tule Lake Refuge	.1	.2
Lower Klamath Refuge	.1	.2

Region 2 San Francisco Bay-Mercury

Region 2 Source: Non-Urban Stormwater Runoff TMDL Type: Bay	Name	Pollutant Stressor/WLA	TMDL Completion Date
	San Francisco Bay	Mercury 25 kg/year	08 09 2006

Region 4 Ballona Creek-Metals and Selenium

Region 4 Source: NPDES General Construction TMDL Completion Date: 12 22 2005 TMDL Type: Creek	Pollutant Stressors/WLA							
	Copper (Cu)		Lead (Pb)		Selenium (Se)		Zinc (Zn)	
	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre
Ballona Creek	4.94E-07 x Daily storm volume (L)	2.20E-10 x Daily storm volume (L)	1.62E-06 x Daily storm volume (L)	7.20E-10 x Daily storm volume (L)	1.37E-07 x Daily storm volume (L)	6.10E-11 x Daily storm volume (L)	3.27E-06 x Daily storm volume (L)	1.45E-09 x Daily storm volume (L)

General Construction Storm Water Permits:

Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board.

- Dry-weather Implementation Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08 DWQ), or any successor order, are exempt from the dry-weather waste load allocation equal to zero as long as they comply with the provisions of sections C.3 and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be:
 - (1) infeasible to eliminate
 - (2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and
 - (3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order.
 Unauthorized non-storm water flows are already prohibited by Order No. 99-08 DWQ.
- Wet-weather Implementation Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the final waste load allocations assigned to construction storm water permittees.
- Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL.
- General construction storm water permittees will be considered in compliance with final waste load allocations if they implement these Regional Board approved BMPs. All permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with final waste load allocations.

Region 4 Calleaguas Creek-OC Pesticides, PCBs, and Siltation

Interim Requirements

Region 4 Calleaguas Creek Source: Minor NPDES point sources/WDRs TMDL Completion Date: 3 14 2006 TMDL Type:Creek	Pollutant Stressor	WLA Daily Max (µg/L)	WLA Monthly Ave (µg/L)
	Chlordane	1.2	0.59
	4,4-DDD	1.7	0.84
	4,4-DDE	1.2	0.59
	4,4-DDT	1.2	0.59
	Dieldrin	0.28	0.14
	PCB's	0.34	0.17
	Toxaphene	0.33	0.16

Final WLA (ng/g)							
Region 4 Calleguas Creek Source: Stormwater Permittees TMDL Completion Date: 3 14 2006 TMDL Type:Creek	Chlordane	4,4-DDD	4,4-DDE	4,4-DDT	Dieldrin	PCB's	Toxaphene
Mugu Lagoon*	3.3	2.0	2.2	0.3	4.3	180.0	360.0
Calleguas Creek	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Revolon Slough (SW)*	0.9	2.0	1.4	0.3	0.1	130.0	1.0
Arroyo Las posas(SW)*	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Arroyo Simi	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Conejo Creek	3.3	2.0	1.4	0.3	0.2	120.0	0.6
Interim Requirements (ng/g)							
Mugu Lagoon*	25.0	69.0	300.0	39.0	19.0	180.	22900.0
Calleguas Creek	17.0	66.0	470.0	110.0	3.0	3800.0	260.0
Revolon Slough (SW)*	48.0	400.0	1600.0	690.0	5.7	7600.0	790.0
Arroyo Las posas(SW)*	3.3	290.0	950.0	670.0	1.1	25700.0	230.0
Arroyo Simi	3.3	14.0	170.0	25.0	1.1	25700.0	230.0
Conejo Creek	3.4	5.3	20.0	2.0	3.0	3800.0	260.0

*(SW)=Subwatershed

*Mugu Lagoon includes Duck pond/Agricultural Drain/Mugu/Oxnard Drain #2

Compliance with sediment based WLAs is measured as an instream annual average at the base of each subwatershed where the discharges are located.

Region 4 Calleguas Creek-Salts

Final Dry Weather Pollutant WLA (mg/L)					
Region 4 Calleguas Creek Source Permitted Stormwater Dischargers TMDL Completion Date: 12 2 2008 TMDL Type:Creek	Critical Condition Flow Rate (mgd)	Chloride (lb/day)	TDS (lb/day)	Sulfate (lb/day)	Boron (lb/day)
Simi	1.39	1738.0	9849.0	2897.0	12.0
Las Posas	0.13	157.0	887.0	261.0	N/A
Conejo	1.26	1576.0	8931.0	2627.0	N/A

Camarillo	0.06	72.0	406.0	119.0	N/A
Pleasant Valley (Calleguas)	0.12	150.0	850.0	250.0	N/A
Pleasant Valley (Revolon)	0.25	314.0	1778.0	523.0	2.0
Dry Weather Interim Pollutant WLA (mg/L)					
	Chloride (mg/L)	TDS (mg/L)	Sulfate (mg/L)	Boron (mg/L)	
Simi	230.0	1720.0	1289.0	1.3	
Las Posas	230.0	1720.0	1289.0	1.3	
Conejo	230.0	1720.0	1289.0	1.3	
Camarillo	230.0	1720.0	1289.0	1.3	
Pleasant Valley (Calleguas)	230.0	1720.0	1289.0	1.3	
Pleasant Valley (Revolon)	230.0	1720.0	1289.0	1.3	

- General Construction permittees are assigned a dry weather wasteload allocation equal to the average dry weather critical condition flow rate multiplied by the numeric target for each constituent. Waste load allocations apply in the receiving water at the base of each subwatershed. Dry weather allocations apply when instream flow rates are below the 86th percentile flow and there has been no measurable precipitation in the previous 24 hours.
- Because wet weather flows transport a large mass of salts at low concentrations, these dischargers meet water quality objectives during wet weather.
- Interim limits are assigned for dry weather discharges from areas covered by NPDES stormwater permits to allow time to implement appropriate actions. The interim limits are assigned as concentration based receiving water limits set to the 95th percentile of the discharger data as a monthly average limit except for chloride. The 95th percentile for chloride was 267 mg/L which is higher than the recommended criteria set forth in the Basin Plan for protection of sensitive beneficial uses including aquatic life. Therefore, the interim limit for chloride for Permitted Stormwater Dischargers is set equal to 230 mg/L to ensure protection of sensitive beneficial uses in the Calleguas Creek watershed.

Region 4 San Gabriel River and Tributaries-Metals and Selenium

Region 4 San Gabriel River and Tributaries Source: Construction Stormwater Dischargers TMDL Completion Date: 3 2007 TMDL Type: Creek	Pollutant Stressor	Wet weather Allocations	Dry Weather Allocations	% of Watershed
--	---------------------------	--------------------------------	--------------------------------	-----------------------

San Gabriel Reach 2	Lead (Pb)	0.7% * 166 µg/l * Daily Storm Vol	N/A	0.7%
San Gabriel Reach 2	Lead (Pb) Mass based	0.8 kg/d	N/A	0.7%
Coyote Creek	Copper (Cu)	0.285 kg/d	0	5.0%
Coyote Creek	Lead (Pb)	1.70 kg/d	N/A	5.0%
Coyote Creek	Zinc (Zn)	2.4 kg/d	N/A	5.0%
San Jose Creek Reach 1 and 2	Selenium	5 µg/L	5 µg/L	5.0%

Wet-weather allocations for lead in San Gabriel River Reach 2. Concentration-based allocations apply to non-stormwater NPDES discharges. Stormwater allocations are expressed as a percent of load duration curve. Mass-based values presented in table are based on a flow of 260 cfs (daily storm volume = 6.4×10^8 liters).

There are 1555 acres of water in the entire watershed, 37.4 acres of water in the Reach 1 subwatershed (2.4%), and 269 acres in the Coyote Creek subwatershed (17%).

General Construction Storm Water Permits

Waste load allocations for the general construction storm water permits may be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board. An estimate of direct atmospheric deposition is developed based on the percent area of surface water in the watershed. Approximately 0.4% of the watershed area draining to San Gabriel River Reach 2 is comprised of water and approximately 0.2% of the watershed area draining to Coyote Creek is comprised of water.

Region 4 The Harbor Beaches of Ventura County-Bacteria

The TMDL has a multi-part numeric target based on the bacteriological water quality objectives for marine water to protect the water contact recreation use. These targets are the most appropriate indicators of public health risk in recreational waters. Bacteriological objectives are set forth in Chapter 3 of the Basin Plan. The objectives are based on four bacteria indicators and include both geometric mean limits and single sample limits. The Basin Plan objectives that serve as the numeric targets for this TMDL are:

The General NPDES Construction permit is seen as a minor contributor and is given no allocation

General NPDES permits, individual NPDES permits, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and WDR permittees in the Channel Islands Harbor subwatershed are assigned WLAs of zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under a general NPDES permit, individual NPDES permit, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, and WDR will also be subject to a WLA of zero (0) days of allowable exceedances.

Region 4 Resolution No. 03-009 Los Angeles River and Tributaries-Nutrients

Minor Point Sources

Waste loads are allocated to minor point sources enrolled under NPDES or WDR permits including but not limited to Tapia WRP, Whittier Narrows WRP, Los Angeles Zoo WRP, industrial and construction stormwater, and municipal storm water and urban runoff from municipal separate storm sewer systems (MS4s)

Region 4 Minor Point Sources for NPDES/WDR Permits TMDL Completion Date: 7 10 2003 TMDL Type: River	Pollutant Stressor/WLA				
	Total Ammonia (NH₃)		Nitrate-nitrogen (NO₃-N)	Nitrite-nitrogen (NO₂-N)	NO₃-N + NO₃-N
	1 Hr Ave mg/l	30 Day Ave mg/l	30 Day Ave mg/l		30 Day Ave mg/l
LA River Above Los Angeles-Glendale WRP (LAG)	4.7	1.6	8.0	1.0	8.0
LA River Below LAG	8.7	2.4	8.0	1.0	8.0
Los Angeles Tributaries	10.1	2.3	8.0	1.0	8.0

Malibu Creek Attachment A to Resolution No. 2004-019R-Bacteria

12 13 2004 The WLAs for permittees under the NPDES General Stormwater Construction Permit are zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean.

Region 4 Marina del Rey Harbor, Mothers' Beach and Back Basins

Attachment A to Resolution No. 2003-012-Bacteria

8 7 2003 As discussed in “Source Analysis”, discharges from general NPDES permits, general industrial storm water permits and general construction storm water permits are not expected to be a significant source of bacteria. Therefore, the WLAs for these discharges are zero (0) days of allowable exceedances for all three time periods and for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under a general NPDES permit, general industrial storm water permit or general construction storm water permit within the MdR Watershed will also be subject to a WLA of zero days of allowable exceedances.

Region 4 San Gabriel River and Tributaries-Metals and Selenium

Dry Weather Selenium WLA

A zero WLA is assigned to the industrial and construction stormwater permits during dry weather. Non-storm water discharges are already prohibited or restricted by existing general permits.

Region 4 General Construction Permittees TMDL Completion Date: 7 13 2006 TMDL Type: River	Total Recoverable Metals (kg/day)		
	Copper (Cu) Kg/day	Lead (Pb) Kg/day	Zinc (Zn) Kg/day
San Gabriel River Reach 2 and upstream reaches/tributaries	XXXX	Daily storm volume x 1.24 µg/L	XXXX
Coyote Creek and Tributaries	Daily storm volume x 0.7 µg/L	Daily storm volume x 4.3 µg/L	Daily storm volume x 6.2 µg/L

Each enrollee under the general construction stormwater permit receives a WLA on a per acre basis

Region 4 General Construction Permittees TMDL Completion Date: 7 13 2006 TMDL Type: River	Total Recoverable Metals (kg/day/acre)		
	Copper (Cu) Kg/acre/day	Lead (Pb) Kg/acre/day	Zinc (Zn) Kg/acre/day
San Gabriel River Reach 2 and upstream reaches/tributaries	XXXX	Daily storm volume x 0.56 µg/L	XXXX

Coyote Creek and Tributaries	Daily storm volume x 0.12 µg/L	Daily storm volume x 0.70 µg/L	Daily storm volume x 1.01 µg/L
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For the general industrial and construction storm water permits, the daily storm volume is measured at USGS station 11085000 for discharges to Reach 2 and above and at LACDPW flow gauge station F354-R for discharges to Coyote Creek.

General construction storm water permits

WLAs will be incorporated into the State Board general permit upon renewal or into a watershed-specific general permit developed by the Regional Board.

Dry-weather implementation

Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (NPDES Permit No. CAS000002), or any successor permit, are exempt from the dry-weather WLA equal to zero as long as they comply with the provisions of sections C.3.and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be (1) infeasible to eliminate (2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and (3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order. Unauthorized non-storm water flows are already prohibited by Permit No. CAS000002.

Upon permit issuance, renewal, or re-opener

Non-storm water flows not authorized by Order No. 99-08 DWQ, or any successor order, shall achieve dry-weather WLAs. WLAs shall be expressed as NPDES water quality-based effluent limitations specified in accordance with federal regulations and state policy on water quality control. Effluent limitations may be expressed as permit conditions, such as the installation, maintenance, and monitoring of Regional Board-approved BMPs.

Six years from the effective date of the TMDL

The construction industry will submit the results of wet-weather BMP effectiveness studies to the Los Angeles Regional Board for consideration. In the event that no effectiveness studies are conducted and no BMPs are approved, permittees shall be subject to site-specific BMPs and monitoring to demonstrate BMP effectiveness.

Seven years from the effective date of the TMDL

The Los Angeles Regional Board will consider results of the wet weather BMP effectiveness studies and consider approval of BMPs.

Eight years from the effective date of the TMDL

All general construction storm water permittees shall implement Regional Board-approved BMPs.

Region 8 RESOLUTION NO. R8-2007- 0024

Total Maximum Daily Loads (TMDLs) for San Diego Creek, Upper and Lower Newport Bay, Orange County, California

Region 8 NPDES Construction Permit TMDL Completion Date: 1 24 1995 TMDL Type: River, Cr, Bay	Organochlorine Compounds							
	Total DDT		Chlordane		Total PCBs		Toxaphene	
	g/day	g/yr	g/day	g/yr	g/day	g/yr	g/day	g/yr
San Diego Creek	.27	99.8	.18*	64.3*	.09*	31.5*	.004	1.5
Upper Newport Bay	.11	40.3	.06	23.4	.06	23.2	X	X
Lower Newport Bay	.04	14.9	.02	8.6	.17	60.7	X	X

*Red= Informational WLA only, not for enforcement purposes

Organochlorine Compounds TMDLs Implementation Tasks and Schedule

Regional Board staff shall develop a SWPPP Improvement Program that identifies the Regional Board’s expectations with respect to the content of SWPPPs, including documentation regarding the selection and implementation of BMPs, and a sampling and analysis plan. The Improvement Program shall include specific guidance regarding the development and implementation of monitoring plans, including the constituents to be monitored, sampling frequency and analytical protocols. The SWPPP Improvement Program shall be completed by *(the date of OAL approval of this BPA)*. **No later than two months** from completion of the Improvement Program, Board staff shall assure that the requirements of the Program are communicated to interested parties, including dischargers with existing authorizations under the General Construction Permit. Existing, authorized dischargers shall revise their project SWPPPs as needed to address the Program requirements as soon as possible but **no later than (three months of completion of the SWPPP Improvement Program)**. Applicable SWPPPs that do not adequately address the Program requirements shall be considered inadequate and enforcement by the Regional Board shall proceed accordingly. The Caltrans and Orange County MS4 permits shall be revised as needed to assure that the permittees communicate the Regional Board’s SWPPP expectations, based on the SWPPP Improvement Program, with the Standard Conditions of Approval.

Appendix 4 Sediment TMDLs

Implemented Sediment TMDLs in California. Construction was listed as a source in all fo these TMDLs in relation to road construction. Although construction was mentioned as a source, it was not given a specific allocation amount. The closest allocation amount would be for the road activity management WLA. **Implementation Phase** – Adoption process by the Regional Board, the State Water Resources Control Board, the Office of Administrative Law, and the US Environmental Protection Agency completed and TMDL being implemented.

A. Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi ² yr
1 R1.epa.albionfinalt mdl	R	Albion River	Sedimentation	Road Construction	2001	43 acres	See A (table 6)

B Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi ² yr
1 R1.epa.EelR- middle.mainSed.te mp	R	Middle Main Eel River and Tributaries (from Dos Rios to the South Fork)	Sedimentation	Road Construction	2005-2006	521 mi ²	100

C Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi ² yr
1 R1.epa.EelRsouth. sed.temp	R	South Fork Eel River	Sedimentation	Road Construction	12 1999	See chart	473

D Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi ² yr
1 R1.epa.bigfinaltmd l	R	Big River	Sedimentation	Road Construction	12 2001	181 mi ² watershed drainage	TMDL = loading capacity = nonpoint sources + background =

							393 t mi ² yr
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E Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi² yr
1 R1.epa.EelR-lower.Sed.temp-121807-signed	R	Lower Eel River	Sedimentation	Road Construction	12 2007	300 square-mile watershed	898

F Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi² yr
1 R1.epa.EelR-middle.Sed.temp-	R	Middle Fork Eel River	Sedimentation	Road Construction	12 2003	753 mi ² (approx. 482,000 acres)	82

G Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres Mi²	WLA tons mi² yr
1 R1.epa.EelRnorth-Sed.temp.final-121807-signed	R	North Fork Eel River	Sedimentation	Road Construction	12 30 2002	289 (180,020 acres)	20

H Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres Mi²	WLA tons mi² yr
1 R1.epa.EelR-upper.mainSed.temp-	R	Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	Sedimentation	Road Construction	12 29 2004	688 (approx. 440,384 acres)	14

I Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi ² yr
1 R1.epa.gualalafina ltmdl	R	Gualala River	Sedimentation	Road Construction	Not sure	300 (191,145 acres)	7

J Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi ²	WLA tons mi ² yr
1 R1.epa.Mad- sed.turbidity	R	Mad River	Sedimentation	Road Construction	12 21 2007	480	174

K Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi ²	WLA tons mi ² yr
1 R1.epa.mattole.se diment	R	Mattole River	Sedimentation	Road Construction	12 30 2003	296	27 or 520+27 = 547

L Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi ²	WLA tons mi ² yr
1 R1.epa.navarro.se d.temp	R	Navarro River	Sedimentation	Road Construction	Not sure	315 (201,600 acres).	50

M Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi ²	WLA tons mi ² yr
1 R1.epa.noyo.sedi ment	R	Noyo River	Sedimentation	Road Construction	12 16 1999	113 (72,323 acres)	68 (three areas measured) Table 16 in the TMDL

N Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi²	WLA tons mi² yr
1 R1.epa.RedwoodCk.sed	Cr	Redwood Creek	Sedimentation	Road Construction	12 30 1998	278	1900 Total allocation

O Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi²	WLA – Roads tons mi² yr
1 R1.epa.tenmile.sed	R	Ten Mile River	Sedimentation	Road Construction	2000	120	9

P Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi²	WLA management tons mi² yr
1 R1.epa.trinity.sed	R	Trinity River	Sedimentation	Road Construction	12 20 2001	2000 of 3000 covered in this TMDL	See rows below
1	Cr	Horse Linto Creek	Sedimentation	Road Construction	12 20 2001	64	528
1	Cr	Mill creek and Tish Tang	Sedimentation	Road Construction	12 20 2001	39	210
1	Cr	Willow Creek	Sedimentation	Road Construction	12 20 2001	43	94
1	Cr	Campbell Creek and Supply Creek	Sedimentation	Road Construction	12 20 2001	11	1961
1	Cr	Lower Mainstem and Coon Creek	Sedimentation	Road Construction	12 20 2001	32	63
1	R	Reference	Sedimentation	Road	12 20 2001	434	24

		Subwatershed ¹		Construction			
1	Cr	Canyon Creek	Sedimentation	Road Construction	12 20 2001	64	326
1	R	Upper Tributaries ²	Sedimentation	Road Construction	12 20 2001	72	67
1	R	Middle Tributaries ³	Sedimentation	Road Construction	12 20 2001	54	53
1	R	Lower Tributaries ⁴	Sedimentation	Road Construction	12 20 2001	96	55
1	Cr	Weaver and Rush Creeks	Sedimentation	Road Construction	12 20 2001	72	169
1	Cr	Deadwood Creek Hoadley Gulch Poker Bar	Sedimentation	Road Construction	12 20 2001	47	68
1	L	Lewiston Lake	Sedimentation	Road Construction	12 20 2001	25	49
1	Cr	Grassvalley Creek	Sedimentation	Road Construction	12 20 2001	37	44
1	Cr	Indian Creek	Sedimentation	Road Construction	12 20 2001	34	81
1	Cr	Reading and Browns Creek	Sedimentation	Road Construction	12 20 2001	104	66
1	Cr	Reference Subwatersheds ⁵	Sedimentation	Road Construction	12 20 2001	235	281
1	L, Cr	Westside tributaries ⁶	Sedimentation	Road Construction	12 20 2001	93	105
1	R, Cr, G	Upper trinity ⁷	Sedimentation	Road Construction	12 20 2001	161	690
1	R, Cr, G	East Fork Tributaries ⁸	Sedimentation	Road Construction	12 20 2001	115	65

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1	R, L	Eastside Tributaries ⁹	Sedimentation	Road Construction	12 20 2001	89	60
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- 1 New River, Big French, Manzanita, North Fork, East Fork, North Fork
- 2 Dutch, Soldier, Oregon gulch, Conner Creek
- 3 Big Bar, Prairie Creek, Little French Creek
- 4 Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quimby, Hawkins, Sharber
- 5 Stuarts Fork, Swift Creek, Coffee Creek
- 6 Stuart Arm, Stoney Creek, Mule Creek, East Fork, Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek,
- 7 Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstream, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowslide Gulch, Scorpion Creek
- 8 East Fork Trinity, Cedar Creek, Squirrel Gulch
- 9 East Side Tributaries, Trinity Lake

Q Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi ²	WLA tons mi ² yr
1 R1.epa.trinity.so.sed	R, Cr	South Fork Trinity River and Hayfork Creek	Sedimentation	Road Construction	12 1998	Not given, 19 miles long	33 (road total)

R Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi ²	WLA tons mi ² yr
1 R1.epa.vanduzen.sed	R, Cr	Van Duzen River and Yager Creek	Sedimentation	Various	12 16 1999	429	1353 total allocation
1		Upper Basin	Sedimentation	Road Construction			7
1		Middle Basin	Sedimentation	Road Construction			22
1		Lower Basin	Sedimentation	Road Construction			20

S Region	Type	Name	Pollutant Stressor	Potential	TMDL	Watershed	WLA tons mi ²
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				Sources	Completion Date	Acres mi ²	yr	
6	R6.blackwood.sed	Cr	Blackwood Creek (Placer County)	Bedded Sediment	Various	9 2007	11	17272 total

T Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi ²	WLA tons mi ² yr	
6	R6.SquawCk.sed	R	Squaw Creek (Placer County)	Sedimentation /controllable sources	Various – basin plan amendment	4 13 2006	8.2	10,900

Adopted TMDLs for Construction Sediment Sources

Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Area mi ²	Waste load Allocation tons mi ² yr
8	R	Newport Bay San Diego Creek Watershed	Sedimentation	Construction Land Development	1999	2.24 (1432 acres)	125,000 tons per Year (no more than 13,000 tons per year from construction sites)

APPENDIX 5: Glossary

Active Areas of Construction

All areas subject to land surface disturbance activities related to the project including, but not limited to, project staging areas, immediate access areas and storage areas. All previously active areas are still considered active areas until final stabilization is complete. [The construction activity Phases used in this General Permit are the Preliminary Phase, Grading and Land Development Phase, Streets and Utilities Phase, and the Vertical Construction Phase.]

Active Treatment System (ATS)

A treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment.

Acute Toxicity Test

A chemical stimulus severe enough to rapidly induce a negative effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute.

Air Deposition

Airborne particulates from construction activities.

Approved Signatory

A person who has been authorized by the Legally Responsible Person to sign, certify, and electronically submit Permit Registration Documents, Notices of Termination, and any other documents, reports, or information required by the General Permit, the State or Regional Water Board, or U.S. EPA. The Approved Signatory must be one of the following:

1. For a corporation or limited liability company: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation or limited liability company; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
3. For a municipality, State, Federal, or other public agency: a principal executive officer, ranking elected official, city manager, council president, or any other authorized public employee with managerial responsibility over the

construction or land disturbance project (including, but not limited to, project manager, project superintendent, or resident engineer);

4. For the military: any military officer or Department of Defense civilian, acting in an equivalent capacity to a military officer, who has been designated;
5. For a public university: an authorized university official;
6. For an individual: the individual, because the individual acts as both the Legally Responsible Person and the Approved Signatory; or
7. For any type of entity not listed above (e.g. trusts, estates, receivers): an authorized person with managerial authority over the construction or land disturbance project.

Beneficial Uses

As defined in the California Water Code, beneficial uses of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT)

As defined by USEPA, BAT is a technology-based standard established by the Clean Water Act (CWA) as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)

As defined by USEPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, oil and grease.

Best Professional Judgment (BPJ)

The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

Best Management Practices (BMPs)

BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures,

and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Chain of Custody (COC)

Form used to track sample handling as samples progress from sample collection to the analytical laboratory. The COC is then used to track the resulting analytical data from the laboratory to the client. COC forms can be obtained from an analytical laboratory upon request.

Coagulation

The clumping of particles in a discharge to settle out impurities, often induced by chemicals such as lime, alum, and iron salts.

Common Plan of Development

Generally a contiguous area where multiple, distinct construction activities may be taking place at different times under one plan. A plan is generally defined as any piece of documentation or physical demarcation that indicates that construction activities may occur on a common plot. Such documentation could consist of a tract map, parcel map, demolition plans, grading plans or contract documents. Any of these documents could delineate the boundaries of a common plan area. However, broad planning documents, such as land use master plans, conceptual master plans, or broad-based CEQA or NEPA documents that identify potential projects for an agency or facility are not considered common plans of development.

Daily Average Discharge

The discharge of a pollutant measured during any 24-hour period that reasonably represents a calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged during the day. For pollutants with limitations expressed in other units of measurement (e.g., concentration) the daily discharge is calculated as the average measurement of the pollutant throughout the day (40 CFR 122.2). In the case of pH, the pH must first be converted from a log scale.

Debris

Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

Direct Discharge

A discharge that is routed directly to waters of the United States by means of a pipe, channel, or ditch (including a municipal storm sewer system), or through surface runoff.

Discharger

The Legally Responsible Person (see definition) or entity subject to this General Permit.

Dose Rate (for ATS)

In exposure assessment, dose (e.g. of a chemical) per time unit (e.g. mg/day), sometimes also called dosage.

Drainage Area

The area of land that drains water, sediment, pollutants, and dissolved materials to a common outlet.

Effluent

Any discharge of water by a discharger either to the receiving water or beyond the property boundary controlled by the discharger.

Effluent Limitation

Any numeric or narrative restriction imposed on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

Erosion

The process, by which soil particles are detached and transported by the actions of wind, water, or gravity.

Erosion Control BMPs

Vegetation, such as grasses and wildflowers, and other materials, such as straw, fiber, stabilizing emulsion, protective blankets, etc., placed to stabilize areas of disturbed soils, reduce loss of soil due to the action of water or wind, and prevent water pollution.

Field Measurements

Testing procedures performed in the field with portable field-testing kits or meters.

Final Stabilization

All soil disturbing activities at each individual parcel within the site have been completed in a manner consistent with the requirements in this General Permit.

First Order Stream

Stream with no tributaries.

Flocculants

Substances that interact with suspended particles and bind them together to form flocs.

Good Housekeeping BMPs

BMPs designed to reduce or eliminate the addition of pollutants to construction site runoff through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Grading Phase (part of the Grading and Land Development Phase)

Includes reconfiguring the topography and slope including; alluvium removals; canyon cleanouts; rock undercuts; keyway excavations; land form grading; and stockpiling of select material for capping operations.

Hydromodification

Hydromodification is the alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources. Hydromodification can cause excessive erosion and/or sedimentation rates, causing excessive turbidity, channel aggradation and/or degradation.

Identified Organisms

Organisms within a sub-sample that is specifically identified and counted.

Inactive Areas of Construction

Areas of construction activity that are not active and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

Index Period

The period of time during which bioassessment samples must be collected to produce results suitable for assessing the biological integrity of streams and rivers. Instream communities naturally vary over the course of a year, and sampling during the index period ensures that samples are collected during a time frame when communities are stable so that year-to-year consistency is obtained. The index period approach provides a cost-effective alternative to year-round sampling. Furthermore, sampling within the appropriate index period will yield results that are comparable to the assessment thresholds or criteria for a given region, which are established for the same index period. Because index periods differ for different parts of the state, it is essential to know the index period for your area.

K Factor

The soil erodibility factor used in the Revised Universal Soil Loss Equation (RUSLE). It represents the combination of detachability of the soil, runoff potential of the soil, and the transportability of the sediment eroded from the soil.

Legally Responsible Person

The Legally Responsible Person (LRP) will typically be the project proponent. The categories of persons or entities that are eligible to serve as the LRP are set forth below. For any construction or land disturbance project where multiple persons or entities are eligible to serve as the LRP, those persons or entities

shall select a single LRP. In exceptional circumstances, a person or entity that qualifies as the LRP may provide written authorization to another person or entity to serve as the LRP. In such a circumstance, the person or entity that provides the authorization retains all responsibility for compliance with the General Permit. Except as provided in category 2(d), a contractor who does not satisfy the requirements of any of the categories below is not qualified to be an LRP.

The following persons or entities may serve as an LRP:

1. A person, company, agency, or other entity that possesses a real property interest (including, but not limited to, fee simple ownership, easement, leasehold, or other rights of way) in the land upon which the construction or land disturbance activities will occur for the regulated site.
2. In addition to the above, the following persons or entities may also serve as an LRP:
 - a. For linear underground/overhead projects, the utility company, municipality, or other public or private company or agency that owns or operates the LUP;
 - b. For land controlled by an estate or similar entity, the person who has day-to-day control over the land (including, but not limited to, a bankruptcy trustee, receiver, or conservator);
 - c. For pollution investigation and remediation projects, any potentially responsible party that has received permission to conduct the project from the holder of a real property interest in the land; or
 - d. For U.S. Army Corp of Engineers projects, the U.S. Army Corps of Engineers may provide written authorization to its bonded contractor to serve as the LRP, provided, however, that the U.S. Army Corps of Engineers is also responsible for compliance with the general permit, as authorized by the Clean Water Act or the Federal Facilities Compliance Act.

Likely Precipitation Event

Any weather pattern that is forecasted to have a 50% or greater chance of producing precipitation in the project area. The discharger shall obtain likely precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at <http://www.srh.noaa.gov/forecast>).

Maximum Allowable Threshold Concentration (MATC)

The allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity

testing conducted by an independent, third-party laboratory. A typical MATC would be:

The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

Natural Channel Evolution

The physical trend in channel adjustments following a disturbance that causes the river to have more energy and degrade or aggrade more sediment. Channels have been observed to pass through 5 to 9 evolution types. Once they pass through the suite of evolution stages, they will rest in a new state of equilibrium.

Non-Storm Water Discharges

Discharges are discharges that do not originate from precipitation events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

Non-Visible Pollutants

Pollutants associated with a specific site or activity that can have a negative impact on water quality, but cannot be seen through observation (ex: chlorine). Such pollutants being discharged are not authorized.

Numeric Action Level (NAL)

Level is used as a warning to evaluate if best management practices are effective and take necessary corrective actions. Not an effluent limit.

Original Sample Material

The material (i.e., macroinvertebrates, organic material, gravel, etc.) remaining after the subsample has been removed for identification.

pH

Unit universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Post-Construction BMPs

Structural and non-structural controls which detain, retain, or filter the release of pollutants to receiving waters after final stabilization is attained.

Preliminary Phase (Pre-Construction Phase - Part of the Grading and Land Development Phase)

Construction stage including rough grading and/or disking, clearing and grubbing operations, or any soil disturbance prior to mass grading.

Project

Qualified SWPPP Developer

Individual who is authorized to develop and revise SWPPPs.

Qualified SWPPP Practitioner

Individual assigned responsibility for non-storm water and storm water visual observations, sampling and analysis, and responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

Qualifying Rain Event

Any event that produces 0.5 inches or more precipitation with a 48 hour or greater period between rain events.

R Factor

Erosivity factor used in the Revised Universal Soil Loss Equation (RUSLE). The R factor represents the erosivity of the climate at a particular location. An average annual value of R is determined from historical weather records using erosivity values determined for individual storms. The erosivity of an individual storm is computed as the product of the storm's total energy, which is closely related to storm amount, and the storm's maximum 30-minute intensity.

Rain Event Action Plan (REAP)

Written document, specific for each rain event, that when implemented is designed to protect all exposed portions of the site within 48 hours of any likely precipitation event.

Remaining Sub sampled Material

The material (e.g., organic material, gravel, etc.) that remains after the organisms to be identified have been removed from the subsample for identification. (Generally, no macroinvertebrates are present in the remaining subsampled material, but the sample needs to be checked and verified using a complete Quality Assurance (QA) plan)

Routine Maintenance

Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Runoff Control BMPs

Measures used to divert runoff from offsite and runoff within the site.

Run-on

Discharges that originate offsite and flow onto the property of a separate project site.

Revised Universal Soil Loss Equation (RUSLE)

Empirical model that calculates average annual soil loss as a function of rainfall and runoff erosivity, soil erodibility, topography, erosion controls, and sediment controls.

Sampling and Analysis Plan

Document that describes how the samples will be collected, under what conditions, where and when the samples will be collected, what the sample will be tested for, what test methods and detection limits will be used, and what methods/procedures will be maintained to ensure the integrity of the sample during collection, storage, shipping and testing (i.e., quality assurance/quality control protocols).

Sediment

Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sedimentation

Process of deposition of suspended matter carried by water, wastewater, or other liquids, by gravity. It is usually accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.

Sediment Control BMPs

Practices that trap soil particles after they have been eroded by rain, flowing water, or wind. They include those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped (e.g., silt fence, sediment basin, fiber rolls, etc.).

Settleable Solids (SS)

Solid material that can be settled within a water column during a specified time frame. It is typically tested by placing a water sample into an Imhoff settling cone and then allowing the solids to settle by gravity for a given length of time. Results are reported either as a volume (mL/L) or a mass (mg/L) concentration.

Sheet Flow

Flow of water that occurs overland in areas where there are no defined channels where the water spreads out over a large area at a uniform depth.

Site**Soil Amendment**

Any material that is added to the soil to change its chemical properties, engineering properties, or erosion resistance that could become mobilized by storm water.

Streets and Utilities Phase

Construction stage including excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer system and/or other drainage improvements.

Structural Controls

Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution

Suspended Sediment Concentration (SSC)

The measure of the concentration of suspended solid material in a water sample by measuring the dry weight of all of the solid material from a known volume of a collected water sample. Results are reported in mg/L.

Total Suspended Solids (TSS)

The measure of the suspended solids in a water sample includes inorganic substances, such as soil particles and organic substances, such as algae, aquatic plant/animal waste, particles related to industrial/sewage waste, etc. The TSS test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

Toxicity

The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Turbidity

The cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The turbidity test is reported in Nephelometric Turbidity Units (NTU) or Jackson Turbidity Units (JTU).

Vertical Construction Phase

The Build out of structures from foundations to roofing, including rough landscaping.

Waters of the United States

Generally refers to surface waters, as defined by the federal Environmental Protection Agency in 40 C.F.R. § 122.2.¹

Water Quality Objectives (WQO)

Water quality objectives are defined in the California Water Code as limits or levels of water quality constituents or characteristics, which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

¹ The application of the definition of “waters of the United States” may be difficult to determine; there are currently several judicial decisions that create some confusion. If a landowner is unsure whether the discharge must be covered by this General Permit, the landowner may wish to seek legal advice.

APPENDIX 6: Acronym List

ASBS	Areas of Special Biological Significance
ASTM	American Society of Testing and Materials; Standard Test Method for Particle-Size Analysis of Soils
ATS	Active Treatment System
BASMAA	Bay Area Storm water Management Agencies Association
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BPJ	Best Professional Judgment
CAFO	Confined Animal Feeding Operation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CIWQS	California Integrated Water Quality System
CKD	Cement Kiln Dust
COC	Chain of Custody
CPESC	Certified Professional in Erosion and Sediment Control
CPSWQ	Certified Professional in Storm Water Quality
CSMP	Construction Site Monitoring Program
CTB	Cement Treated Base
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
CWP	Center for Watershed Protection
DADMAC	Diallyldimethyl-ammonium chloride
DDNR	Delaware Department of Natural Resources
DFG	Department of Fish and Game
DHS	Department of Health Services
DWQ	Division of Water Quality
EC	Electrical Conductivity
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESC	Erosion and Sediment Control
HSPF	Hydrologic Simulation Program Fortran
JTU	Jackson Turbidity Units
LID	Low Impact Development
LOEC	Lowest Observed Effect Concentration
LRP	Legally Responsible Person
LUP	Linear Underground/Overhead Projects

MATC	Maximum Allowable Threshold Concentration
MDL	Method Detection Limits
MRR	Monitoring and Reporting Requirements
MS4	Municipal Separate Storm Sewer System
MUSLE	Modified Universal Soil Loss Equation
NAL	Numeric Action Level
NEL	Numeric Effluent Limitation
NICET	National Institute for Certification in Engineering Technologies
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NTR	National Toxics Rule
NTU	Nephelometric Turbidity Units
O&M	Operation and Maintenance
PAC	Polyaluminum chloride
PAM	Polyacrylamide
PASS	Polyaluminum chloride Silica/sulfate
POC	Pollutants of Concern
PoP	Probability of Precipitation
POTW	Publicly Owned Treatment Works
PRDs	Permit Registration Documents
PWS	Planning Watershed
QAMP	Quality Assurance Management Plan
QA/QC	Quality Assurance/Quality Control
REAP	Rain Event Action Plan
Regional Board	Regional Water Quality Control Board
ROWD	Report of Waste Discharge
RUSLE	Revised Universal Soil Loss Equation
RW	Receiving Water
SMARTS System	Storm water Multi Application Reporting and Tracking
SS	Settleable Solids
SSC	Suspended Sediment Concentration
SUSMP	Standard Urban Storm Water Mitigation Plan
SW	Storm Water
SWARM	Storm Water Annual Report Module
SWAMP	Surface Water Ambient Monitoring Program
SWMM	Storm Water Management Model
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
TC	Treatment Control
TDS	Total Dissolved Solids

TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
USACOE	U.S. Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WDID	Waste Discharge Identification Number
WDR	Waste Discharge Requirements
WLA	Waste Load Allocation
WET	Whole Effluent Toxicity
WRCC	Western Regional Climate Center
WQBEL	Water Quality Based Effluent Limitation
WQO	Water Quality Objective
WQS	Water Quality Standard



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I. BACKGROUND

A. History

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that established storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 lowered the permitting threshold from five acres to one acre.

While federal regulations allow two permitting options for storm water discharges (Individual Permits and General Permits), the State Water Board has elected to adopt only one statewide General Permit at this time that will apply to most storm water discharges associated with construction activity.

On August 19, 1999, the State Water Board reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ). On December 8, 1999 the State Water Board amended Order 99-08-DWQ to apply to sites as small as one acre.

The General Permit accompanying this fact sheet regulates storm water runoff from construction sites. Regulating many storm water discharges under one permit will greatly reduce the administrative burden associated with permitting individual storm water discharges. To obtain coverage under this General Permit, dischargers shall electronically file the Permit Registration Documents (PRDs), which includes a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other compliance related documents required by this General Permit and mail the appropriate permit fee to the State Water Board. It is expected that as the storm water program develops, the Regional Water Quality Control Boards (Regional Water Boards) may issue General Permits or Individual Permits containing more specific permit provisions. When this occurs, this General Permit will no longer regulate those dischargers.

B. Legal Challenges and Court Decisions

1. Early Court Decisions

Shortly after the passage of the CWA, the USEPA promulgated regulations exempting most storm water discharges from the NPDES permit requirements. (See 40 C.F.R. § 125.4 (1975); see also *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1372 (*Costle*); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1163 (*Defenders of Wildlife*)). When environmental groups challenged this exemption in federal court, the District of Columbia Court of Appeals invalidated the regulation, holding that the USEPA “does not have authority to exempt categories of point sources from the permit requirements of [CWA] § 402.” (*Costle*, 568 F.2d at 1377.) The *Costle* court rejected the USEPA’s argument that effluent-based storm sewer regulation was administratively infeasible because of the variable nature of storm water pollution and the number of affected storm sewers throughout the country. (*Id.* at 1377-82.) Although the court acknowledged the practical problems relating to storm sewer regulation, the court found the USEPA had the flexibility under the CWA to design regulations that would overcome these problems. (*Id.* at 1379-83.) In particular, the court pointed to general permits and permits based on requiring best management practices (BMPs).

During the next 15 years, the USEPA made numerous attempts to reconcile the statutory requirement of point source regulation with the practical problem of regulating possibly millions of diverse point source discharges of storm water. (See *Defenders of Wildlife*, 191 F.3d at 1163; see also Gallagher, Clean Water Act in Environmental Law Handbook (Sullivan, edit., 2003) p. 300 (Environmental Law Handbook); Eisen, *Toward a Sustainable Urbanism: Lessons from Federal Regulation of Urban Storm Water Runoff* (1995) 48 Wash. U.J. Urb. & Contemp. L.1, 40-41 [Regulation of Urban Storm Water Runoff].)

In 1987, Congress amended the CWA to require NPDES permits for storm water discharges. (See CWA § 402(p), 33 U.S.C. § 1342(p); *Defenders of Wildlife*, 191 F.3d at 1163; *Natural Resources Defense Council v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1296.) In these amendments, enacted as part of the Water Quality Act of 1987, Congress distinguished between industrial and municipal storm water discharges. With respect to industrial storm water discharges, Congress provided that NPDES permits "shall meet all applicable provisions of this section and section 1311 [requiring the USEPA to establish effluent limitations under specific timetables]." (CWA § 402(p)(3)(A), 33 U.S.C. § 1342(p)(3)(A); see also *Defenders of Wildlife*, 191 F.3d at 1163-64.)

In 1990, USEPA adopted regulations specifying what activities were considered "industrial" and thus required discharges of storm water associated with those activities to obtain coverage under NPDES permits. (55 Fed. Reg. 47,990 (1990); 40 C.F.R. § 122.26(b)(14).) Construction activities, deemed a subset of the industrial activities category, must also be regulated by an NPDES permit. (40 C.F.R. § 122.26(b)(14)(x)). In 1999, USEPA issued regulations for "Phase II" of storm water regulation, which required most small construction sites (1-5 acres) to be regulated under the NPDES program. (64 Fed. Reg. 68,722; 40 C.F.R. § 122.26(b)(15)(i).)

2. Court Decisions on Public Participation

Two recent federal court opinions have vacated USEPA rules that denied meaningful public review of NPDES permit conditions. On January 14, 2003, the Ninth Circuit Court of Appeals held that certain aspects of USEPA's Phase II regulations governing MS4s were invalid primarily because the general permit did not contain express requirements for public participation. (*Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832.) Specifically, the court determined that applications for general permit coverage (including the Notice of Intent (NOI) and Storm Water Management Program (SWMP)) must be made available to the public, the applications must be reviewed and determined to meet the applicable standard by the permitting authority before coverage commences, and there must be a process to accommodate public hearings. (*Id.* at 852-54.) Similarly, on February 28, 2005, the Second Circuit Court of Appeals held that the USEPA's confined animal feeding operation (CAFO) rule violated the CWA because it allowed dischargers to write their own nutrient management plans without public review. (*Waterkeeper Alliance v. USEPA* (2d Cir. 2005) 399 F.3d 486.) Although neither decision involved the issuance of construction storm water permits, the State Water Board's Office of Chief Counsel has recommended that the new General Permit address the courts' rulings where feasible¹.

¹ In *Texas Independent Producers and Royalty Owners Assn. v. USEPA* (7th Cir. 2005) 410 F.3d 964, the Seventh Circuit Court of Appeals held that the USEPA's construction general permit was not required to provide the public with the opportunity for a public hearing on the Notice of Intent or Storm Water Pollution Prevention Plan. The Seventh Circuit briefly discussed why it agreed with the Ninth Circuit's dissent in *Environmental Defense Center*, but

The CWA and the USEPA's regulations provide states with the discretion to formulate permit terms, including specifying best management practices (BMPs), to achieve strict compliance with federal technology-based and water quality-based standards. (*Natural Resources Defense Council v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1308.) Accordingly, this General Permit has developed specific BMPs as well as numeric action levels (NALs) in order to achieve these minimum federal standards. In addition, the General Permit requires a SWPPP and REAP (another dynamic, site-specific plan) to be developed but has removed all language requiring the discharger to implement these plans – instead, the discharger is required to comply with specific requirements. By requiring the dischargers to implement these specific BMPs and NALs, this General Permit ensures that the dischargers do not “write their own permits.” As a result this General Permit does not require each discharger's SWPPP and REAP to be reviewed and approved by the Regional Water Boards.

This General Permit also requires dischargers to electronically file all permit-related compliance documents. These documents include, but are not limited to, NOIs, SWPPPs, annual reports, Notice of Terminations (NOTs), and numeric action level (NAL) exceedance reports. Electronically submitted compliance information is immediately available to the public, as well as the Regional Water Quality Control Board (Regional Water Board) offices, via the Internet. In addition, this General Permit enables public review and hearings on permit applications when appropriate. Under this General Permit, the public clearly has a meaningful opportunity to participate in the permitting process.

generally did not discuss the substantive holdings in *Environmental Defense Center and Waterkeeper Alliance*, because neither court addressed the initial question of whether the plaintiffs had standing to challenge the permits at issue. However, notwithstanding the Seventh Circuit's decision, it is not binding or controlling on the State Water Board because California is located within the Ninth Circuit.

C. Blue Ribbon Panel of Experts and Feasibility of Numeric Effluent Limitations

In 2005 and 2006, the State Water Board convened an expert panel (panel) to address the feasibility of numeric effluent limitations (NELs) in California's storm water permits. Specifically, the panel was asked to address:

"Is it technically feasible to establish numeric effluent limitations, or some other quantifiable limit, for inclusion in storm water permits? How would such limitations or criteria be established, and what information and data would be required?"

"The answers should address industrial general permits, construction general permits, and area-wide municipal permits. The answers should also address both technology-based limitations or criteria and water quality-based limitations or criteria. In evaluating establishment of any objective criteria, the panel should address all of the following:

The ability of the State Water Board to establish appropriate objective limitations or criteria;

How compliance determinations would be made;

The ability of dischargers and inspectors to monitor for compliance; and

The technical and financial ability of dischargers to comply with the limitations or criteria."

Through a series of public participation processes (State Water Board meetings, State Water Board workshops, and the solicitation of written comments), a number of water quality, public process and overall program effectiveness problems were identified. Some of these problems are addressed through this General Permit.

D. Summary of Panel Findings on Construction Activities

The panel's final report can be downloaded and viewed through links at www.waterboards.ca.gov or by clicking [here](#)².

The panel made the following observations:

"Limited field studies indicate that traditional erosion and sediment controls are highly variable in performance, resulting in highly variable turbidity levels in the site discharge."

"Site-to-site variability in runoff turbidity from undeveloped sites can also be quite large in many areas of California, particularly in more arid regions with less natural vegetative cover and steep slopes."

² http://www.waterboards.ca.gov/stormwtr/docs/numeric/swpanel_final_report.pdf

“Active treatment technologies involving the use of polymers with relatively large storage systems now exist that can provide much more consistent and very low discharge turbidity. However, these technologies have as yet only been applied to larger construction sites, generally five acres or greater. Furthermore, toxicity has been observed at some locations, although at the vast majority of sites, toxicity has not occurred. There is also the potential for an accidental large release of such chemicals with their use.”

“To date most of the construction permits have focused on TSS and turbidity, but have not addressed other, potentially significant pollutants such as phosphorus and an assortment of chemicals used at construction sites.”

“Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Storm Water Pollution Prevention Plans, or field inspectors.”

“The quality of storm water discharges from construction sites that effectively employ BMPs likely varies due to site conditions such as climate, soil, and topography.”

“The States of Oregon and Washington have recently adopted similar concepts to the Action Levels described earlier.”

In addition, the panel made the following conclusions:

“It is the consensus of the Panel that active treatment technologies make Numeric Limits technically feasible for pollutants commonly associated with storm water discharges from construction sites (e.g. TSS and turbidity) for larger construction sites. Technical practicalities and cost-effectiveness may make these technologies less feasible for smaller sites, including small drainages within a larger site, as these technologies have seen limited use at small construction sites. If chemical addition is not permitted, then Numeric Limits are not likely feasible.”

“The Board should consider Numeric Limits or Action Levels for other pollutants of relevance to construction sites, but in particular pH. It is of particular concern where fresh concrete or wash water from cement mixers/equipment is exposed to storm water.”

“The Board should consider the phased implementation of Numeric Limits and Action Levels, commensurate with the capacity of the dischargers and support industry to respond.”

E. How the Panel’s Findings are Used in this General Permit

The State Water Board carefully considered the findings of the panel and related public comments. The State Water Board also reviewed and considered the comments regarding statewide storm water policy and the reissuance of the Industrial General Permit. From the input received the State Water Board identified some permit and program performance gaps that are addressed in this General Permit. The Summary of Significant Changes (below) in this General Permit are a direct result of this process.

F. Summary of Significant Changes in This General Permit

The State Water Board has significant changes to Order 99-08-DWQ. This General Permit differs from Order 99-08-DWQ in the following significant ways:

Rainfall Erosivity Waiver: this General Permit includes the option allowing a small construction site (>1 and <5 acres) to self-certify if the rainfall erosivity value (R value) for their site's given location and time frame compute to be less than or equal to 5.

Technology-Based Numeric Action Levels: this General Permit includes NALs for pH and turbidity.

Risk-Based Permitting Approach: this General Permit establishes three levels of risk possible for a construction site. Risk is calculated in two parts: 1) Project Sediment Risk, and 2) Receiving Water Risk.

Minimum Requirements Specified: this General Permit imposes more minimum BMPs and requirements that were previously only required as elements of the SWPPP or were suggested by guidance.

Project Site Soil Characteristics Monitoring and Reporting: this General Permit provides the option for dischargers to monitor and report the soil characteristics at their project location. The primary purpose of this requirement is to provide better risk determination and eventually better program evaluation.

Effluent Monitoring and Reporting: this General Permit requires effluent monitoring and reporting for pH and turbidity in storm water discharges. The purpose of this monitoring is to evaluate whether NALs and NELs for Active Treatment Systems included in this General Permit are exceeded.

Receiving Water Monitoring and Reporting: this General Permit requires some Risk Level 3 and LUP Type 3 dischargers to monitor receiving waters and conduct bioassessments.

Post-Construction Storm Water Performance Standards: this General Permit specifies runoff reduction requirements for all sites not covered by a Phase I or Phase II MS4 NPDES permit, to avoid, minimize and/or mitigate post-construction storm water runoff impacts.

Rain Event Action Plan: this General Permit requires certain sites to develop and implement a Rain Event Action Plan (REAP) that must be designed to protect all exposed portions of the site within 48 hours prior to any likely precipitation event.

Annual Reporting: this General Permit requires all projects that are enrolled for more than one continuous three-month period to submit information and annually certify that their site is in compliance with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and public information.

Certification/Training Requirements for Key Project Personnel: this General Permit requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications that will comply with General Permit requirements.

Linear Underground/Overhead Projects: this General Permit includes requirements for all Linear Underground/Overhead Projects (LUPs).

II. RATIONALE

A. General Permit Approach

A general permit for construction activities is an appropriate permitting approach for the following reasons:

1. A general permit is an efficient method to establish the essential regulatory requirements for a broad range of construction activities under differing site conditions;
2. A general permit is the most efficient method to handle the large number of construction storm water permit applications;
3. The application process for coverage under a general permit is far less onerous than that for individual permit and hence more cost effective;
4. A general permit is consistent with USEPA's four-tier permitting strategy, the purpose of which is to use the flexibility provided by the CWA in designing a workable and efficient permitting system; and
5. A general permit is designed to provide coverage for a group of related facilities or operations of a specific industry type or group of industries. It is appropriate when the discharge characteristics are sufficiently similar, and a standard set of permit requirements can effectively provide environmental protection and comply with water quality standards for discharges. In most cases, the general permit will provide sufficient and appropriate management requirements to protect the quality of receiving waters from discharges of storm water from construction sites.

There may be instances where a general permit is not appropriate for a specific construction project. A Regional Water Board may require any discharger otherwise covered under the General Permit to apply for and obtain an Individual Permit or apply for coverage under a more specific General Permit. The Regional Water Board must determine that this General Permit does not provide adequate assurance that water quality will be protected, or that there is a site-specific reason why an individual permit should be required.

B. Construction Activities Covered

1. Construction activity subject to this General Permit:

Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.

Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or sale of one or more acres of disturbed land surface.

Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to USEPA regulations, such as dairy barns or food processing facilities.

Construction activity associated with LUPs including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete

and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.³

Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction⁴ (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction projects that intend to disturb one or more acres of land within the jurisdictional boundaries of a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the project.

2. Linear Underground/Overhead Projects (LUPs) subject to this General Permit:

Underground/overhead facilities typically constructed as LUPs include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water, wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

Water Quality Order 2003-0007-DWQ regulated construction activities associated with small LUPs that resulted in land disturbances greater than one acre, but less than five acres. These projects were considered non-traditional construction projects. Attachment A of this Order now regulates all construction activities from LUPs resulting in land disturbances greater than one acre.

3. Common Plan of Development or Sale

USEPA regulations include the term “common plan of development or sale” to ensure that acreage within a common project does not artificially escape the permit requirements because construction activities are phased, split among smaller parcels, or completed by different owners/developers. In the absence of an

³ Pursuant to the Ninth Circuit Court of Appeals' decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the USEPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

⁴ A construction site that includes a dredge and/or fill discharge to any water of the United States (e.g., wetland, channel, pond, or marine water) requires a CWA Section 404 permit from the U.S. Army Corps of Engineers and a CWA Section 401 Water Quality Certification from the Regional Water Board or State Water Board.

exact definition of “common plan of development or sale,” the State Water Board is required to exercise its regulatory discretion in providing a common sense interpretation of the term as it applies to construction projects and permit coverage. An overbroad interpretation of the term would render meaningless the clear “one acre” federal permitting threshold and would potentially trigger permitting of almost any construction activity that occurs within an area that had previously received area-wide utility or road improvements.

Construction projects generally receive grading and/or building permits (Local Permits) from local authorities prior to initiating construction activity. These Local Permits spell out the scope of the project, the parcels involved, the type of construction approved, etc. Referring to the Local Permit helps define “common plan of development or sale.” In cases such as tract home development, a Local Permit will include all phases of the construction project including rough grading, utility and road installation, and vertical construction. All construction activities approved in the Local Permit are part of the common plan and must remain under the General Permit until construction is completed. For custom home construction, Local Permits typically only approve vertical construction as the rough grading, utilities, and road improvements were already independently completed under the a previous Local Permit. In the case of a custom home site, the homeowner must submit plans and obtain a distinct and separate Local Permit from the local authority in order to proceed. It is not the intent of the State Water Board to require permitting for an individual homeowner building a custom home on a private lot of less than one acre if it is subject to a separate Local Permit. Similarly, the installation of a swimming pool, deck, or landscaping that disturbs less than one acre that was not part of any previous Local Permit are not required to be permitted.

The following are several examples of construction activity of less than one acre that would require permit coverage:

- a. A landowner receives a building permit(s) to build tract homes on a 100-acre site split into 200 one-third acre parcels, (the remaining acreage consists of streets and parkways) which are sold to individual homeowners as they are completed. The landowner completes and sells all the parcels except for two. Although the remaining two parcels combined are less than one acre, the landowner must continue permit coverage for the two parcels.
- b. One of the parcels discussed above is sold to another owner who intends to complete the construction as already approved in the Local Permit. The new landowner must file Permit Registration Documents (PRDs) to complete the construction even if the new landowner is required to obtain a separate Local Permit.
- c. Landowner in (1) above purchases 50 additional one half-acre parcels adjacent to the original 200-acre project. The landowner seeks a Local Permit (or amendment to existing Local permit) to build on 20 parcels while leaving the remaining 30 parcels for future development. The landowner must amend PRDs to include the 20 parcels 14 days prior to commencement of construction activity on those parcels.

C. Construction Activities Not Covered

1. Traditional Construction Projects Not Covered

This General Permit does not apply to the following construction activity:

- a. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

- b. Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.
- c. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.
- d. Discharges of storm water within the Lake Tahoe Hydrologic Unit. The Lahontan Regional Water Board has adopted its own permit to regulate storm water discharges from construction activity in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT). Owners of construction projects in this watershed must apply for the Lahontan Regional Water Board permit rather than the statewide Construction General Permit. Construction projects within the Lahontan region must also comply with the Lahontan Region Project Guideline for Erosion Control (R6T-2005-0007 Section), which can be found at http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2005/r6t_2005_0007.pdf
- e. Construction activity that disturbs less than one acre of land surface, unless part of a larger common plan of development or the sale of one or more acres of disturbed land surface.
- f. Construction activity covered by an individual NPDES Permit for storm water discharges.
- g. Landfill construction activity that is subject to the Industrial General Permit.
- h. Construction activity that discharges to Combined Sewer Systems.
- i. Conveyances that discharge storm water runoff combined with municipal sewage.
- j. Discharges of storm water identified in CWA § 402(l)(2), 33 U.S.C. § 1342(l)(2).

2. Linear Projects Not Covered

- a. LUP construction activity does not include linear routine maintenance projects. Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements, or other legally binding agreements of the discharger. Routine maintenance projects include, but are not limited to projects that are conducted to:
 - i. Maintain the original purpose of the facility or hydraulic capacity.
 - ii. Update existing lines⁵ and facilities to comply with applicable codes, standards, and regulations regardless if such projects result in increased capacity.
 - iii. Repairing leaks.

⁵Update existing lines includes replacing existing lines with new materials or pipes.

Routine maintenance does not include construction of new⁶ lines or facilities resulting from compliance with applicable codes, standards, and regulations.

Routine maintenance projects do not include those areas of maintenance projects that are outside of an existing right-of-way, franchise, easements, or agreements. When a project must secure new areas, those areas may be subject to this General Permit based on the area of disturbed land outside the original right-of-way, easement, or agreement.

- b. LUP construction activity does not include field activities associated with the planning and design of a project (e.g., activities associated with route selection).
- c. Tie-ins conducted immediately adjacent to “energized” or “pressurized” facilities by the discharger are not considered construction activities where all other LUP construction activities associated with the tie-in are covered by an NOI and SWPPP of a third party or municipal agency.

3. EPA’s Small Construction Rainfall Erosivity Waiver

EPA’s Storm Water Phase II Final Rule provides the option for a Small Construction Rainfall Erosivity Waiver. This waiver applies to small construction sites between 1 and 5 acres, and allows permitting authorities to waive those sites that do not have adverse water quality impacts.

Dischargers eligible for this waiver are exempt from Construction General Permit Coverage. In order to obtain the waiver, the discharger must certify to the State Water Board that small construction activity will occur only when the rainfall erosivity factor is less than 5 (“R” in the Revised Universal Soil Loss Equation). The period of construction activity begins at initial earth disturbance and ends with final stabilization. Where vegetation will be used for final stabilization, the date of installation of a practice that provides interim non-vegetative stabilization can be used for the end of the construction period. The operator must agree (as a condition waiver eligibility) to periodically inspect and properly maintain the area until the criteria for final stabilization as defined in the General Permit have been met. If use of this interim stabilization eligibility condition was relied on to qualify for the waiver, signature on the waiver with a certification statement constitutes acceptance of and commitment to complete the final stabilization process. The discharger must submit a waiver certification to the State Board prior to commencing construction activities.

USEPA funded a cooperative agreement with Texas A&M University to develop an online rainfall erosivity calculator. Dischargers can access the calculator from EPA’s website at: www.epa.gov/npdes/stormwater/cgp. Use of the calculator allows the discharger to determine potential eligibility for the rainfall erosivity waiver. It may also be useful in determining the time periods during which construction activity could be waived from permit coverage.

⁶New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

D. Obtaining and Terminating Permit Coverage

The appropriate Legally Responsible Person (LRP) must obtain coverage under this General Permit. To obtain coverage, the LRP or the LRP's Approved Signatory must file Permit Registration Documents (PRDs) prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code.

To obtain coverage under this General Permit, LRPs must electronically file the PRDs, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other documents required by this General Permit, and mail the appropriate permit fee to the State Water Board. It is expected that as the storm water program develops, the Regional Water Boards may issue General Permits or Individual Permits that contain more specific permit provisions. When this occurs, this General Permit will no longer regulate those dischargers that obtain coverage under Individual Permits.

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

The application requirements of the General Permit establish a mechanism to clearly identify the responsible parties, locations, and scope of operations of dischargers covered by the General Permit and to document the discharger's knowledge of the General Permit's requirements.

This General Permit provides a grandfathering exception to existing dischargers subject to Water Quality Order No. 99-08-DWQ. Construction projects covered under Water Quality Order No. 99-08-DWQ shall obtain permit coverage at Risk Level 1. LUP projects covered under Water Quality Order No. 2003-0007-DWQ shall obtain permit coverage at LUP Type 1. The Regional Water Boards have the authority to require Risk Determination to be performed on projects currently covered under Water Quality Order No. 99-08-DWQ and 2003-0007-DWQ where they deem necessary.

LRPs must file a Notice of Termination (NOT) with the Regional Water Board when construction is complete and final stabilization has been reached or ownership has been transferred. The discharger must certify that all State and local requirements have been met in accordance with this General Permit. In order for construction to be found complete, the discharger must install post-construction storm water management measures and establish a long-term maintenance plan. This requirement is intended to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect water quality impacts (i.e., pollution and/or hydromodification) upstream and downstream. Specifically, the discharger must demonstrate compliance with the post-construction standards set forth in this General Permit (Section XIII). The discharger is responsible for all compliance issues including all annual fees until the NOT has been filed and approved by the local Regional Water Board.

E. Discharge Prohibitions

This General Permit authorizes the discharge of storm water to surface waters from construction activities that result in the disturbance of one or more acres of land, provided that the discharger satisfies all permit conditions set forth in the Order. This General Permit prohibits the discharge of pollutants other than storm water and non-storm water discharges authorized by this General Permit or another NPDES permit. This General Permit also prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges. In addition, this General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the nine Regional Water Boards. Discharges to Areas of Special Biological Significance (ASBS) are prohibited unless covered by an exception that the State Water Board has approved.

Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural BMPs. The State Water Board recognizes, however, that certain non-storm water discharges may be necessary for the completion of construction projects. Authorized non-storm water discharges may include those from de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated ground water dewatering, and other discharges not subject to a separate general NPDES permit adopted by a region. Therefore this General Permit authorizes such discharges provided they meet the following conditions.

These authorized non-storm water discharges must:

1. be infeasible to eliminate;
2. comply with BMPs as described in the SWPPP;
3. filter or treat, using appropriate technology, all dewatering discharges from sedimentation basins;
4. meet the NALs for pH and turbidity; and
5. not cause or contribute to a violation of water quality standards.

Additionally, authorized non-storm water discharges must not be used to clean up failed or inadequate construction or post-construction BMPs designed to keep materials onsite. Authorized non-storm water dewatering discharges may require a permit because some Regional Water Boards have adopted General Permits for dewatering discharges.

This General Permit prohibits the discharge of storm water that causes or threatens to cause pollution, contamination, or nuisance.

F. Effluent Standards for All Types of Discharges

1. Technology-Based Effluent Limitations

Permits for storm water discharges associated with construction activity must meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize best available technology economically achievable (BAT) for toxic pollutants and non conventional pollutants and best conventional pollutant control technology (BCT) for conventional pollutants. Additionally, these provisions require controls of pollutant discharges to reduce pollutants and any more stringent controls necessary to meet water quality standards. The USEPA has already established such limitations, known as effluent limitation guidelines (ELGs), for some industrial categories. This is not the case with construction discharges. In instances where there are no ELGs the permit writer is to use best professional judgment (BPJ) to establish requirements that the discharger must meet using BAT/BCT technology. This General Permit contains only narrative effluent limitations and does not contain numeric effluent limitations, except for Active Treatment Systems (ATS).

Order No. 2009-0009-DWQ, as originally adopted by the State Water Board on September 2, 2009, contained numeric effluent limitations for pH (within the range of 6.0 and 9.0 pH units) and turbidity (500 NTU) that applied only to Risk Level 3 and LUP Type 3 construction sites. The State Water Board adopted the numeric effluent limitations as technology-based effluent limitations based upon its best professional judgment. The California Building Industry Association, the Building Industry Legal Defense

Foundation, and the California Business Properties Association (petitioners) challenged Order No. 2009-0009-DWQ in *California Building Industry Association et al. v. State Water Resources Control Board*. On December 27, 2011, the Superior Court issued a judgment and writ of mandamus. The Superior Court ruled in favor of the State Water Board on almost all of the issues the petitioners raised, but the Superior Court invalidated the numeric effluent limitations for pH and turbidity for Risk Level 3 and LUP Type 3 sites because it determined that the State Water Board did not have sufficient BMP performance data to support those numeric effluent limitations. Therefore, the Superior Court concluded that the State Water Board did not comply with the federal regulations that apply to the use of best professional judgment. In invalidating the numeric effluent limitations, the Superior Court also suspended two ancillary requirements (a compliance storm event provision and receiving water monitoring at Risk Level 3 and LUP Type 3 sites that violated the numeric effluent limitations) that related solely to the invalidated numeric effluent limitations.

As a result of the Superior Court's writ of mandamus, this Order no longer contains numeric effluent limitations for pH and turbidity, except for ATS. In addition, as a result of the Superior Court's writ of mandamus, the receiving water monitoring requirements for Risk Level 3 and LUP Type 3 sites were suspended until the State Water Board amended this Order to restore the receiving water monitoring requirements. As amended, this Order now requires Risk Level 3 and LUP Type 3 Dischargers with direct discharges to surface waters to conduct receiving water monitoring whenever their effluent exceeds specified receiving water monitoring triggers. The receiving water monitoring triggers were established at the same levels as the previous numeric effluent limitations (effluent pH outside the range of 6.0 and 9.0 pH units or turbidity exceeding 500 NTU). In restoring the receiving water monitoring requirements, the State Water Board determined that it was appropriate to require receiving water monitoring for these types of sites with direct discharges to surface waters that exceeded the receiving water monitoring triggers under any storm event scenarios, because these sites represent the highest threat to receiving water quality. An exceedance of a receiving water monitoring trigger does not constitute a violation of this General Permit. These receiving water monitoring requirements take effect on the effective date of the amendment to this Order.

BAT/BCT technologies not only include passive systems such as conventional runoff and sediment control, but also treatment systems such as coagulation/flocculation using sand filtration, when appropriate. Such technologies allow for effective treatment of soil particles less 0.02 mm (medium silt) in diameter. The discharger must install structural-controls, as necessary, such as erosion and sediment controls that meet BAT and BCT to achieve compliance with water quality standards. The narrative effluent limitations constitute compliance with the requirements of the CWA.

Because the permit is an NPDES permit, there is no legal requirement to address the factors set forth in Water Code sections 13241 and 13263, unless the permit is more stringent than what federal law requires. (See *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 618, 627.) None of the requirements in this permit are more stringent than the minimum federal requirements, which include technology-based requirements achieving BAT/BCT and strict compliance with water quality standards. The inclusion of numeric effluent limitations (NELs) in the permit for Active Treatment Systems does not cause the permit to be more stringent than current federal law. NELs and best management practices are simply two different methods of achieving the same federal requirement: strict compliance with state water quality standards. Federal law authorizes both narrative and numeric effluent limitations to meet state water quality standards. The use of NELs to achieve compliance with water quality standards is not a more stringent requirement than the use of BMPs. (State Water Board Order No. WQ 2006-0012 (*Boeing*)). Accordingly, the State Water Board does not need to take into account the factors in Water Code sections 13241 and 13263.

The State Water Board has concluded that the establishment of BAT/BCT will not create or aggravate other environmental problems through increases in air pollution, solid waste generation, or energy consumption.—While there may be a slight increase in non-water quality impacts due to the implementation of additional monitoring or the construction of additional BMPs, these impacts will be negligible in comparison with the construction activities taking place on site and would be justified by the water quality benefits associated with compliance.

pH Receiving Water Monitoring Trigger

Given the potential contaminants, the minimum standard method for control of pH in runoff requires the use of preventive measures such as avoiding concrete pours during rainy weather, covering concrete and directing flow away from fresh concrete if a pour occurs during rain, covering scrap drywall and stucco materials when stored outside and potentially exposed to rain, and other housekeeping measures. If necessary, pH-impaired storm water from construction sites can be treated in a filter or settling pond or basin, with additional natural or chemical treatment required to meet pH limits set forth in this permit. The basin or pond acts as a collection point and holds storm water for a sufficient period for the contaminants to be settled out, either naturally or artificially, and allows any additional treatment to take place. The State Water Board considers these techniques to be equivalent to BCT. In determining the pH concentration trigger for discharges, the State Water Board used BPJ to set these limitations.

The chosen trigger was established by calculating three standard deviations above and below the mean pH of runoff from highway construction sites⁷ in California. Proper implementation of BMPs should result in discharges that are within the range of 6.0 to 9.0 pH Units.

Turbidity Receiving Water Monitoring Trigger

The Turbidity receiving water monitoring trigger of 500 NTU is a technology-based trigger and was developed using three different analyses aimed at finding the appropriate threshold to set the technology-based limit to ensure environmental protection, effluent quality and cost-effectiveness. The analyses fell into three, main types: (1) an ecoregion-specific dataset developed by Simon et. al. (2004)⁸; (2) Statewide Regional Water Quality Control Board enforcement data; and (3) published, peer-reviewed studies and reports on in-situ performance of best management practices in terms of erosion and sediment control on active construction sites.

A 1:3 relationship between turbidity (expressed as NTU) and suspended sediment concentration (expressed as mg/L) is assumed based on a review of suspended sediment and turbidity data from three gages used in the USGS National Water Quality Assessment Program:

USGS 11074000 SANTA ANA R BL PRADO DAM CA
USGS 11447650 SACRAMENTO R A FREEPORT CA
USGS 11303500 SAN JOAQUIN R NR VERNALIS CA

The receiving water monitoring trigger represents staff determination that the trigger value is the most practicable based on available data. The turbidity receiving water monitoring trigger represents a bridge between the narrative effluent limitations and receiving water limitations. To support this receiving water monitoring trigger, State Water Board staff analyzed construction site discharge information (monitoring data, estimates) and receiving water monitoring information.

Since the turbidity receiving water monitoring trigger represents an appropriate threshold level expected at a site, compliance with this value does not necessarily represent compliance with either the narrative effluent limitations (as enforced through the BAT/BCT standard) or the receiving water limitations. In the San Diego region, some inland surface waters have a receiving water objective for turbidity equal to 20 NTU. Obviously a discharge up to, but not exceeding, the turbidity receiving water monitoring trigger of

⁷ Caltrans Construction Sites Runoff Characterization Study, 2002. Available at: <http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-02-055.pdf>.

500 NTU may still cause or contribute to the exceedance of the 20 NTU standard. Most of the waters of the State are protected by turbidity objectives based on background conditions.

Table 1 - Regional Water Board Basin Plans, Water Quality Objectives for Turbidity

REGIONAL WATER BOARD	WQ Objective	Background/Natural Turbidity	Maximum Increase
1	Based on background	All levels	20%
2	Based on background	> 50 NTU	10%
3	Based on background	0-50 JTU 50-100 JTU > 100 JTU	20% 10 NTU 10%
4	Based on background	0-50 NTU > 50 NTU	20% 10%
5	Based on background	0-5 NTU 5-50 NTU 50-100 NTU >100 NTU	1 NTU 20% 10 NTU 10%
6	Based on background	All levels	10%
7	Based on background	N/A	N/A
8	Based on background	0-50 NTU 50-100 NTU >100 NTU	20% 10 NTU 10%
9	Inland Surface Waters, 20 NTU All others, based on background	 0-50 NTU 50-100 NTU >100 NTU	 20% 10 NTU 10%

Table 2 shows the suspended sediment concentrations at the 1.5 year flow recurrence interval for the 12 ecoregions in California from Simon et. al (2004).

Table 2 - Results of Ecoregion Analysis

Ecoregion	Percent of California Land Area	Median Suspended Sediment Concentration (mg/L)
1	9.1	874
4	0.2	120
5	8.8	35.6
6	20.7	1530
7	7.7	122
8	3.0	47.4
9	9.4	284
13	5.2	143
14	21.7	5150
78	8.1	581
80	2.4	199
81	3.7	503
Area-weighted average		1633

If a 1:3 relationship between turbidity and suspended sediment is assumed, the median turbidity is 544 NTU.

The following table is composed of turbidity readings measured in NTUs from administrative civil liability (ACL) actions for construction sites from 2003 - 2009. This data was derived from the complete listing of construction-related ACLs for the six year period. All ACLs were reviewed and those that included turbidimeter readings at the point of storm water discharge were selected for this dataset.

Table 3 – ACL Sampling Data taken by Regional Water Board Staff

WDID#	Region	Discharger	Turbidity (NTU)
5S34C331884	5S	Bradshaw Interceptor Section 6B	1800
5S05C325110	5S	Bridalwood Subdivision	1670
5S48C336297	5S	Cheyenne at Browns Valley	1629
5R32C314271	5R	Grizzly Ranch Construction	1400
6A090406008	6T	El Dorado County Department of Transportation, Angora Creek	97.4
5S03C346861	5S	TML Development, LLC	1600
6A31C325917	6T	Northstar Village	See Subdata Set

Subdata Set - Turbidity for point of storm water runoff discharge at Northstar Village

Date	Turbidity (NTU)	Location
10/5/2006	900	Middle Martis Creek
11/2/2006	190	Middle Martis Creek
01/04/2007	36	West Fork, West Martis Creek
02/08/2007	180	Middle Martis Creek
02/09/2007	130	Middle Martis Creek
02/09/2007	290	Middle Martis Creek
02/09/2007	100	West Fork, West Martis Creek
02/10/2007	28	Middle Martis Creek
02/10/2007	23	Middle Martis Creek
02/10/2007	32	Middle Martis Creek
02/10/2007	12	Middle Martis Creek
02/10/2007	60	West Fork, West Martis Creek
02/10/2007	34	West Fork, West Martis Creek

A 95% confidence interval for mean turbidity in an ACL order was constructed. The data set used was a small sample size, so the 500 NTU (the value derived as the receiving water monitoring trigger for this General Permit) needed to be verified as a possible population mean. In this case, the population refers to a hypothetical population of turbidity measurements of which our sample of 20 represents. A t-distribution was assumed due to the small sample size:

<p>Mean: 512.23 NTU Standard Deviation: 686.85 Margin of Error: 321.45 Confidence Interval: 190.78 NTU (Low) 833.68 NTU (High)</p>
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Based on a constructed 95% confidence interval, an ACL order turbidity measurement will be between 190.78 – 833.68 NTU. 500 NTU falls within this range. Using the same data set, a small-sample hypothesis test was also performed to test if the ACL turbidity data set contains enough information to cast doubt on choosing a 500 NTU as a mean. 500 NTU was again chosen due to its proposed use as an acceptable value. The test was carried out using a 95% confidence interval. Results indicated that the ACL turbidity data set *does not* contain significant sample evidence to reject the claim of 500 NTU as an acceptable mean for the ACL turbidity population.

There are not many published, peer-reviewed studies and reports on in-situ performance of best management practices in terms of erosion and sediment control on active construction sites. The most often cited study is a report titled, “Improving the Cost Effectiveness of Highway Construction Site Erosion and Pollution Control” (Horner, Guedry, and Kortenof 1990, <http://www.wsdot.wa.gov/Research/Reports/200/200.1.htm>). In a comment letter summarizing this report sent to the State Water Board, the primary author, Dr. Horner, states:

“The most effective erosion control product was wood fiber mulch applied at two different rates along with a bonding agent and grass seed in sufficient time before the tests to achieve germination. Plots treated in this way reduced influent turbidity by more than 97 percent and discharged effluent exhibiting mean and maximum turbidity values of 21 and 73 NTU, respectively. Some other mulch and blanket materials performed nearly as well. These tests demonstrated the control ability of widely available BMPs over a very broad range of erosion potential.”

Other technologies studied in this report produced effluent quality at or near 100 NTU. It is the BPJ of the State Water Board staff that erosion control, while preferred, is not always an option on construction sites and that technology performance in a controlled study showing effluent quality directly leaving a BMP is always easier and cheaper to control than effluent being discharged from the project (edge of property, etc.). As a result, it is the BPJ of the State Water Board staff that it is not cost effective or feasible, at this time, for all risk level and type 3 sites in California to achieve effluent discharges with turbidity values that are less than 100 NTU.

To summarize, the analysis showed that: (1) results of the Simon et. al dataset reveals turbidity values in background receiving water in California’s ecoregions range from 16 NTU to 1716 NTU (with a mean of 544 NTU); (2) based on a constructed 95% confidence interval, construction sites will be subject to administrative civil liability (ACL) when their turbidity measurement falls between 190.78 – 833.68 NTU; and (3) sites with highly controlled discharges employing and maintaining good erosion control practices can discharge effluent from the BMP with turbidity values less than 100 NTU. State Water Board staff has determined, using its BPJ, that it is most cost effective to set the receiving water monitoring trigger for turbidity at 500 NTU.

i. Compliance Storm Event

While this General Permit no longer contains “compliance storm event” exceptions from technology-based NELs, the “compliance storm event” exception from the ATS NELs remain in effect. See Section K of this Fact Sheet, and Attachment F of this General Permit for more information.

a. TMDLs and Waste Load Allocations

Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL for sediment has been adopted by the Regional Water Board or USEPA, must comply with the approved TMDL if it identifies “construction activity” or land disturbance as a source of sediment. If it does, the

TMDL should include a specific waste load allocation for this activity/source. The discharger, in this case, may be required by a separate Regional Water Board order to implement additional BMPs, conduct additional monitoring activities, and/or comply with an applicable waste load allocation and implementation schedule. If a specific waste load allocation has been established that would apply to a specific discharge, the Regional Water Board may adopt an order requiring specific implementation actions necessary to meet that allocation. In the instance where an approved TMDL has specified a general waste load allocation to construction storm water discharges, but no specific requirements for construction sites have been identified in the TMDL, dischargers must consult with the state TMDL authority⁹ to confirm that adherence to a SWPPP that meets the requirements of the General Permit will be consistent with the approved TMDL.

2. Determining Compliance with Effluent Standards

a. Technology-Based Numeric Action Levels (NALs)

This General Permit contains technology-based NALs for pH and turbidity, and requirements for effluent monitoring at all Risk level 2 & 3, and LUP Type 2 & 3 sites. Numeric action levels are essentially numeric benchmark values for certain parameters that, if exceeded in effluent sampling, trigger the discharger to take actions. Exceedance of an NAL does not itself constitute a violation of the General Permit. If the discharger fails to take the corrective action required by the General Permit, though, that may constitute a violation.

The primary purpose of NALs is to assist dischargers in evaluating the effectiveness of their on-site measures. Construction sites need to employ many different systems that must work together to achieve compliance with the permit's requirements. The NALs chosen should indicate whether the systems are working as intended.

Another purpose of NALs is to provide information regarding construction activities and water quality impacts. This data will provide the State and Regional Water Boards and the rest of the storm water community with more information about levels and types of pollutants present in runoff and how effective the dischargers BMPs are at reducing pollutants in effluent. The State Water Board also hopes to learn more about the linkage between effluent and receiving water quality. In addition, these requirements will provide information on the mechanics needed to establish compliance monitoring programs at construction sites in future permit deliberations.

i. pH

The chosen limits were established by calculating one standard deviation above and below the mean pH of runoff from highway construction sites¹⁰ in California. Proper implementation of BMPs should result in discharges that are within the range of 6.5 to 8.5 pH Units.

⁹ <http://www.waterboards.ca.gov/tmdl/tmdl.html>.

¹⁰ Caltrans Construction Sites Runoff Characterization Study, 2002. Available at: <http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-02-055.pdf>.

The Caltrans study included 33 highway construction sites throughout California over a period of four years, which included 120 storm events. All of these sites had BMPs in place that would be generally implemented at all types of construction sites in California.

ii. *Turbidity*

BPJ was used to develop an NAL that can be used as a learning tool to help dischargers improve their site controls, and to provide meaningful information on the effectiveness of storm water controls. A statewide turbidity NAL has been set at 250 NTU.

G. Receiving Water Limitations

Construction-related activities that cause or contribute to an exceedance of water quality standards must be addressed. The dynamic nature of construction activity gives the discharger the ability to quickly identify and monitor the source of the exceedances. This is because when storm water mobilizes sediment, it provides visual cues as to where corrective actions should take place and how effective they are once implemented.

This General Permit requires that storm water discharges and authorized non-storm water discharges must not contain pollutants that cause or contribute to an exceedance of any applicable water quality objective or water quality standards. The monitoring requirements in this General Permit for sampling and analysis procedures will help determine whether BMPs installed and maintained are preventing pollutants in discharges from the construction site that may cause or contribute to an exceedance of water quality standards.

Water quality standards consist of designated beneficial uses of surface waters and the adoption of ambient criteria necessary to protect those uses. When adopted by the State Water Board or a Regional Water Board, the ambient criteria are termed “water quality objectives.” If storm water runoff from construction sites contains pollutants, there is a risk that those pollutants could enter surface waters and cause or contribute to an exceedance of water quality standards. For that reason, dischargers should be aware of the applicable water quality standards in their receiving waters. (The best method to ensure compliance with receiving water limitations is to implement BMPs that prevent pollutants from contact with storm water or from leaving the construction site in runoff.)

In California, water quality standards are published in the Basin Plans adopted by each Regional Water Board, the California Toxics Rule (CTR), the National Toxics Rule (NTR), and the Ocean Plan.

Dischargers can determine the applicable water quality standards by contacting Regional Water Board staff or by consulting one of the following sources. The actual Basin Plans that contain the water quality standards can be viewed at the website of the appropriate Regional Water Board. (<http://www.waterboards.ca.gov/regions.html>), the State Water Board site for statewide plans (<http://www.waterboards.ca.gov/plnspols/index.html>), or the USEPA regulations for the NTR and CTR (40 C.F.R. §§ 131.36-38). Basin Plans and statewide plans are also available by mail from the appropriate Regional Water Board or the State Water Board. The USEPA regulations are available at <http://www.epa.gov/>. Additional information concerning water quality standards can be accessed through http://www.waterboards.ca.gov/stormwtr/gen_const.html.

H. Training Qualifications and Requirements

The Blue Ribbon Panel (BRP) made the following observation about the lack of industry-specific training requirements:

“Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Storm Water Pollution Prevention Plans, or field inspectors.”

Order 99-08-DWQ required that all dischargers train their employees on how to comply with the permit, but it did not specify a curriculum or certification program. This has resulted in inconsistent implementation by all affected parties - the dischargers, the local governments where the construction activity occurs, and the regulators required to enforce 99-08-DWQ. This General Permit requires Qualified SWPPP Developers and practitioners to obtain appropriate training, and makes this curriculum mandatory two years after adoption, to allow time for course completion. The State and Regional Water Board are working with many stakeholders to develop the curriculum and mechanisms needed to develop and deliver the courses.

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, the Qualified SWPPP Developer and Qualified SWPPP Practitioners responsible for creating, revising, overseeing, and implementing the SWPPP must attend a State Water Board-sponsored or approved Qualified SWPPP Developer and Qualified SWPPP Practitioner training course.

I. Sampling, Monitoring, Reporting and Record Keeping

1. Traditional Construction Monitoring Requirements

This General Permit requires visual monitoring at all sites, and effluent water quality at all Risk Level 2 & 3 sites. It requires receiving water monitoring at some Risk Level 3 sites. All sites are required to submit annual reports, which contain various types of information, depending on the site characteristics and events. A summary of the monitoring and reporting requirements is found in Table 4.

Table 4 - Required Monitoring Elements for Risk Levels

	Visual	Non-visible Pollutant	Effluent	Receiving Water
Risk Level 1			where applicable	not required
Risk Level 2			pH, turbidity	not required
Risk Level 3	three types required for all Risk Levels: non-storm water, pre-rain and post-rain	As needed for all Risk Levels (see below)	pH, turbidity	(if Receiving Water Monitoring Trigger exceeded) pH, turbidity and SSC. Bioassessment for sites 30 acres or larger.

a. Visual

All dischargers are required to conduct quarterly, non-storm water visual inspections. For these inspections, the discharger must visually observe each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources. For storm-related inspections, dischargers must visually observe storm water discharges at all discharge locations within two business days after a qualifying event. For this requirement, a qualifying rain event is one producing precipitation of ½ inch or more of discharge. Dischargers must conduct a post-storm event inspection to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify any additional BMPs necessary and revise the SWPPP accordingly. Dischargers must maintain on-site records of all visual observations, personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

b. Non-Visible Pollutant Monitoring

This General Permit requires that all dischargers develop a sampling and analysis strategy for monitoring pollutants that are not visually detectable in storm water. Monitoring for non-visible pollutants must be required at any construction site when the exposure of construction materials occurs and where a discharge can cause or contribute to an exceedance of a water quality objective.

Of significant concern for construction discharges are the pollutants found in materials used in large quantities at construction sites throughout California and exposed throughout the rainy season, such as cement, flyash, and other recycled materials or by-products of combustion. The water quality standards that apply to these materials will depend on their composition. Some of the more common storm water pollutants from construction activity are not CTR pollutants. Examples of non-visible pollutants include glyphosate (herbicides), diazinon and chlorpyrifos (pesticides), nutrients (fertilizers), and molybdenum (lubricants). The use of diazinon and chlorpyrifos is a common practice among landscaping professionals and may trigger sampling and analysis requirements if these materials come into contact with storm water. High pH values from cement and gypsum, high pH and SSC from wash waters, and chemical/fecal contamination from portable toilets, also are not CTR pollutants. Although some of these constituents do have numeric water quality objectives in individual Basin Plans, many do not and are subject only to narrative water quality standards (i.e. not causing toxicity). Dischargers are encouraged to discuss these issues with Regional Water Board staff and other storm water quality professionals.

The most effective way to avoid the sampling and analysis requirements, and to ensure permit compliance, is to avoid the exposure of construction materials to precipitation and storm water runoff. Materials that are not exposed do not have the potential to enter storm water runoff, and therefore receiving waters sampling is not required. Preventing contact between storm water and construction materials is one of the most important BMPs at any construction site.

Preventing or eliminating the exposure of pollutants at construction sites is not always possible. Some materials, such as soil amendments, are designed to be used in a manner that will result in exposure to storm water. In these cases, it is important to make sure that these materials are applied according to the manufacturer's instructions and at a time when they are unlikely to be washed away. Other construction materials can be exposed when storage, waste disposal or the application of the material is done in a manner not protective of water quality. For these situations, sampling is required unless there is capture and containment of all storm water that has been exposed. In cases where construction materials may be exposed to storm water, but the storm water is contained and is not allowed to run off the site, sampling will only be required when inspections show that the containment failed or is breached, resulting in potential exposure or discharge to receiving waters.

The discharger must develop a list of potential pollutants based on a review of potential sources, which will include construction materials soil amendments, soil treatments, and historic contamination at the site. The discharger must review existing environmental and real estate documentation to determine the potential for pollutants that could be present on the construction site as a result of past land use activities.

Good sources of information on previously existing pollution and past land uses include:

- i. Environmental Assessments;
- ii. Initial Studies;
- iii. Phase 1 Assessments prepared for property transfers; and
- iv. Environmental Impact Reports or Environmental Impact Statements prepared under the requirements of the National Environmental Policy Act or the California Environmental Quality Act.

In some instances, the results of soil chemical analyses may be available and can provide additional information on potential contamination.

The potential pollutant list must include all non-visible pollutants that are known or should be known to occur on the construction site including, but not limited to, materials that:

- i. are being used in construction activities;
- ii. are stored on the construction site;
- iii. were spilled during construction operations and not cleaned up;
- iv. were stored (or used) in a manner that created the potential for a release of the materials during past land use activities;
- v. were spilled during previous land use activities and not cleaned up; or
- vi. were applied to the soil as part of past land use activities.

C. Effluent Monitoring

Federal regulations¹¹ require effluent monitoring for discharges subject to NALs. Subsequently, all Risk Level 2 and 3 dischargers must perform sampling and analysis of effluent discharges to characterize discharges associated with construction activity from the entire area disturbed by the project. Dischargers must collect samples of stored or contained storm water that is discharged subsequent to a storm event producing precipitation of ½ inch or more at the time of discharge.

Table 5 - Storm Water Effluent Monitoring Requirements by Risk Level

	Frequency	Effluent Monitoring (Section E, below)
Risk Level 1	when applicable	non-visible pollutant parameters (if applicable)
Risk Level 2	Minimum of 3 samples per day during qualifying rain event characterizing discharges associated with construction activity from the entire project disturbed area.	pH, turbidity, and non-visible pollutant parameters (if applicable)
Risk Level 3	Minimum of 3 samples per day during qualifying rain event characterizing discharges associated with construction activity from the entire project disturbed area.	pH, turbidity, and non-visible pollutant parameters if applicable

Risk Level 1 dischargers must analyze samples for:

- i. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment C contained in the General Permit.

¹¹ 40 C.F.R. § 122.44.

Risk Level 2 dischargers must analyze samples for:

- i. pH and turbidity;
- ii. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment D contained in the General Permit, and
- iii. any additional parameters for which monitoring is required by the Regional Water Board.

Risk Level 3 dischargers must analyze samples for:

- i. pH, turbidity;
- ii. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment E contained in the General Permit, and
- iii. any additional parameters for which monitoring is required by the Regional Water Board.

2. Linear Monitoring and Sampling Requirements

Attachment A, establishes minimum monitoring and reporting requirements for all LUPs. It establishes different monitoring requirements depending on project complexity and risk to water quality. The monitoring requirements for Type 1 LUPs are less than Type 2 & 3 projects because Type 1 projects have a lower potential to impact water quality.

A discharger shall prepare a monitoring program prior to the start of construction and immediately implement the program at the start of construction for LUPs. The monitoring program must be implemented at the appropriate level to protect water quality at all times throughout the life of the project.

a. Type 1 LUP Monitoring Requirements

A discharger must conduct daily visual inspections of Type 1 LUPs during working hours while construction activities are occurring. Inspections are to be conducted by qualified personnel and can be conducted in conjunction with other daily activities. Inspections will be conducted to ensure the BMPs are adequate, maintained, and in place at the end of the construction day. The discharger will revise the SWPPP, as appropriate, based on the results of the daily inspections. Inspections can be discontinued in non-active construction areas where soil disturbing activities have been completed and final stabilization has been achieved (e.g., trench has been paved, substructures have been installed, and successful final vegetative cover or other stabilization criteria have been met).

A discharger shall implement the monitoring program for inspecting Type 1 LUPs. This program requires temporary and permanent stabilization BMPs after active construction is completed. Inspection activities will continue until adequate permanent stabilization has been established and will continue in areas where re-vegetation is chosen until minimum vegetative coverage has been established. Photographs shall be taken during site inspections and submitted to the State Water Board.

b. Type 2 & 3 LUP Monitoring Requirements

A discharger must conduct daily visual inspections of Type 2 & 3 LUPs during working hours while construction activities are occurring. Inspections are to be conducted by qualified personnel and can be in conjunction with other daily activities.

All dischargers of Type 2 & 3 LUPs are required to conduct inspections by qualified personnel of the construction site during normal working hours prior to all anticipated storm events and after actual storm events. During extended storm events, the discharger shall conduct inspections during normal working hours for each 24-hour period. Inspections can be discontinued in non-active construction areas where soil disturbing activities have been completed and final stabilization has been achieved (e.g., trench has been paved, substructures installed, and successful vegetative cover or other stabilization criteria have been met).

The goals of these inspections are (1) to identify areas contributing to a storm water discharge; (2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly installed and functioning in accordance with the terms of the General Permit; and (3) to determine whether additional control practices or corrective maintenance activities are needed. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible, depending upon worker safety.

All dischargers shall develop and implement a monitoring program for inspecting Type 2 & 3 LUPs that require temporary and permanent stabilization BMPs after active construction is completed. Inspections will be conducted to ensure the BMPs are adequate and maintained. Inspection activities will continue until adequate permanent stabilization has been established and will continue in areas where revegetation is chosen until minimum vegetative coverage has been established.

A log of inspections conducted before, during, and after the storm events must be maintained in the SWPPP. The log will provide the date and time of the inspection and who conducted the inspection. Photographs must be taken during site inspections and submitted to the State Water Board.

C. Sampling Requirements for all LUP Project Types

LUPs are also subject to sampling and analysis requirements for visible pollutants (i.e., sedimentation/siltation, turbidity) and for non-visible pollutants.

Sampling for visible pollutants is required for Type 2 & 3 LUPs.

Non-visible pollutant monitoring is required for pollutants associated with construction sites and activities that (1) are not visually detectable in storm water discharges, and (2) are known or should be known to occur on the construction site, and (3) could cause or contribute to an exceedance of water quality objectives in the receiving waters. Sample collection for non-visible pollutants must only be required (1) during a storm event when pollutants associated with construction activities may be discharged with storm water runoff due to a spill, or in the event there was a breach, malfunction, failure, and/or leak of any BMP, and (2) when the discharger has failed to adequately clean the area of material and pollutants. Failure to implement appropriate BMPs will trigger the same sampling requirements as those required for a breach, malfunction and/or leak, or when the discharger has failed to implement appropriate BMPs prior to the next storm event.

Additional monitoring parameters may be required by the Regional Water Boards.

It is not anticipated that many LUPs will be required to collect samples for pollutants not visually detected in runoff due to the nature and character of the construction site and activities as previously described in this fact sheet. Most LUPs are constructed in urban areas with public access (e.g., existing roadways, road shoulders, parking areas, etc.). This raises a concern regarding the potential contribution of pollutants from vehicle use and/or from normal activities of the public (e.g., vehicle washing, landscape fertilization, pest spraying, etc.) in runoff from the project site. Since the dischargers are not the land owners of the project area and are not able to control the presence of these pollutants in the storm water that runs through their projects, it is not the intent of this General Permit to require dischargers to sample for these pollutants. This General Permit does not require the discharger to sample for these types of pollutants except where the discharger has brought materials onsite that contain these pollutants and when a condition (e.g., breach, failure, etc.) described above occurs.

3. Receiving Water Monitoring

In order to ensure that receiving water limitations are met, discharges subject to receiving water monitoring triggers (i.e., Risk Level 3 and LUP Type 3 sites) or numeric effluent limitations (i.e., Risk Level 3 and LUP Type 3 sites utilizing ATS with direct discharges into receiving waters) must also monitor the downstream receiving water(s) for turbidity, SSC, and pH (if applicable) when a receiving water monitoring trigger or NEL is exceeded.

a. Bioassessment Monitoring

This General Permit requires a bioassessment of receiving waters for dischargers of Risk Level 3 or LUP Type 3 construction projects equal to or larger than 30 acres with direct discharges into receiving waters. Benthic macroinvertebrate samples will be taken upstream and downstream of the site's discharge point in the receiving water. Bioassessments measure the quality of the stream by analyzing the aquatic life present. Higher levels of appropriate aquatic species tend to indicate a healthy stream; whereas low levels of organisms can indicate stream degradation. Active construction sites have the potential to discharge large amounts of sediment and pollutants into receiving waters. Requiring a bioassessment for large project sites, with the most potential to impact water quality, provides a snapshot of the health of the receiving water prior to initiation of construction activities. This snapshot can be used in comparison to the health of the receiving water after construction has commenced.

Each ecoregion (biologically and geographically related area) in the State has a specific yearly peak time where stream biota is in a stable and abundant state. This time of year is called an Index Period. The bioassessment requirements in this General Permit, requires benthic macroinvertebrate sampling within a sites index period. The State Water Board has developed a map designating index periods for the ecoregions in the State (see State Water Board Website).

This General Permit requires the bioassessment methods to be in accordance with the Surface Water Ambient Monitoring Program (SWAMP) in order to provide data consistency within the state as well as generate useable biological stream data.

Table 6 - Receiving Water Monitoring Requirements

	Receiving Water Monitoring Parameters
Risk Level 1 /LUP Type 1	not required
Risk Level 2 / LUP Type 2	not required
Risk Level 3 / LUP Type 3	If Receiving Water Monitoring Trigger exceeded: pH (if applicable), turbidity, and SSC. Bioassessment for sites 30 acres or larger.

4. Reporting Requirements

a. NAL Exceedance Report

All Risk Level 3 and LUP Type 3 dischargers must electronically submit all storm event sampling results to the State And Regional Boards, via the electronic data system, no later than 10 days after the conclusion of the storm event.

b. Annual Report

All dischargers must prepare and electronically submit an annual report no later than September 1 of each year using the Storm water Multi-Application Reporting and Tracking System (SMARTS). The

Annual Report must include a summary and evaluation of all sampling and analysis results, original laboratory reports, chain of custody forms, a summary of all corrective actions taken during the compliance year, and identification of any compliance activities or corrective actions that were not implemented.

5. Record Keeping

According to 40 C.F.R. Parts 122.21(p) and 122.41(j), the discharger is required to retain paper or electronic copies of all records required by this General Permit for a period of at least three years from the date generated or the date submitted to the State Water Board or Regional Water Boards. A discharger must retain records for a period beyond three years as directed by Regional Water Board.

J. Risk Determination

1. Traditional Projects

a. Overall Risk Determination

There are two major requirements related to site planning and risk determination in this General Permit. The project's overall risk is broken up into two elements – (1) project sediment risk (the relative amount of sediment that can be discharged, given the project and location details) and (2) receiving water risk (the risk sediment discharges pose to the receiving waters).

Project Sediment Risk:

Project Sediment Risk is determined by multiplying the R, K, and LS factors from the Revised Universal Soil Loss Equation (RUSLE) to obtain an estimate of project-related bare ground soil loss expressed in tons/acre. The RUSLE equation is as follows:

$$A = (R)(K)(LS)(C)(P)$$

Where: A = the rate of sheet and rill erosion

R = rainfall-runoff erosivity factor

K = soil erodibility factor

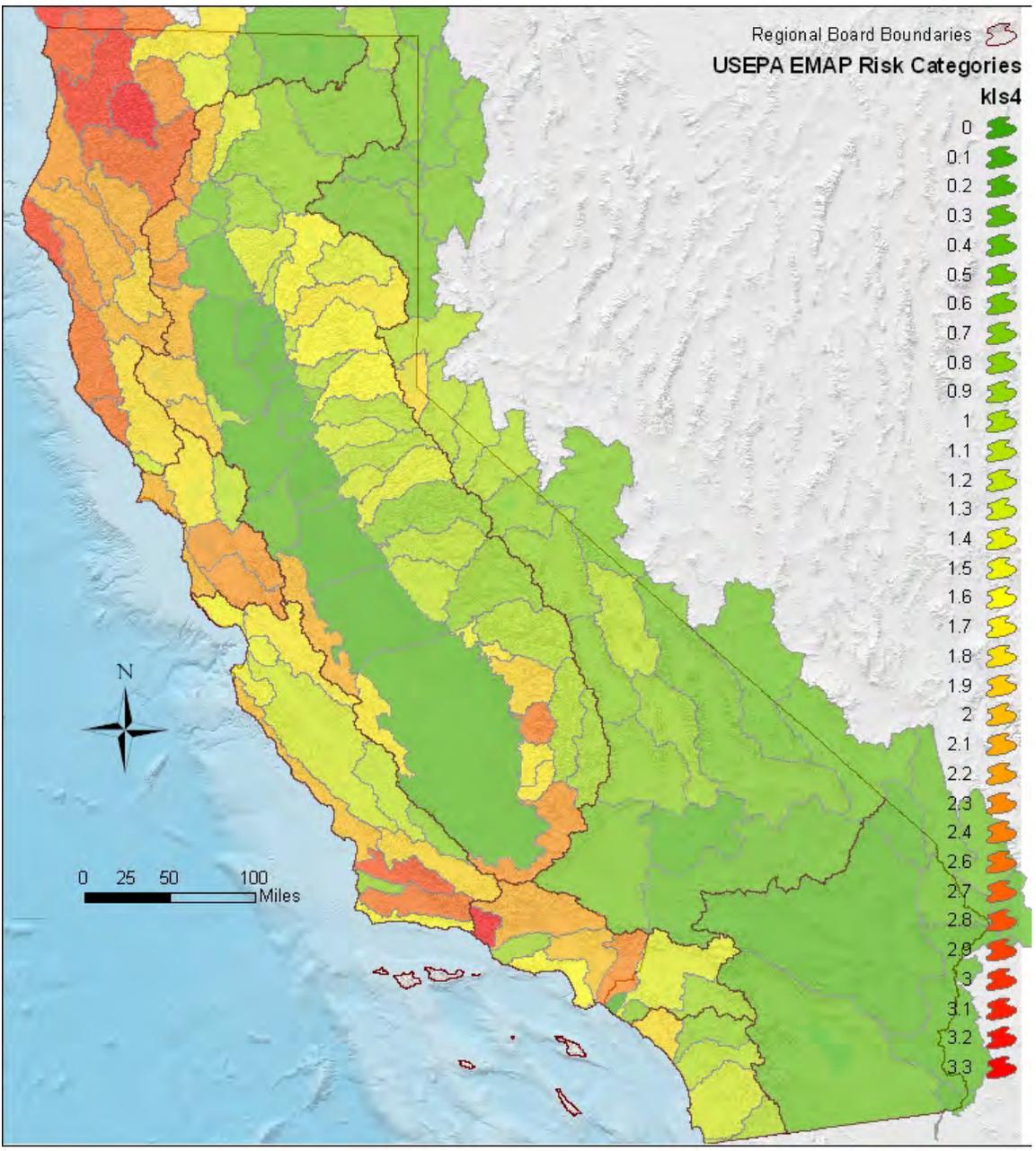
LS = length-slope factor

C = cover factor (erosion controls)

P = management operations and support practices (sediment controls)

The C and P factors are given values of 1.0 to simulate bare ground conditions.

There is a map option and a manual calculation option for determining soil loss. For the map option, the R factor for the project is calculated using the online calculator at <http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm>. The product of K and LS are shown on Figure 1. To determine soil loss in tons per acre, the discharger multiplies the R factor times the value for K times LS from the map.



State Water Resources Control Board, January 15, 2008

Figure 1 -Statewide Map of K * LS

For the manual calculation option, the R factor for the project is calculated using the online calculator at <http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm>. The K and LS factors are determined using Appendix 1.

- Soil loss of less than 15 tons/acre is considered **low** sediment risk.
- Soil loss between 15 and 75 tons/acre is **medium** sediment risk.
- Soil loss over 75 tons/acre is considered **high** sediment risk.

The soil loss values and risk categories were obtained from mean and standard deviation RKLS values from the USEPA EMAP program. High risk is the mean RKLS value plus two standard deviations. Low risk is the mean RKLS value minus two standard deviations.

Receiving Water Risk:

Receiving water risk is based on whether a project drains to a sediment-sensitive waterbody. A sediment-sensitive waterbody is either

- on the most recent 303d list for waterbodies impaired for sediment;
- has a USEPA-approved Total Maximum Daily Load implementation plan for sediment; **or**
- has the beneficial uses of COLD, SPAWN, and MIGRATORY.

A project that meets at least one of the three criteria has a high receiving water risk. A list of sediment-sensitive waterbodies will be posted on the State Water Board's website. It is anticipated that an interactive map of sediment sensitive water bodies in California will be available in the future.

The Risk Levels have been altered by eliminating the possibility of a Risk Level 4, and expanding the constraints for Risk Levels 1, 2, and 3. Therefore, projects with high receiving water risk and high sediment risk will be considered a Risk Level 3 risk to water quality.

In response to public comments, the Risk Level requirements have also been changed such that Risk Level 1 projects will be subject to minimum BMP and visual monitoring requirements, Risk Level 2 projects will be subject to NALs and some additional monitoring requirements, and Risk Level 3 projects will be subject to NALs, and more rigorous monitoring requirements such as receiving water monitoring and in some cases bioassessment.

Table 7 - Combined Risk Level Matrix

Combined Risk Level Matrix			
Receiving Water Risk		Sediment Risk	
		Low	Medium
	Low	Level 1	Level 2
High	Level 2		Level 3

b. Effluent Standards

All dischargers are subject to the narrative effluent limitations specified in the General Permit. The narrative effluent limitations require storm water discharges associated with construction activity to meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize BAT and BCT to reduce pollutants and any more stringent controls necessary to meet water quality standards.

Risk Level 2 dischargers that pose a medium risk to water quality are subject to technology-based NALs for pH and turbidity. Risk Level 3 dischargers that pose a high risk to water quality are also subject to technology-based NALs for pH and turbidity.

C. Good Housekeeping

Proper handling and managing of construction materials can help minimize threats to water quality. The discharger must consider good housekeeping measures for: construction materials, waste management, vehicle storage & maintenance, landscape materials, and potential pollutant sources. Examples include; conducting an inventory of products used, implementing proper storage & containment, and properly cleaning all leaks from equipment and vehicles.

d. Non-Storm Water Management

Non-storm water discharges directly connected to receiving waters or the storm drain system have the potential to negatively impact water quality. The discharger must implement measures to control all non-storm water discharges during construction, and from dewatering activities associated with construction. Examples include; properly washing vehicles in contained areas, cleaning streets, and minimizing irrigation runoff.

e. Erosion Control

The best way to minimize the risk of creating erosion and sedimentation problems during construction is to disturb as little of the land surface as possible by fitting the development to the terrain. When development is tailored to the natural contours of the land, little grading is necessary and, consequently, erosion potential is lower.¹⁴ Other effective erosion control measures include: preserving existing vegetation where feasible, limiting disturbance, and stabilizing and re-vegetating disturbed areas as soon as possible after grading or construction activities. Particular attention must be paid to large, mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded.¹²

Risk Level 3 dischargers pose a higher risk to water quality and are therefore additionally required to ensure that post-construction soil loss is equivalent to or less than the pre-construction levels.

f. Sediment Control

Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only

¹² U.S. Environmental Protection Agency. 2007. Developing Your Storm Water Pollution Prevention Plan: A Guide for Construction Sites.

examples of what should be considered and should not preclude new or innovative approaches currently available or being developed.

Because Risk Level 2 and 3 dischargers pose a higher risk to water quality, additional requirements for the application of sediment controls are imposed on these projects. This General Permit also authorizes the Regional Water Boards to require Risk Level 3 dischargers to implement additional site-specific sediment control requirements if the implementation of other erosion or sediment controls are not adequately protecting the receiving waters.

g. Run-on and Runoff Control

Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions.

Risk Level 1 dischargers with lower risks to impact water quality are not subject to the run-on and runoff control requirements unless an evaluation deems them necessary or visual inspections show that such controls are required.

h. Inspection, Maintenance and Repair

All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended.

i. Rain Event Action Plan (REAP)

A Rain Event Action Plan (REAP) is a written document, specific for each rain event. A REAP should be designed that when implemented it protects all exposed portions of the site within 48 hours of any likely precipitation event forecast of 50% or greater probability.

This General Permit requires Risk Level 2 and 3 dischargers to develop and implement a REAP designed to protect all exposed portions of their sites within 48 hours prior to any likely precipitation event. The REAP requirement is designed to ensure that the discharger has adequate materials, staff, and time to implement erosion and sediment control measures that are intended to reduce the amount of sediment and other pollutants generated from the active site. A REAP must be developed when there is likely a forecast of 50% or greater probability of precipitation in the project area. (The National Oceanic and Atmospheric Administration (NOAA) defines a chance of precipitation as a probability of precipitation of 30% to 50% chance of producing precipitation in the project area.¹³ NOAA defines the probability of precipitation (PoP) as the likelihood of occurrence (expressed as a percent) of a measurable amount (0.01 inch or more) of liquid precipitation (or the water equivalent of frozen precipitation) during a specified period of time at any given point in the forecast area.) Forecasts are normally issued for 12-hour time periods. Descriptive terms for uncertainty and aerial coverage are used as follows:

Table 8 -National Oceanic and Atmospheric Administration (NOAA) Definition of Probability of Precipitation (PoP)

¹³ <http://www.crh.noaa.gov/lot/severe/wxterms.php>.

PoP	Expressions of Uncertainty	Aerial Coverage
0%	none used	none used
10%	none used	isolated
20%	slight chance	isolated
30-50%	chance	scattered
60-70%	likely	numerous
80-100%	none used	none used

The discharger must obtain the precipitation forecast information from the National Weather Service Forecast Office (<http://www.srh.noaa.gov/>).

2. Linear Projects

a. Linear Risk Determination

LUPs vary in complexity and water quality concerns based on the type of project. This General Permit has varying application requirements based on the project's risk to water quality. Factors that lead to the characterization of the project include location, sediment risk, and receiving water risk.

Based on the location and complexity of a project area or project section area, LUPs are separated into project types. As described below, LUPs have been categorized into three project types.

i. *Type 1 LUPs*

Type 1 LUPs are those construction projects where:

- (1) 70 percent or more of the construction activity occurs on a paved surface and where areas disturbed during construction will be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day, or
- (2) greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them where:

Areas disturbed during construction will be returned to pre-construction conditions or equivalent protection established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition, and

Areas where established vegetation was disturbed during construction will be stabilized and re-vegetated by the end of project. When required, adequate temporary stabilization Best Management Practices (BMPs) will be installed and maintained until vegetation is established to meet minimum cover requirements established in this General Permit for final stabilization.

Type 1 LUPs typically do not have a high potential to impact storm water quality because (1) these construction activities are not typically conducted during a rain event, (2) these projects are normally constructed over a short period of time¹⁴, minimizing the duration that pollutants could potentially be exposed to rainfall; and (3) disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered (e.g., metal plates, pavement, plastic covers over spoil piles) at the end of the construction day.

Type 1 LUPs are determined during the risk assessment found in Attachment A.1 to be 1) low sediment risk and low receiving water risk; 2) low sediment risk and medium receiving water risk; and 3) medium sediment risk and low receiving water risk.

This General Permit requires the discharger to ensure a SWPPP is developed for these construction activities that is specific to project type, location and characteristics.

ii. Type 2 LUPs:

Type 2 projects are determined to have a combination of High, Medium, and Low project sediment risk along with High, Medium, and Low receiving water risk. Like Type 1 projects, Type 2 projects are typically constructed over a short period of time. However, these projects have a higher potential to impact water quality because they:

- (1) typically occur outside the more urban/developed areas;
- (2) have larger areas of soil disturbance that are not closed or restored at the end of the day;
- (3) may have onsite stockpiles of soil, spoil and other materials;
- (4) cross or occur in close proximity to a wide variety of sensitive resources that may include, but are not limited to, steep topography and/or water bodies; and
- (5) have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs.

This General Permit requires the discharger to develop and implement a SWPPP for these construction activities that are specific for project type, location and characteristics.

iii. Type 3 LUPs:

¹⁴ Short period of time refers to a project duration of weeks to months, but typically less than one year in duration.

Type 3 projects are determined to have a combination of High and Medium project sediment risk along with High and Medium receiving water risk. Similar to Type 2 projects, Type 3 projects have a higher potential to impact water quality because they:

- (1) typically occur outside of the more urban/developed areas;
- (2) have larger areas of soil disturbance that are not closed or restored at the end of the day;
- (3) may have onsite stockpiles of soil, spoil and other materials;
- (4) cross or occur in close proximity to a wide variety of sensitive resources that may include, but are not limited to, steep topography and/or water bodies; and
- (5) have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs.

This General Permit requires the discharger to develop and implement a SWPPP for these construction activities that are specific for project type, location, and characteristics.

b. Linear Effluent Standards

All LUPs are subject to the narrative effluent limitations specified in the General Permit.

Type 2 and Type 3 projects are subject to technology-based NALs for pH and turbidity.

c. Linear Good Housekeeping

Improper use and handling of construction materials could potentially cause a threat to water quality. In order to ensure proper site management of these construction materials, all LUP dischargers must comply with a minimum set of Good Housekeeping measures specified in Attachment A of this General Permit.

d. Linear Non-Storm Water Management

In order to ensure control of all non-storm water discharges during construction, all LUP dischargers must comply with the Non-Storm Water Management measures specified in Attachment A of this General Permit.

e. Linear Erosion Control

This General Permit requires all LUP dischargers to implement effective wind erosion control measures, and soil cover for inactive areas. Type 3 LUPs posing a higher risk to water quality are additionally required to ensure the post-construction soil loss is equivalent to or less than the pre-construction levels.

f. Linear Sediment Control

In order to ensure control and containment of all sediment discharges, all LUP dischargers must comply with the general Sediment Control measures specified in Attachment A or this General Permit. Additional requirements for sediment controls are imposed on Type 2 & 3 LUPs due to their higher risk to water quality.

g. Linear Run-on and Runoff Control

Discharges originating outside of a project's perimeter and flowing onto the property can adversely affect the quantity and quality of discharges originating from a project site. In order to ensure proper management of run-on and runoff, all LUPs must comply with the run-on and runoff control measures specified in Attachment A of this General Permit. Due to the lower risk of impacting water quality, Type 1 LUPs are not required to implement run-on and runoff controls unless deemed necessary by the discharger.

h. Linear Inspection, Maintenance and Repair

Proper inspection, maintenance, and repair activities are important to ensure the effectiveness of on-site measures to control water quality. In order to ensure that inspection, maintenance, and repair activities are adequately performed, the all LUP dischargers are required to comply with the Inspection, Maintenance, and Repair requirements specified in Attachment A of this General Permit.

K. ATS¹⁵ Requirements

There are instances on construction sites where traditional erosion and sediment controls do not effectively control accelerated erosion. Under such circumstances, or under circumstances where storm water discharges leaving the site may cause or contribute to an exceedance of a water quality standard, the use of an Active Treatment System (ATS) may be necessary. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths.¹⁶

Although treatment systems have been in use in some form since the mid-1990s, the ATS industry in California is relatively young, and detailed regulatory standards have not yet been developed. Many developers are using these systems to treat storm water discharges from their construction sites. The new ATS requirements set forth in this General Permit are based on those in place for small wastewater treatment systems, ATS regulations from the Central Valley Regional Water Quality Control Board (September 2005 memorandum "2005/2006 Rainy Season – Monitoring Requirements for Storm Water Treatment Systems that Utilize Chemical Additives to Enhance Sedimentation"), the Construction Storm Water Program at the State of Washington's Department of Ecology, as well as recent advances in technology and knowledge of coagulant performance and aquatic safety.

The effective design of an ATS requires a detailed survey and analysis of site conditions. With proper planning, ATS performance can provide exceptional water quality discharge and prevent significant impacts to surface water quality, even under extreme environmental conditions.

These systems can be very effective in reducing the sediment in storm water runoff, but the systems that use additives/polymers to enhance sedimentation also pose a potential risk to water quality (e.g., operational failure, equipment failure, additive/polymer release, etc.). The State Water Board is concerned about the potential acute and chronic impacts that the polymers and other chemical additives may have on fish and aquatic organisms if released in sufficient quantities or concentrations. In addition

¹⁵ An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation in order to reduce turbidity caused by fine suspended sediment.

¹⁶ Pitt, R., S. Clark, and D. Lake. 2006. Construction Site Erosion and Sediment Controls: Planning, Design, and Performance. DEStech Publications. Lancaster, PA. 370pp.

to anecdotal evidence of polymer releases causing aquatic toxicity in California, the literature supports this concern.¹⁷ For example, cationic polymers have been shown to bind with the negatively charged gills of fish, resulting in mechanical suffocation.¹⁸ Due to the potential toxicity impacts, which may be caused by the release of additives/polymers into receiving waters, this General Permit establishes residual polymer monitoring and toxicity testing requirements have been established in this General Permit for discharges from construction sites that utilize an ATS in order to protect receiving water quality and beneficial uses.

The primary treatment process in an ATS is coagulation/flocculation. ATS's operate on the principle that the added coagulant is bound to suspended sediment, forming floc, which is gravitationally settled in tanks or a basin, or removed by sand filters. A typical installation utilizes an injection pump upstream from the clarifier tank, basin, or sand filters, which is electronically metered to both flow rate and suspended solids level of the influent, assuring a constant dose. The coagulant mixes and reacts with the influent, forming a dense floc. The floc may be removed by gravitational setting in a clarifier tank or basin, or by filtration. Water from the clarifier tank, basin, or sand filters may be routed through cartridge(s) and/or bag filters for final polishing. Vendor-specific systems use various methods of dose control, sediment/floc removal, filtration, etc., that are detailed in project-specific documentation. The particular coagulant/flocculant to be used for a given project is determined based on the water chemistry of the site because the coagulants are specific in their reactions with various types of sediments. Appropriate selection of dosage must be carefully matched to the characteristics of each site.

ATS's are operated in two differing modes, either Batch or Flow-Through. Batch treatment can be defined as Pump-Treat-Hold-Test-Release. In Batch treatment, water is held in a basin or tank, and is not discharged until treatment is complete. Batch treatment involves holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full. In Flow-Through treatment, water is pumped into the ATS directly from the runoff collection system or storm water holding pond, where it is treated and filtered as it flows through the system, and is then directly discharged. "Flow-Through Treatment" is also referred to as "Continuous Treatment."

1. Effluent Standards

This General Permit establishes NELs for discharges from construction sites that utilize an ATS. These systems lend themselves to NELs for turbidity and pH because of their known reliable treatment. Advanced systems have been in use in some form since the mid-1990s. An ATS is considered reliable, can consistently produce a discharge of less than 10 NTU, and has been used successfully at many sites in several states since 1995 to reduce turbidity to very low levels.¹⁹

This General Permit contains "compliance storm event" exceptions from the technology-based NELs for ATS discharges. The rationale is that technology-based requirements are developed assuming a certain design storm. In the case of ATS the industry-standard design storm is 10-year, 24-hour (as stated in

¹⁷ Romøen, K., B. Thu, and Ø. Evensen. 2002. Immersion delivery of plasmid DNA II. A study of the potentials of a chitosan based delivery system in rainbow trout (*Oncorhynchus mykiss*) fry. *Journal of Controlled Release* **85**: 215-225.

¹⁸ Bullock, G., V. Blazer, S. Tsukuda, and S. Summerfelt. 2000. Toxicity of acidified chitosan for cultured rainbow trout (*Oncorhynchus mykiss*). *Aquaculture* **185**:273-280.

¹⁹ Currier, B., G. Minton, R. Pitt, L. Roesner, K. Schiff, M. Stenstrom, E. Strassler, and E. Strecker. 2006. The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.

Attachment F of this General Permit), so the compliance storm event has been established as the 10-year 24-hour event as well to provide consistency.

2. Training

Operator training is critical to the safe and efficient operation and maintenance of the ATS, and to ensure that all State Water Board monitoring and sampling requirements are met. The General Permit requires that all ATS operators have training specific to using ATS's liquid coagulants.

L. Post-Construction Requirements

Under past practices, new and redevelopment construction activities have resulted in modified natural watershed and stream processes. This is caused by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, increasing drainage density through pipes and channels, and altering the condition of stream channels through straightening, deepening, and armoring. These changes result in a drainage system where sediment transport capacity is increased and sediment supply is decreased. A receiving channel's response is dependent on dominant channel materials and its stage of adjustment.

Construction activity can lead to impairment of beneficial uses in two main ways. First, during the actual construction process, storm water discharges can negatively affect the chemical, biological, and physical properties of downstream receiving waters. Due to the disturbance of the landscape, the most likely pollutant is sediment, however pH and other non-visible pollutants are also of great concern. Second, after most construction activities are completed at a construction site, the finished project may result in significant modification of the site's response to precipitation. New development and redevelopment projects have almost always resulted in permanent post-construction water quality impacts because more precipitation ends up as runoff and less precipitation is intercepted, evapotranspired, and infiltrated.

General Permit 99-08-DWQ required the SWPPP to include a description of all post-construction BMPs on a site and a maintenance schedule. An effective storm water management strategy must address the full suite of storm events (water quality, channel protection, overbank flood protection, extreme flood protection) (Figure 2).

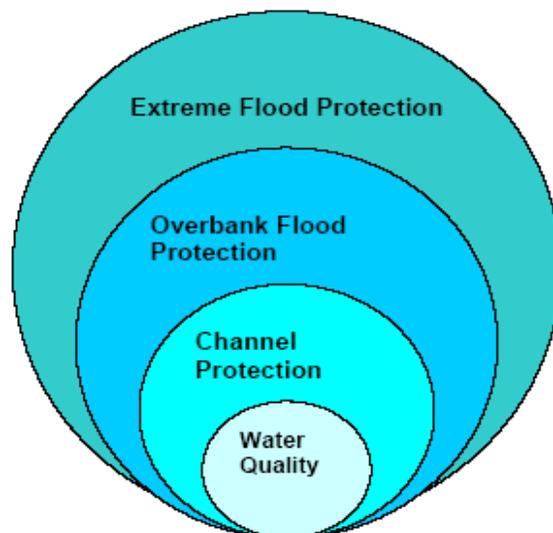


Figure 2 - Suite of Storm Events

The post-construction storm water performance standards in this General Permit specifically address water quality and channel protection events. Overbank flood protection and extreme flood protection events are traditionally dealt with in local drainage and flood protection ordinances. However, measures in this General Permit to address water quality and channel protection also reduce overbank and extreme flooding impacts. This General Permit aims to match post-construction runoff to pre-construction runoff for the 85th percentile storm event, which not only reduces the risk of impact to the receiving water's channel morphology but also provides some protection of water quality.

This General Permit clarifies that its runoff reduction requirements only apply to projects that lie outside of jurisdictions covered by a Standard Urban Storm water Management Plan (SUSMP) (or other more protective) post-construction requirements in either Phase I or Phase II permits.

Figures 3 and 4, below, show the General Permit enrollees (to Order 99-08-DWQ, as of March 10, 2008) overlaid upon a map with SUSMP (or more protective) areas in blue and purple. Areas without blue or purple indicate where the General Permit's runoff reduction requirements would actually apply.

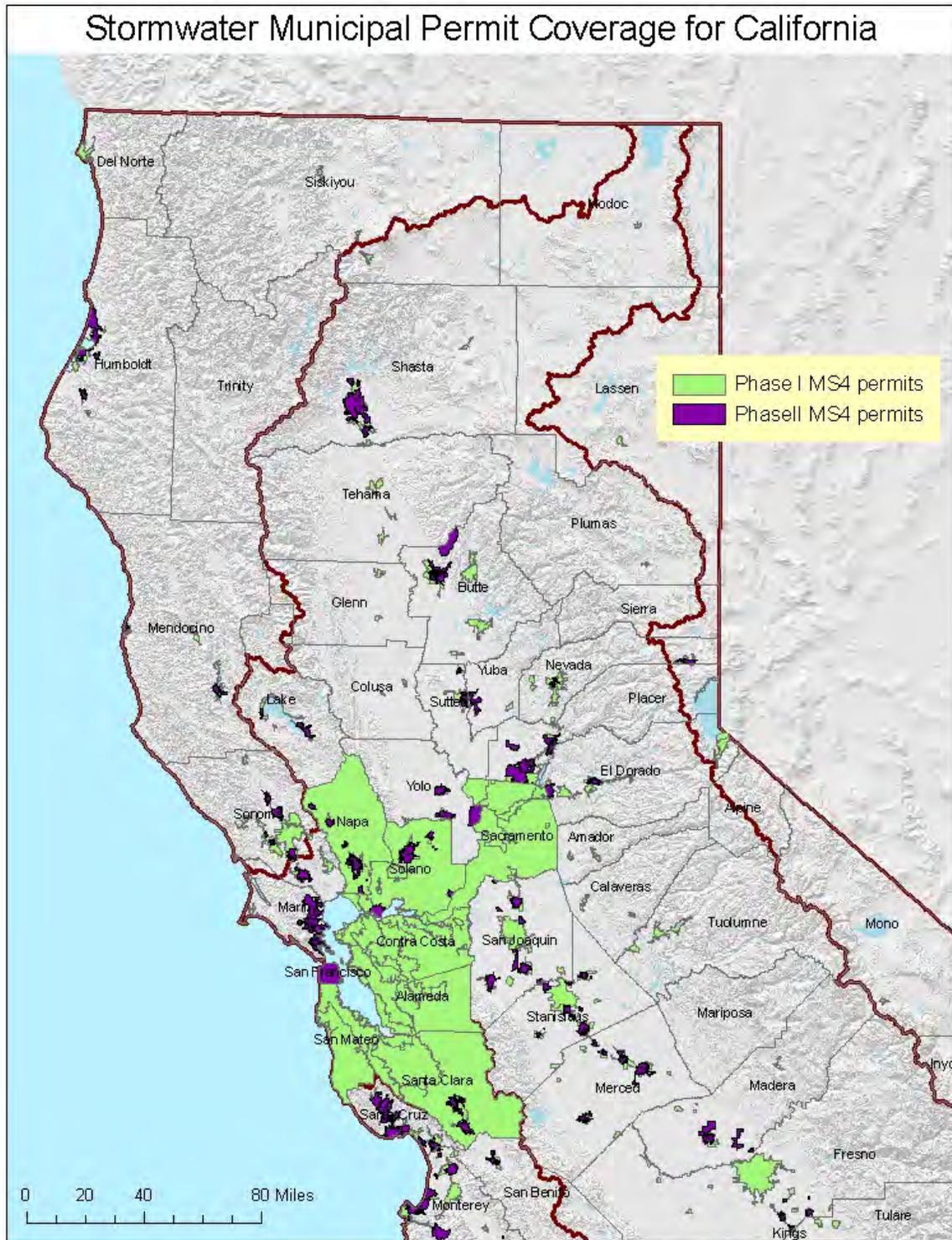
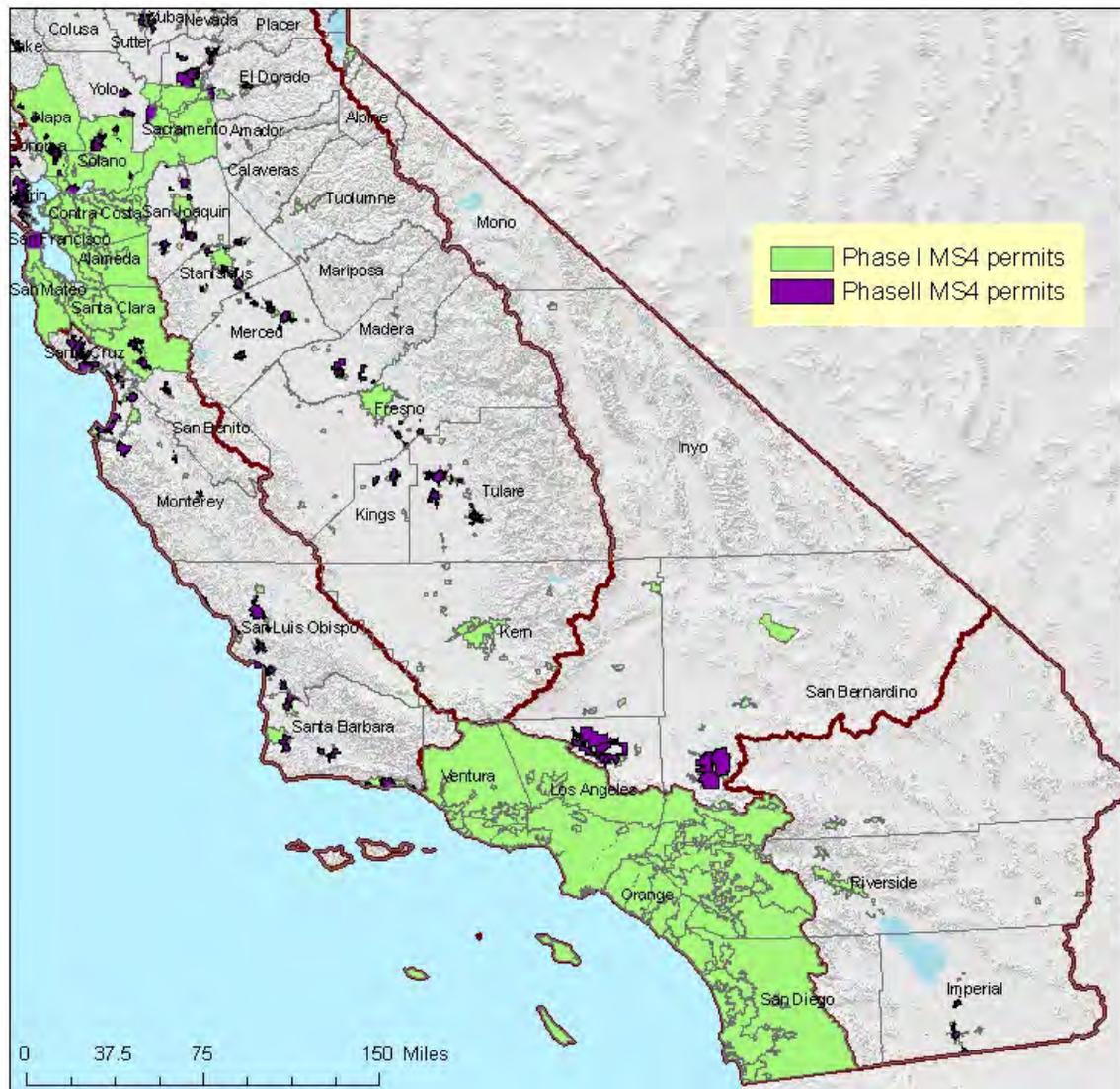


Figure 3 - Northern CA (2009) Counties / Cities With SUSMP-Plus Coverage



Stormwater Municipal Permit Coverage for California

Figure 4 - Southern CA (2009) Counties / Cities With SUSMP-Plus Coverage

Water Quality:

This General Permit requires dischargers to replicate the pre-project runoff water balance (defined as the amount of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event, or the smallest storm event that generates runoff, whichever is larger. Contemporary storm water management generally routes these flows directly to the drainage system, increasing pollutant loads and potentially causing adverse effects on receiving waters. These smaller water quality events happen much more frequently than larger events and generate much higher pollutant loads on an annual basis. There are other adverse hydrological impacts that result from not designing according to the site's pre-construction water balance. In Maryland, Klein²⁰ noted that baseflow decreases as the extent of urbanization increases. Ferguson and Suckling²¹ noted a similar relation in watersheds in Georgia. On Long Island, Spinello and Simmons²² noted substantial decreases in base flow in intensely urbanized watersheds.

The permit emphasizes runoff reduction through on-site storm water reuse, interception, evapotranspiration and infiltration through non-structural controls and conservation design measures (e.g., downspout disconnection, soil quality preservation/enhancement, interceptor trees). Employing these measures close to the source of runoff generation is the easiest and most cost-effective way to comply with the pre-construction water balance standard. Using low-tech runoff reduction techniques close to the source is consistent with a number of recommendations in the literature.²³ In many cases, BMPs implemented close to the source of runoff generation cost less than end-of the pipe measures.²⁴ Dischargers are given the option of using Appendix 2 to calculate the required runoff volume or a watershed process-based, continuous simulation model such as the EPA's Storm Water Management Model (SWMM) or Hydrologic Simulation Program Fortran (HSPF). Such methods used by the discharger will be reviewed by the Regional Water Board upon NOT application.

Channel Protection:

In order to address channel protection, a basic understanding of fluvial geomorphic concepts is necessary. A dominant paradigm in fluvial geomorphology holds that streams adjust their channel dimensions (width and depth) in response to long-term changes in sediment supply and bankfull discharge (1.5 to 2 year recurrence interval). The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which the moving sediment, forming or removing bars, forming or changing bends and meanders, and generally doing work that results in the average morphologic characteristics of channels.²⁵ Lane (1955 as cited in Rosgen 1996²⁶) showed the generalized relationship between sediment load, sediment size, stream discharge and stream slope in

²⁰ Klein 1979 as cited in Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.

²¹ Ferguson and Suckling 1990 as cited Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.

²² Center for Watershed Protection (CWP). 2000. The Practice of Watershed Protection: Techniques for protecting our nation's streams, lakes, rivers, and estuaries. Ellicott City, MD. 741 pp.

²³ Bay Area Storm Water Management Agencies Association (BASMAA). 1997. Start at the Source: Residential Site Planning and Design Guidance Manual for Storm Water Quality Protection. Palo Alto, CA;

McCuen, R.H. 2003 Smart Growth: hydrologic perspective. Journal of Professional Issues in Engineering Education and Practice. Vol (129), pp.151-154;

Moglen, G.E. and S. Kim. 2007. Impervious imperviousness-are threshold based policies a good idea? Journal of the American Planning Association, Vol 73 No. 2. pp 161-171.

²⁴ Delaware Department of natural Resources (DDNR). 2004. Green technology: The Delaware urban Runoff Management Approach. Dover, DE. 117 pp.

²⁵ Dunne, T and L.B. Leopold. 1978. Water in Environmental Planning. San Francisco W.H. Freeman and Company

²⁶ Rosgen. D.L. 1996. Applied River Morphology. Pagosa Springs. Wildland Hydrology

Figure 5. A change in any one of these variables sets up a series of mutual adjustments in the companion variables with a resulting direct change in the physical characteristics of the stream channel.

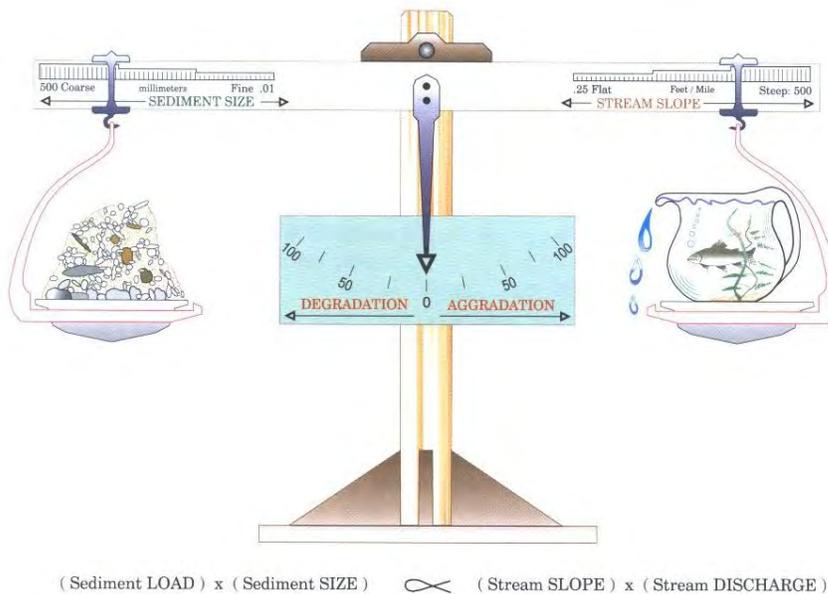


Figure 5 - Schematic of the Lane Relationship
After Lane (1955) as cited in Rosgen (1996)

Stream slope multiplied by stream discharge (the right side of the scale) is essentially an approximation of stream power, a unifying concept in fluvial geomorphology (Bledsoe 1999). Urbanization generally increases stream power and affects the resisting forces in a channel (sediment load and sediment size represented on the left side of the scale).

During construction, sediment loads can increase from 2 to 40,000 times over pre-construction levels.²⁷ Most of this sediment is delivered to stream channels during large, episodic rain events.²⁸ This increased sediment load leads to an initial aggradation phase where stream depths may decrease as sediment fills the channel, leading to a decrease in channel capacity and increase in flooding and overbank deposition. A degradation phase initiates after construction is completed.

Schumm et. al (1984) developed a channel evolution model that describes the series of adjustments from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 6).

²⁷ Goldman S.J., K. Jackson, and T.A. Bursztynsky. 1986. Erosion and Sediment Control Handbook. McGraw Hill. San Francisco.

²⁸ Wolman 1967 as cited in Paul, M.P. and J.L. Meyer. 2001. Streams in the Urban Landscape. *Annu. Rev.Ecol. Syst.* 32: 333-365.

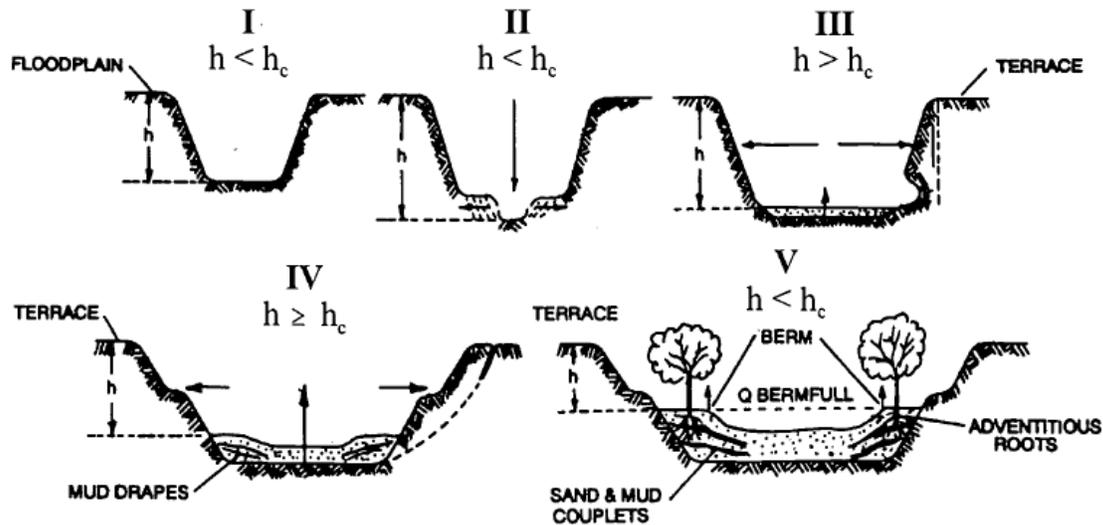


Figure 6 - Channel Changes Associated with Urbanization

After Incised Channel Evolution Sequence in Schumm et. al 1984

Channel incision (Stage II) and widening (Stages III and to a lesser degree, Stage IV) are due to a number of fundamental changes on the landscape. Connected impervious area and compaction of pervious surfaces increase the frequency and volume of bankfull discharges.²⁹ Increased drainage density (miles of stream length per square mile of watershed) also negatively impacts receiving stream channels.³⁰ Increased drainage density and hydraulic efficiency leads to an increase in the frequency and volume of bankfull discharges because the time of concentration is shortened. Flows from engineered pipes and channels are also often “sediment starved” and seek to replenish their sediment supply from the channel.

Encroachment of stream channels can also lead to an increase in stream slope, which leads to an increase in stream power. In addition, watershed sediment loads and sediment size (with size generally represented as the median bed and bank particle size, or d_{50}) decrease during urbanization.³¹ This means

²⁹ Booth, D. B. and C. R. Jackson. 1997. Urbanization of Aquatic Systems: Degradation Thresholds, Storm Water Detection, and the Limits of Mitigation. *Journal of the American Water Resources Association* Vol. 33, No.5, pp. 1077-1089.

³⁰ May, C.W. 1998. Cumulative effects of urbanization on small streams in the Puget Sound Lowland ecoregion. Conference proceedings from Puget Sound Research '98 held March 12, 13 1998 in Seattle, WA;

Santa Clara Valley Urban Runoff Pollution Prevention Program. 2002. Hydromodification Management Plan Literature Review. 80 pp.

³¹ Finkenbine, J.K., D.S. Atwater, and D.S. Mavinic. 2000. Stream health after urbanization. *J. Am. Water Resour. Assoc.* 36:1149-60;

that even if pre- and post-development stream power are the same, more erosion will occur in the post-development stage because the smaller particles are less resistant (provided they are non-cohesive).

As shown in Stages II and III, the channel deepens and widens to accommodate the increased stream power³² and decrease in sediment load and sediment size. Channels may actually narrow as entrained sediment from incision is deposited laterally in the channel. After incised channels begin to migrate laterally (Stage III), bank erosion begins, which leads to general channel widening.³³ At this point, a majority of the sediment that leaves a drainage area comes from within the channel, as opposed to the background and construction related hillslope contribution. Stage IV is characterized by more aggradation and localized bank instability. Stage V represents a new quasi-equilibrium channel morphology in balance with the new flow and sediment supply regime. In other words, stream power is in balance with sediment load and sediment size.

The magnitude of the channel morphology changes discussed above varies along a stream network as well as with the age of development, slope, geology (sand-bedded channels may cycle through the evolution sequence in a matter of decades whereas clay-dominated channels may take much longer), watershed sediment load and size, type of urbanization, and land use history. It is also dependent on a channel's stage in the channel evolution sequence when urbanization occurs. Management strategies

Pizzuto, J.E. W.S. Hession, and M. McBride. 2000. Comparing gravel-bed rivers in paired urban and rural catchments of southeastern Pennsylvania. *Geology* 28:79-82.

³² Hammer 1973 as cited in Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp;

Booth, D.B. 1990. Stream Channel Incision Following Drainage Basin Urbanization. *Water Resour. Bull.* 26:407-417.

³³ Trimble, S.W. 1997. Contribution of Stream Channel Erosion to Sediment Yield from an Urbanizing Watershed. *Science*: Vol. 278 (21), pp. 1442-1444.

must take into account a channel's stage of adjustment and account for future changes in the evolution of channel form (Stein and Zaleski 2005).³⁴

Traditional structural water quality BMPs (e.g. detention basins and other devices used to store volumes of runoff) unless they are highly engineered to provide adequate flow duration control, do not adequately protect receiving waters from accelerated channel bed and bank erosion, do not address post-development increases in runoff volume, and do not mitigate the decline in benthic macroinvertebrate communities in the receiving waters³⁵ suggest that structural BMPs are not as effective in protecting aquatic communities as a continuous riparian buffer of native vegetation. This is supported by the findings of Zucker and White³⁶, where instream biological metrics were correlated with the extent of forested buffers.

This General Permit requires dischargers to maintain pre-development drainage densities and times of concentration in order to protect channels and encourages dischargers to implement setbacks to reduce channel slope and velocity changes that can lead to aquatic habitat degradation.

There are a number of other approaches for modeling fluvial systems, including statistical and physical models and simpler stream power models.³⁷ The use of these models in California is described in Stein and Zaleski (2005).³⁸ Rather than prescribe a specific one-size-fits-all modeling method in this permit, the State Water Board intends to develop a stream power and channel evolution model-based framework to assess channels and develop a hierarchy of suitable analysis methods and management strategies. In time, this framework may become a State Water Board water quality control policy.

Permit Linkage to Overbank and Extreme Flood Protection

Site design BMPs (e.g. rooftop and impervious disconnection, vegetated swales, setbacks and buffers) filter and settle out pollutants and provide for more infiltration than is possible for traditional centralized structural BMPs placed at the lowest point in a site. They provide source control for runoff and lead to a reduction in pollutant loads. When implemented, they also help reduce the magnitude and volume of larger, less frequent storm events (e.g., 10-yr, 24-hour storm and larger), thereby reducing the need for expensive flood control infrastructure. Nonstructural BMPs can also be a landscape amenity, instead of a large isolated structure requiring substantial area for ancillary access, buffering, screening and maintenance facilities.²⁵ The multiple benefits of using non-structural benefits will be critically important as the state's population increases and imposes strains upon our existing water resources.

Maintaining predevelopment drainage densities and times of concentration will help reduce post-development peak flows and volumes in areas not covered under a municipal permit. The most effective way to preserve drainage areas and maximize time of concentration is to implement landform grading,

³⁴ Stein, E.S. and S. Zaleski. 2005. Managing runoff to protect natural stream: the latest developments on investigation and management of hydromodification in California. Southern California Coastal Water Research Project Technical Report 475. 26 pp.

³⁵ Horner, R.R. 2006. Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices (LID) for the San Diego Region. Available at: http://www.projectcleanwater.org/pdf/permit/case-study_lid.pdf.

³⁶ Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.

³⁷ Finlayson, D.P. and D.R. Montgomery. 2003. Modeling large-scale fluvial erosion in geographic information systems. *Geomorphology* (53), pp. 147-164.

³⁸ Stein, E.S. and S. Zaleski. 2005. Managing runoff to protect natural stream: the latest developments on investigation and management of hydromodification in California. Southern California Coastal Water Research Project Technical Report 475. 26 pp.

incorporate site design BMPs and implement distributed structural BMPs (e.g., bioretention cells, rain gardens, rain cisterns).

M. Storm Water Pollution Prevention Plans

USEPA's Construction General Permit requires that qualified personnel conduct inspections. USEPA defines qualified personnel as "a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity."³⁹ USEPA also suggests that qualified personnel prepare SWPPPs and points to numerous states that require certified professionals to be on construction sites at all times. States that currently have certification programs are Washington, Georgia, Florida, Delaware, Maryland, and New Jersey. The Permit 99-08-DWQ did not require that qualified personnel prepare SWPPPs or conduct inspections. However, to ensure that water quality is being protected, this General Permit requires that all SWPPPs be written, amended, and certified by a Qualified SWPPP Developer. A Qualified SWPPP Developer must possess one of the eight certifications and or registrations specified in this General Permit and effective two years after the adoption date of this General Permit, must have attended a State Water Board-sponsored or approved Qualified SWPPP Developer training course. Table 9 provides an overview of the criteria used in determining qualified certification titles for a QSD and QSP.

39 US Environmental Protection Agency. Stormwater Pollution Prevention Plans for Construction Activities. <<http://cfpub.epa.gov/npdes/stormwater/swppp.cfm>> and <http://www.epa.gov/npdes/pubs/sw_swppp_guide.pdf>.

Table 9 - Qualified SWPPP Developer/ Qualified SWPPP Practitioner Certification Criteria

Certification/ Title	Registered By	QSD/QSP	Certification Criteria
Professional Civil Engineer	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Geologist or Engineering Geologist	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Landscape Architect	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Hydrologist	American Institute of Hydrology	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Certified Professional in Erosion and Sediment Control™ (CPESC)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Inspector of Sediment and Erosion Control™ (CISEC)	Certified Inspector of Sediment and Erosion Control, Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Erosion, Sediment and Storm Water Inspector™ (CESSWI)	Enviro Cert International Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Professional in Storm Water Quality™ (CPSWQ)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education

The previous versions of the General Permit required development and implementation of a SWPPP as the primary compliance mechanism. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water and non-storm water discharges. The SWPPP must include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control.

This General Permit shifts some of the measures that were covered by this general requirement to specific permit requirements, each individually enforceable as a permit term. This General Permit emphasizes the use of appropriately selected, correctly installed and maintained pollution reduction BMPs. This approach provides the flexibility necessary to establish BMPs that can effectively address source control of pollutants during changing construction activities. These specific requirements also improve both the clarity and the enforceability of the General Permit so that the dischargers understand, and the public can determine whether the discharges are in compliance with, permit requirements.

The SWPPP must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The SWPPP must remain on the site during construction activities, commencing with the initial mobilization and ending with the termination of coverage under the General Permit. For LUPs the discharger shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio or telephone. Once construction activities are complete, until stabilization is achieved, the SWPPP shall be available from the SWPPP contact listed in the PRDs

A SWPPP must be appropriate for the type and complexity of a project and will be developed and implemented to address project specific conditions. Some projects may have similarities or complexities, yet each project is unique in its progressive state that requires specific description and selection of BMPs needed to address all possible generated pollutants

N. Regional Water Board Authorities

Because this General Permit will be issued to thousands of construction sites across the State, the Regional Water Boards retain discretionary authority over certain issues that may arise from the discharges in their respective regions. This General Permit does not grant the Regional Water Boards any authority they do not otherwise have; rather, it merely emphasizes that the Regional Water Boards can take specific actions related to this General Permit. For example, the Regional Water Boards will be enforcing this General Permit and may need to adjust some requirements for a discharger based on the discharger's compliance history.

ATTACHMENT F-5

CONFORMED (04/07/15)

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

The State Water Resources Control Board adopted Order 2012-0011-DWQ on:	September 19, 2012
The Executive Director of the State Water Resources Control Board issued Order WQ 2014-0006-EXEC on:	January 17, 2014
The State Water Resources Control Board adopted Order WQ 2014-0077-DWQ on:	May 20, 2014
The Executive Director of the State Water Resources Control Board issued Order WQ 2015-0036-EXEC on:	April 7, 2015
The amendments to Order 2012-0011-DWQ contained in Order 2015-0036-DWQ are effective on:	April 7, 2015

CERTIFICATION

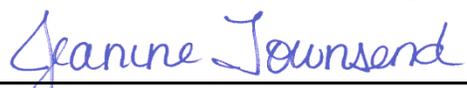
The undersigned, Clerk to the State Water Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 19, 2012.

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Steven Moore
Board Member Felicia Marcus

NAY: None

ABSENT: None

ABSTAIN: None



Jeanine Townsend
Clerk to the Board

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

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APPENDIX: FACT SHEET FOR NPDES PERMIT AND WASTE DISCHARGE
REQUIREMENTS FOR STATE OF CALIFORNIA, DEPARTMENT OF
TRANSPORTATION

- ATTACHMENT I: INCIDENT REPORT FORM
- ATTACHMENT II: MONITORING CONSTITUENT LIST
- ATTACHMENT III: ASBS PRIORITY DISCHARGE LOCATIONS
- ATTACHMENT IV: TMDL IMPLEMENTATION REQUIREMENTS
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- ATTACHMENT VI: STANDARD PROVISIONS
- ATTACHMENT VII: ACRONYMS & ABBREVIATIONS
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- ATTACHMENT IX: REPORTING REQUIREMENTS
- ATTACHMENT X: References

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
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ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
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WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

FINDINGS

The State Water Resources Control Board (State Water Board) finds that:

Permit Application

1. The State of California, Department of Transportation (hereafter the Department) has applied to the State Water Board for reissuance of its statewide storm water permit and waste discharge requirements to discharge storm water and permitted non-storm water to waters of the United States under the National Pollutant Discharge Elimination System (NPDES) permit program.

Background and Authority

Permit Background

2. Prior to issuance of the Department's first statewide storm water permit (Order No. 99-06-DWQ), the Regional Water Boards regulated storm water discharges from the Department's storm drain systems with individual permits. On July 15, 1999, the State Water Board adopted a statewide permit to consolidate storm water permits previously adopted by the Regional Water Boards. This statewide permit regulates storm water and non-storm water discharges from the Department's properties and facilities, and discharges associated with operation and maintenance of the State highway system. The Department's properties include all Right-of-Way (ROW) owned by the Department. The Department's facilities include, but are not limited to, maintenance stations/yards, equipment storage areas, storage facilities, fleet vehicle parking and maintenance areas and warehouses with material storage areas.

Federal Authority

3. In 1987, the United States Congress amended the federal Clean Water Act (CWA) and added section 402(p), which established a framework for regulating municipal and

industrial storm water discharges under the NPDES Permit Program. On November 16, 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated federal regulations for controlling pollutants in storm water runoff discharges (known as Phase I storm water regulations). Phase I storm water regulations require permit coverage for storm water discharges from large and medium Municipal Separate Storm Sewer Systems (MS4s), certain categories of industrial facilities, and construction activities disturbing five or more acres of land. On December 8, 1999, U.S. EPA promulgated regulations, known as Phase II storm water regulations, which require NPDES permit coverage for storm water discharges from small MS4s and construction sites which disturb one to five acres of land.

State Authority

4. California Water Code (Wat. Code) section 13376 provides that any person discharging or proposing to discharge pollutants to waters of the United States within the jurisdiction of the state shall apply for and obtain Waste Discharge Requirements (WDRs). (For this permit, the State term "WDRs" is equivalent to the federal term "NPDES permits" as used in the Clean Water Act). The State Water Board issues this Order pursuant to section 402 of the Clean Water Act and implementing regulations adopted by U.S. EPA and chapter 5.5, division 7 of the California Water Code (commencing with § 13370 et seq.). It shall serve as an NPDES permit for point source discharges to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with § 13260 et seq.). Applicable State regulations on discharges of waste are contained in the California Code of Regulations (Cal. Code Regs.), tit. 23, Division 3, Chapter 9.

Storm Water Definition

Storm Water Discharge

5. Storm water discharges consist only of those discharges that originate from precipitation events. Storm water is defined in the Code of Federal Regulations (40 C.F.R. § 122.26(b)(13)) as storm water runoff, snowmelt runoff, and surface runoff and drainage. During precipitation events, storm water picks up and transports pollutants into and through MS4s and ultimately to waters of the United States.

Non-Storm Water Discharge

6. Non-storm water discharges consist of all discharges from an MS4 that do not originate from precipitation events.

Generally, non-storm water discharges to an MS4 are prohibited, conditionally exempt from prohibition, or regulated separately by an NPDES permit. The categories of conditionally exempt non-storm water discharge are specified at 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(1). Non-storm water discharges that are regulated by a separate NPDES permit are not subject to the discharge prohibition. Prohibited non-storm water discharges include conditionally exempt discharges that are found to be a source of pollutants to waters of the United States. Illicit discharges must also be prohibited. An illicit discharge is defined in 40 Code of Federal Regulations section 122.26(b)(2) as "any discharge to a municipal storm sewer that is not composed entirely of storm water except

discharges pursuant to an NPDES permit (other than the NPDES Permit for discharges from the Municipal Separate Storm Sewer System) and discharges resulting from fire fighting activities." Provision B of this Order addresses non-storm water discharge.

Non-storm water discharges to an MS4 with a discharge to an ASBS are subject to a different set of conditions as stated in Finding 22.a.

Performance Standards

Performance Standard for Discharges from MS4s

7. Clean Water Act section 402(p) establishes performance standards for discharges from MS4s. Clean Water Act section 402(p)(3)(B) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." This Order prohibits storm water discharges that do not comply with the maximum extent practicable (MEP) standard.
8. Compliance with the MEP standard involves applying Best Management Practices (BMPs) that are effective in reducing or eliminating the discharge of pollutants to the waters of the United States. MEP emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff. MEP may require treatment of the storm water runoff if it contains pollutants. BMP development is a dynamic process, and the menu of BMPs contained in a SWMP may require changes over time as experience is gained and/or the state of the science and art progresses. MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. The State Water Board has held that "MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the costs would be prohibitive." (SWRCB, 2000b).

Permit Coverage and Scope

Discharges Regulated by this Permit

9. This Order regulates the following discharges:
 - a. Storm water discharges from all Department-owned MS4s;
 - b. Storm water discharges from the Department's vehicle maintenance, equipment cleaning operations facilities and any other non-industrial facilities with activities that have the potential of generating significant quantities of pollutants; and
 - c. Certain categories of non-storm water discharges as listed under provision B. of this Order.

This Order does not regulate storm water discharges from leased office spaces, Department owned batch plants or any other industrial facilities, as industrial facilities defined in the Statewide Industrial General Permit. The Department will obtain coverage

for storm water discharges associated with industrial activities under the Statewide Industrial General Permit for each batch plant and industrial facility, and shall comply with applicable requirements. While this Order does not regulate storm water discharges associated with industrial activities, it does impose contractor requirements for certain industrial facilities.

This Order does not regulate discharges from the Department's construction activities, including dewatering effluent discharges from construction projects. Instead, the Department will obtain coverage for storm water discharges associated with construction activities under Order No. 2009-0009-DWQ Statewide Construction General Permit. While this Order does not regulate storm water discharges associated with construction activities, it does impose electronic filing, notification, reporting and contractor requirements for certain construction projects, and imposes limitations on types of materials that may be used during construction which may have an impact on post-construction discharges. Any discharges from a site occurring after completion of construction are fully subject to the requirements of this Order.

Some Regional Water Boards have issued specific requirements for dewatering effluent discharges in their regions. The Department will consult with the appropriate Regional Water Board and comply with the applicable dewatering requirements in each region.

Department Activities and Discharges

Department Activities

10. The Department is primarily responsible for the design, construction, management, and maintenance of the State highway system including; freeways, bridges, tunnels, and facilities such as corporation yards, maintenance facilities, rest areas, weigh stations, park and ride lots, toll plazas and related properties. The Department is also responsible for initial emergency spill response and cleanup for unauthorized discharges of waste within the Department's ROW.

Department Discharges

11. The Department's discharges include storm water and non-storm water discharges generated from:
 - a. Maintenance and operation of State-owned ROW;
 - b. Department storage and disposal areas;
 - c. Department facilities;
 - d. Department Airspaces; and
 - e. Other properties and facilities owned and operated by the Department.

The Department discharges either directly to surface waters or indirectly through municipal storm water conveyance systems. These surface waters include creeks, rivers, reservoirs, wetlands, saline sinks, lagoons, estuaries, bays, and the Pacific Ocean and tributaries thereto, some or all of which are waters of the United States as defined in 40 Code of

Federal Regulations section 122.2. As specified, this Order regulates the Department's municipal storm water and non-storm water discharges.

Potential Pollutants

12. Discharges of storm water and non-storm water from Department properties, facilities, and activities have been shown to contribute pollutants to waters of the United States. As such, these discharges may be causing or threatening to cause violations of water quality objectives and can have damaging effects on human health and aquatic ecosystems. The quality and quantity of these discharges vary considerably and are affected by many environmental factors including hydrology, geology, land use, climatology and chemistry, and by controllable management factors including maintenance practices, spill prevention and response activities, public education (i.e., concerning trash and other storm water pollutants) and pollution prevention.

Pollutant sources from the Department properties, facilities, and activities include motor vehicles, highway surface materials such as fine particles of asphalt and concrete, highway maintenance products, construction activities, erodible shoulder materials, eroding cut and filled slopes, abrasive sand and deicing salts used in winter operations, abraded tire rubber, maintenance facilities, illegal connections, illegal dumping, fluids from accidents and spills, and landscape care products.

Pollutant categories include, but are not limited to, metals (such as copper, lead, and zinc), synthetic organic compounds (pesticides), Polycyclic Aromatic Hydrocarbons (PAHs) from vehicle emissions, oil and grease, Total Petroleum Hydrocarbons (TPH), sediment, nutrients (nitrogen and phosphorus fertilizers), debris (trash and litter), pathogens, and oxygen demanding substances (decaying vegetation, animal waste, and other organic matter).

Characterization Monitoring

13. Under the previous permit (Order No. 99-06-DWQ), the Department conducted a comprehensive, multi-component storm water monitoring program. The Department monitored and collected pollutant characterization information at more than 180 sites statewide, yielding more than 60,000 data points. The Department used the data to evaluate the effectiveness of the Department's maintenance facility pollution prevention plans and highway operation control measures. This information is also used to identify pollutants of concern in the Department's discharges.

Department Discharge Characterization Studies

14. The Department compared the monitoring results from the 2002 and 2003 Runoff Characterization Studies (California Department of Transportation, 2003)¹ to California Toxics Rule (CTR) objectives and to several surface water quality objectives considered potentially relevant to storm water runoff quality. The Department prioritized constituents as high, medium, and low, according to a percentage estimate by which the most stringent water quality objective was exceeded. The Department identified lead, copper, zinc,

¹ References are found in Attachment X of this Order.

aluminum, diazinon, chlorpyrifos, and iron as high priority constituents in the Department's runoff. The sources of other water quality objectives considered were:

- a. National Primary Drinking Water Maximum Contaminant Levels (40 C.F.R., § 141.1);
- b. U.S. EPA Action Plan for Beaches and Recreational Waters;
- c. U.S. EPA Aquatic Life Criteria;
- d. California Department of Public Health Maximum Contaminant Levels; and California Department of Fish and Game Recommended Criteria for Diazinon and Chlorpyrifos.

Department Discharges that are Subject to MS4 Permit Regulations

15. An MS4 is a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains. An MS4 is designed or used for collecting or conveying storm water. It is not a combined sanitary sewer and is not part of a Publicly Owned Treatment Works (POTW). Clean Water Act section 402(p) and 40 Code of Federal Regulations section 122.26 (a)(v) give the State authority to regulate discharges from an MS4 on a system-wide or jurisdiction-wide basis. All MS4s under the Department's jurisdiction are considered one system, and are regulated by this Order. Therefore, all storm water and exempted and conditionally exempted non-storm water discharges from the Department owned MS4 are subject to the requirements in this Order.

Maintenance and Construction Activities not Subject to the Construction General Permit

16. Some maintenance and construction activities such as roadway and parking lot repaving and resurfacing may not be subject to the Construction General Permit. Such activities may involve grinding and repaving the existing surface and have the potential to mobilize pollutants, even though it may not involve grading or land disturbance. The Department's Maintenance Staff Guide (Department, 2007b), Project Planning and Design Guide (Department, 2010) and the California Stormwater Quality Association (CASQA) California Construction Stormwater BMP Handbook (CASQA, 2009) specify BMPs for paving and grinding operations. The Department is required to implement BMPs for such operations to control the discharge of pollutants to the MEP.

Department Construction Projects Involving Lead Contaminated Soils

17. Department construction projects may involve soils that contain lead in quantities that meet the State definition of hazardous waste but not the federal definition. The Department of Toxic Substances Control (DTSC) has issued a variance (V09HQSCD006) effective July 1, 2009, allowing the Department to place soil containing specific concentrations of aerially deposited lead under pavement or clean soil. In addition to complying with the terms of the variance, the Department also needs to notify the appropriate Regional Water Boards to determine the appropriate regulation of these soils.
18. Past monitoring data show that storm water runoff from the Department's facilities contains pollutants that may adversely affect the beneficial uses of receiving waters. Facilities not

subject to the Industrial General Permit are required to implement BMPs to reduce the discharge of pollutants from these facilities to the MEP.

Provisions of This Order

19. Storm water discharges from MS4s are highly variable in frequency, intensity, and duration, and it is difficult to characterize the amount of pollutants in the discharges. In accordance with 40 Code of Federal Regulations section 122.44(k)(2), the inclusion of BMPs in lieu of numeric effluent limitations is appropriate in storm water permits. This Order requires implementation of BMPs to control and abate the discharge of pollutants in storm water to the MEP. To assist in determining if the BMPs are effectively achieving MEP standards, this Order requires effluent and receiving water monitoring. The monitoring data will be used to determine the effectiveness of the applied BMPs and to make appropriate adjustments or revisions to BMPs that are not effective.

Receiving Water Limitations

20. The effect of the Department's storm water discharges on receiving water quality is highly variable. For this reason, this Order requires the Department to implement a storm water program designed to achieve compliance with water quality standards, over time through an iterative approach. If discharges are found to be causing or contributing to an exceedance of an applicable Water Quality Standard, the Department is required to revise its BMPs (including use of additional and more effective BMPs).

Discharges to Areas of Special Biological Significance

21. The State Water Board has designated 34 coastal marine waters as Areas of Special Biological Significance (ASBS) in the California Ocean Plan. An ASBS is a coastal area requiring protection of species or biological communities. The Department discharges storm water into the following ASBS:
 - a. Redwoods National Park ASBS
 - b. Saunders Reef ASBS
 - c. James V. Fitzgerald ASBS
 - d. Año Nuevo ASBS
 - e. Carmel Bay ASBS
 - f. Point Lobos ASBS
 - g. Julia Pfeiffer Burns ASBS
 - h. Salmon Creek Coast ASBS
 - i. Laguna Point to Latigo Point ASBS
 - j. Irvine Coast ASBS
22. The Ocean Plan prohibits waste discharges into ASBS. The Ocean Plan allows the State Water Board to grant exceptions to this prohibition, provided that: (1) the exception will not compromise protection of ocean waters for beneficial uses, and (2) the public interest will be served. The Department has applied for and been granted an exception under the General Exception for Storm Water and Non-Point Source Discharges to ASBS. The exception

allows the continued discharge into ASBS provided the Department complies with the special protections specified in the General Exception.

- 22a. Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally. In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to segments of the Department MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number of utility vault discharges to MS4s that discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to a segment of the Department's MS4 with a direct discharge to an ASBS are not expected to result in the MS4 discharge causing a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order.

New Development and Re-development Design Standards

23. 40 Code of Federal Regulations section 122.26(d)(2)(iv)(A)(2) requires municipal storm water permittees to implement a new development and redevelopment program to reduce the post-construction generation and transport of pollutants. Development can involve grading and soil compaction, an increase in impervious surfaces (roadways, roofs, sidewalks, parking lots, etc.), and a reduction of vegetative cover, all of which increase the amount of rainfall that ends up as runoff, and decrease the particle size and the load of watershed sediment. The increase in runoff generally leads to increased pollutant loading from watersheds, even if post-construction pollutant concentrations are similar to pre-construction concentrations. The accelerated erosion and deposition resulting from an increase in runoff and a decrease in the size and load of watershed sediment generally causes a stream channel to respond by deepening and widening and detaching from the historic floodplain. The magnitude of response depends on geology, land use, and channel stability at the time of the watershed disturbance. Increased pollutant loads and alteration of the runoff/sediment balance have the potential to negatively impact the beneficial uses of receiving waters including streams, lakes, wetlands, ground water, oceans, bays and estuaries, and the biological habitats supported by these aquatic systems.

24. Department projects have the potential to negatively impact stream channels and downstream receiving waters through modification of the existing runoff hydrograph. The hydromodification requirements in this Order are “effluent limitations,” which are defined by the Clean Water Act to include any restriction on the quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources (C.W.A., § 502(11)).
25. Waters of the United States supporting the beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes affected by Department activities. This Order requires the Department to submit to the State Water Board the annual report required under Article 3.5 of the Streets and Highways Code reporting on the Department’s progress in locating, assessing, and remediating barriers to fish passage.
26. Low Impact Development (LID) is a sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID uses site design and storm water management to maintain the site’s pre-project runoff rates and volumes by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source.
27. On October 5, 2000, the State Water Board adopted a precedential decision concerning the use of Standard Urban Storm Water Mitigation Plans (SUSMPs) (Order WQ 2000-11). The SUSMP in that case required sizing design standards for post-construction BMPs for specific categories of new development and redevelopment projects. Order WQ 2000-11 found that provisions in the SUSMPs, as revised in the order, reflected MEP. The LID requirements, post-construction requirements for impervious surface and the design standards in this Order are consistent with Order WQ 2000-11 and meet the requirement for development of a SUSMP.

Self-Monitoring Program

28. Effluent and receiving water monitoring are necessary to evaluate the effectiveness of BMP measures and to track compliance with water quality standards. This Order requires the Department to conduct effluent and receiving water monitoring.

Storm Water Management Plan (SWMP)

29. The SWMP describes the procedures and practices that the Department proposes to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. On May 17, 2001, the State Water Board approved a Storm Water Management Plan submitted by the Department. That SWMP was updated in 2003 (Department, 2003c) and the updates were approved by the Executive Director of the State Water Board on February 13, 2003. On January 15, 2004, the Department submitted a proposed Storm Water Management Plan as part of its NPDES permit application to renew its previous statewide storm water permit (Order No. 99-06-DWQ). The State Water Board and Regional Water Board staff and the Department discussed and revised Best Management

Practices (BMP) controls and many other components proposed in each section of the SWMP during numerous meetings from January 2004 to 2006. The Department submitted a revised SWMP in June 2007. The 2004 and 2007 SWMPs have not been approved by the State Water Board and the Department has continued to implement the 2003 SWMP. The Department is in the process of revising aspects of the 2003 SWMP to address the Findings of Violation and Order for Compliance issued by U.S. EPA in 2011 (U.S. EPA Docket No. CWA-09-2011-0001).

30. The SWMP and any future modifications or revisions are integral to and enforceable components of this Order. Any documents incorporated into the SWMP by reference that specify the manner in which the Department will implement the SWMP shall be consistent with the requirements of this Order.
31. This Order requires the Department to submit an Annual Report each year to the State Water Board. The Annual Report serves the purpose of evaluating, assessing, and reporting on each relevant element of the storm water program, and revising activities, control measures, BMPs, and measurable objectives, as necessary, to meet the applicable standards.
32. Revisions to the SWMP requiring approval by the State Water Board's Executive Director are subject to public notice and the opportunity for a public hearing.

Total Maximum Daily Load (TMDL) Requirements

33. TMDLs are calculations of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (the waste load allocations or WLAs) and non-point sources (load allocations or LAs), plus the contribution from background sources and a margin of safety (40 C.F.R., § 130.2, subd.(i)). Discharges from the Department's MS4 are considered point source discharges.
34. This Order implements U.S. EPA-approved or U.S. EPA-established TMDLs applicable to the Department. This Order requires the Department to comply with all TMDLs listed in Attachment IV. Attachment IV identifies TMDLs adopted by the Regional Water Boards and approved by the State Water Board and U.S. EPA that assign the Department a Waste Load Allocation (WLA) or that specify the Department as a responsible party in the implementation plan. In addition, Attachment IV identifies TMDLs established by U.S. EPA that specify the Department as a responsible party or that identify NPDES permitted storm water sources or point sources generally, or identify roads generally, as subject to the TMDL. In accordance with 40 Code of Federal Regulations section 122.44, subdivision (d)(1)(vii)(B), NPDES water quality-based effluent limitations (WQBELs) must be consistent with the assumptions and requirements of available TMDL WLAs. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement any relevant water quality control plans. The TMDL requirements in this Order are consistent with the assumptions and requirements of the TMDLs applicable to the Department.

35. TMDL WLAs in this Order are not limited by the MEP standard. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric WQBELs, federal regulations (40 C.F.R., § 122.44, subd. (k)(2)) allow for the implementation of BMPs to control or abate the discharge of pollutants from storm water.
36. The Department reported in its 2008-09 Annual Report to the State Water Board that it is subject to over 50 TMDLs and is in the implementation phase of over 30 TMDLs. The State Water Board has since determined that the Department is subject to 84 TMDLs. WLAs and LAs for some TMDLs are shared jointly among several dischargers, with no specific mass loads assigned to individual dischargers. In some of these cases, multiple dischargers are assigned a grouped or aggregate waste load allocation, and each discharger is jointly responsible for complying with the aggregate waste load allocation.
37. The high variance in the level of detail and specificity in the TMDLs developed by the Regional Water Boards and U.S. EPA necessitates the development of more specific permit requirements in many cases, including deliverables and required actions, derived from each TMDL's WLA and implementation requirements. These requirements will provide clarity to the Department regarding its responsibilities for compliance with applicable TMDLs. The development of TMDL-specific permit requirements is subject to notice and a public comment period. Because most of the TMDLs were developed by the Regional Water Boards, and because some of the WLAs are shared by multiple dischargers, the development of TMDL-specific permit requirements has been coordinated initially at the Regional Water Board level.
38. Attachment IV specifies TMDL-specific permit implementation requirements for the Lake Tahoe sediment and nutrients TMDL, Napa River Sediment TMDL, Sonoma Creek Sediment TMDL, and the Lake Elsinore and Canyon Lake Nutrients TMDL. These requirements are consistent with the assumptions and requirements of applicable WLAs assigned to the Department, and with the adopted and approved TMDL, Basin Plan, and related Regional Water Board Orders and Resolutions.
39. For all remaining TMDLs identified in Attachment IV, the Regional Water Boards, in consultation with the State Water Board and the Department, developed categorical pollutant permit requirements. The Fact Sheet contains supporting analyses explaining how the proposed categorical pollutant permit requirements will implement the TMDL and are consistent with the assumptions and requirements of any applicable WLA and how the BMPs will be sufficient to implement applicable WLAs. Following a notice and comment period, Attachment IV of this Order and the Fact Sheet was reopened consistent with provision E.11.c. for incorporation of these requirements and supporting analysis into the Order and Fact Sheet.
40. This Order specifies the requirements to be followed for the Comprehensive TMDL Monitoring Plan. TMDL monitoring requirements are found in Attachment IV, Section III.A. The Regional Water Boards may require additional monitoring through Regional Water Board orders pursuant to Water Code section 13383.

41. Attachment IV may additionally be reopened consistent with provision E.11.b. of this Order for incorporation of newly adopted TMDLs or amendments to existing TMDLs into the Permit.

Non-Compliance

42. NPDES regulations require the Department to notify the Regional Water Board and/or State Water Board of anticipated non-compliance with this Order (40 C.F.R., § 122.41(l)(2)); or of instances of non-compliance that endanger human health or the environment (40 C.F.R., § 122.41(l)(6)).

Regional Water Board and State Water Board Enforcement

43. The Regional Water Boards and the State Water Board will enforce the provisions and requirements of this Order.

Region Specific Requirements

Basin Plans

44. Each Regional Water Board has adopted a Basin Plan for the watersheds within its jurisdiction. Basin Plans identify the beneficial uses for each water body and the water quality objectives necessary to protect them. The Department is subject to the prohibitions and requirements of each Basin Plan.

Region Specific Requirements

45. Regional Water Boards have identified Region-specific water quality issues and concerns pertaining to discharges from the Department's properties. Region-specific requirements to address these issues are included in this Order.

Local Municipalities and Preemption

46. Storm water and non-storm water from MS4s that are owned and managed by other NPDES permitted municipalities may discharge to storm water conveyance systems owned and managed by the Department. This Order does not supersede the authority of the Department to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within its jurisdiction as allowed by State and federal law.

Storm water and non-storm water from the Department's ROW, properties, facilities, and activities may discharge to storm water conveyance systems managed by other NPDES permitted municipalities. This Order does not preempt or supersede the authority of the permitted municipalities to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdiction as allowed by State and federal law.

Anti-Degradation Policy

47. 40 Code of Federal Regulations section 131.12 requires that state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's anti-degradation policy in State Water Board Resolution No.

68-16. Resolution No. 68-16 incorporates the federal anti-degradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plans implement, and incorporate by reference, both the State and federal anti-degradation policies. This Order is consistent with the anti-degradation provision of 40 Code of Federal Regulations section 131.12 and State Water Board Resolution No. 68-16.

Endangered Species Act

48. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2115.5) or the Federal Endangered Species Act (16 U.S.C.A., §§ 1531 to 1544). This Order requires compliance with effluent limitations, receiving water limitations, and other requirements to protect the beneficial uses of waters of the United States. The Department is responsible for meeting all requirements of the applicable Endangered Species Act.

California Environmental Quality Act (CEQA)

49. The action to adopt an NPDES Permit is exempt from the provisions of CEQA (Public Resources Code, § 21100, et. seq.), pursuant to section 13389 of the California Water Code (County of Los Angeles et al., v. California Water Boards et al., (2006), 143 Cal.App.4th 985).

Public Notification

50. The Department, interested agencies, and persons have been notified of the State Water Board's intent to reissue requirements for storm water discharges and have been provided an opportunity to submit their written comments and recommendations. State Water Board staff prepared a Fact Sheet and Response to Comments, which are incorporated by reference as part of this Order.

Public Hearing

51. The State Water Board, through public testimony in public meetings and in written form, has received and considered all comments pertaining to this Order.

Cost of Compliance

52. The State Water Board has considered the costs of complying with this Order and whether the required BMPs meet the minimum "maximum extent practicable" standard required by federal law. The MEP approach is an evolving, flexible, and advancing concept, which considers technical and economic feasibility. Because of the numerous advances in storm water regulation and management and the size of the Department's MS4, the Order does not require the Department to fully incorporate and implement all advances in a single permit term, but takes an incremental approach that allows for prioritization of efforts for the most effective use of the increased, but nevertheless limited, Department funds. This Order will have an effect on costs to the Department above and beyond the costs from the Department's prior permit. Such costs will be incurred in complying with the post-

construction, hydrograph modification, Low Impact Development, and monitoring and reporting requirements of this Order. Additional costs will also be incurred in correcting non-compliant discharges.² These incremental costs are necessary to advance the controls and management of storm water by the Department and to facilitate reduction of the discharge of pollutants to the MEP.

53. This Order supersedes Order No. 99-06-DWQ.

54. This Order serves as an NPDES permit pursuant to Clean Water Act section 402 or amendments thereto, and shall become effective on July 1, 2013, provided that the Regional Administrator, U.S. EPA, Region IX, expresses no objections.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code, regulations, and plans and policies adopted thereafter, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereafter, that the Department shall comply with the following:

A. GENERAL DISCHARGE PROHIBITIONS

1. Storm water discharges from the Department's Municipal Separate Storm Sewer System (MS4) containing pollutants that have not been reduced to the Maximum Extent Practicable (MEP), are prohibited. The Department shall achieve the pollutant reductions described in this Prohibition through implementation of the provisions in this Order and the approved SWMP.
2. Discharges to Areas of Special Biological Significance (ASBS).
 - a. Existing storm water discharges into an ASBS are allowed only if the discharges:
 - 1) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;
 - 2) Are designed to prevent soil erosion;
 - 3) Occur only during wet weather; and
 - 4) Are composed of only storm water runoff, except as provided at B.6.
 - b. Discharges composed of storm water runoff shall not alter natural water quality in an ASBS.
 - c. The discharge of trash is prohibited.
 - d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no

² Although the cost of compliance with TMDL waste load allocations was considered, compliance with TMDLs is not subject to the MEP standard.

additional pollutant loading). “Existing storm water outfalls” are those that were constructed or under construction prior to January 1, 2005. “New contribution of waste” is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.

- e. The discharges comply with all terms, prohibitions, and special conditions contained in sections E.2.c.2)a)i) and E.5. of this Order.
3. Discharge of material other than storm water, or discharge that is not composed entirely of storm water, to waters of the United States or another permitted MS4 is prohibited, except as conditionally exempted under Section B.2 of this Order or authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit.
4. The discharge of storm water or conditionally exempt non-storm water that causes or contributes to the violation of water quality standards or water quality objectives (collectively WQSs), the California Toxics Rule (CTR), or impairs the beneficial uses established in a Water Quality Control Plan, or a promulgated policy of the State or Regional Water Boards, is prohibited. The Department shall comply with all discharge prohibitions contained in Regional Water Board Basin Plans.
5. The discharge of storm water to surface waters of the United States in a manner causing or threatening to cause a condition of pollution or nuisance as defined in Water Code section 13050 is prohibited.
6. Discharge of wastes or wastewater from road-sweeping vehicles or from other maintenance activities to any waters of the United States or to any storm drain leading to waters of the United States is prohibited unless in compliance with section E.2.h.3)c)ii) of this Order or authorized by another NPDES permit.
7. The dumping, deposition, or discharge of waste by the Department directly into waters of the United States or adjacent to such waters in any manner that may allow its being transported into the waters is prohibited unless authorized by the Regional Water Board.
8. The discharge of sand, silt, clay, or other earthen materials from any activity in quantities which cause deleterious bottom deposits, turbidity, or discoloration in waters of the United States or which unreasonably affect or threaten to affect beneficial uses of such waters, is prohibited.

B. NON-STORM WATER DISCHARGE PROHIBITIONS

Non-storm water discharges, other than those to ASBS, must comply with the following provisions:

1. The Department shall effectively prohibit non-storm water discharges into its storm water conveyance system unless such discharges are either:
 - a. Authorized by a separate NPDES permit; or
 - b. Conditionally exempt in accordance with provision B.2. of this NPDES permit
2. Conditionally Exempt Non-storm Water Discharges.

The following non-storm water discharges are conditionally exempt from Prohibition B.1 unless the Department or the State Water Board Executive Director identifies them as sources of pollutants to receiving waters. For discharges identified as sources of pollutants, the Department shall either eliminate the discharge or otherwise effectively prohibit the discharge.

- a. Diverted stream flows;
 - b. Rising ground waters;
 - c. Uncontaminated ground water infiltration (as defined at 40 C.F.R., § 35.2005(20)) to MS4s;
 - d. Uncontaminated pumped ground water;
 - e. Foundation drains, including slope lateral drains;
 - f. Springs;
 - g. Water from crawl space pumps;
 - h. Footing drains;
 - i. Air conditioning condensation;
 - j. Flows from riparian habitats and wetlands;
 - k. Water line flushing³;
 - l. Minor, incidental discharges of landscape irrigation water⁴;
 - m. Discharges from potable water sources³;
 - n. Irrigation water⁵;
 - o. Minor incidental discharges from lawn watering;
 - p. Individual residential car washing; and
 - q. Dechlorinated swimming pool discharges.
3. Some Regional Water Boards have separate dewatering and/or “de minimus” NPDES discharge permits or Basin Plan requirements for some or all of these listed non-storm water discharges. The Department shall check with the appropriate Regional Water Board to determine if a specific non-storm water discharge requires coverage under a separate NPDES permit.
 4. The Department is not required to prohibit emergency fire fighting flows (i.e., flows necessary for the protection of life or property). Discharges associated with emergency

³ In order to remain conditionally exempt, discharges shall be dechlorinated prior to discharge.

⁴ In order to remain conditionally exempt, landscape irrigation systems must be designed, operated and maintained to control non-incidental runoff. See definition of incidental runoff in Attachment VIII.

⁵ Return flows from irrigated agriculture are not point-source discharges and are not prohibited from entering the Department’s MS4.

firefighting do not require BMPs, but they are recommended if feasible. As part of the SWMP, the Department shall develop and implement a program to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) as specified in the SWMP.

5. If the State Water Board Executive Director determines that any category of conditionally exempt non-storm water discharge is a source of pollutants, the State Water Board Executive Director may require the Department to conduct additional monitoring and submit a report on the discharges. The State Water Board Executive Director may also order the Department to cease a non-storm water discharge if it is found to be a source of pollutants.

Non-storm water discharges to ASBS must comply with the following provisions:

6. Non-storm water discharges to ASBS are prohibited except as stated in this Section.

The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability, or occur naturally:

- a. Discharges associated with emergency fire fighting operations.
- a. Foundation and footing drains.
- b. Water from crawl space or basement pumps.
- c. Hillside dewatering.
- d. Naturally occurring groundwater seepage via a storm drain.
- f. Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.

Discharges from utility vaults and underground structures to a segment of the Department's MS4 with a direct discharge to an ASBS are permitted if such discharges are authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. A Regional Water Board may nonetheless prohibit a specific discharge from a utility vault or underground structure if it determines that the discharge is causing the MS4 discharge to the ASBS to alter natural ocean water quality in the ASBS.

Additional non-storm water discharges to a segment of the Department's MS4 with a direct discharge to an ASBS are allowed only to the extent the relevant Regional Water Board finds that the discharge does not alter natural ocean water quality in the ASBS.

Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan or alter natural ocean water quality in an ASBS.

C. EFFLUENT LIMITATIONS

The Department shall reduce the discharge of pollutants from its MS4 to waters of the United States to the MEP, as necessary to achieve TMDL WLAs established for discharges by the Department, and to comply with the Special Protections for discharges to ASBS.

D. RECEIVING WATER LIMITATIONS

1. Receiving water quality objectives, as specified in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, are applicable to discharges from the Department's facilities and properties.
2. The discharge of storm water from a facility or activity shall not cause or contribute to an exceedance of any applicable water quality standard.
3. Storm water discharges shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the United States:
 - a. Floating or suspended solids, deposited macroscopic particulate matter, or foam;
 - b. Bottom deposits or aquatic growth;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin, and/or;
 - e. Toxic or deleterious substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
4. The Department shall comply with Sections A.4, D.2 and D.3 of this Order through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this Order including any modifications. The SWMP shall be designed to achieve compliance with Sections A.4, D.2 and D.3 of this Order. If exceedance(s) of WQS persist notwithstanding implementation of the SWMP and other requirements of this Order, the Department shall assure compliance with Sections A.4, D.2 and D.3 of this Order by complying with the procedure specified at Section E.2.c.6)c) of this Order.
5. Provided the Department has complied with the procedure set forth in provision E.2.c.6)c) of this Order and is implementing the revised SWMP required by provision E.1., the Department is not required to repeat the procedure called for in provision E.2.c.6)c) for continuing or recurring exceedances of the same receiving water limitations unless directed by the State Water Board's Executive Director or Regional Water Board Executive Officer to develop additional BMPs.

6. Where the Department discharges waste to a water of the State that is not a water of the United States, compliance with the prohibitions, limitations, and provisions of this Order when followed for that water of the State will constitute compliance with the requirements of the Porter-Cologne Water Quality Control Act, unless the Department is notified otherwise in writing by the State Water Board Executive Director or a Regional Water Board Executive Officer.

E. PROVISIONS

1. Storm Water Management Plan (SWMP)

- a. The Department shall update, maintain and implement an effective SWMP that describes how the Department will meet requirements of this Order as outlined in E.1.b below. The Department shall submit for Executive Director approval an updated SWMP consistent with the provisions and requirements of this Order within one year of the effective date of this Order. The SWMP shall identify and describe the BMPs that shall be used. The SWMP shall be reviewed annually and modified as necessary to maintain an effective program in accordance with the procedures of this Order. The SWMP shall reflect the principles that storm water management is to be a year-round proactive program to eliminate or control pollutants at their source or to reduce them from the discharge by either structural or nonstructural means when elimination at the source is not possible.
- b. The SWMP shall contain the following elements:
 - 1) Overview
 - 2) Management And Organization
 - 3) Monitoring And Discharge Characterization Program
 - 4) Project Planning And Design
 - 5) BMP Development and Implementation
 - 6) Construction
 - 7) Compliance with the Industrial General Permit
 - 8) Maintenance Program Activities, including facilities operations
 - 9) Non-Departmental Activities
 - 10) Non-Storm Water Activities/ Discharges
 - 11) Training
 - 12) Public Education and Outreach
 - 13) Region Specific Activities (See provision E.6 and Attachment V.)
 - 14) Program Evaluation
 - 15) Measurable Objectives
 - 16) Reporting
 - 17) References

The Department shall implement all requirements of this Order regardless of whether those requirements are addressed by an element of the SWMP.

- c. The SWMP shall include all provisions and commitments in the 2003 SWMP (Department, 2003c), as revised in response to U.S. EPA's Findings of Violation and Order for Compliance (U.S. EPA Docket No. C.W.A.-09-2011-0001). The Department shall continue to implement the 2003 SWMP to the extent that it does not conflict with the requirements of this Order and until a new SWMP is approved pursuant to this Order.
- d. All policies, guidelines, and manuals referenced by the SWMP and related to storm water are intended to facilitate implementation of the SWMP, and shall be consistent with the requirements of this Order.
- e. The SWMP shall define terms in a manner that is consistent with the definitions in 40 Code of Federal Regulations section 122.2. This includes, but is not limited to, the definitions for pollutant, waters of the United States, and point source. Where there is a conflict between the SWMP and the language of this Order, the language of this Order shall govern.
- f. Unless otherwise specified in this Order, proposed revisions to the SWMP shall be submitted to the State Water Board Executive Director as part of the Annual Report. The Department shall revise all other appropriate manuals to reflect modifications to the SWMP.
- g. Revisions to the SWMP requiring Executive Director approval will be publicly noticed for thirty days on the State Water Board's website and via the storm water electronic notification list. During the public notice period, members of the public may submit written comments or request a public hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised at the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing prior to approval of the SWMP revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director shall consider all public comments received and may approve the SWMP revision if it meets the conditions set forth in this Order. Any SWMP revision approved by the Executive Director will be posted on the State Water Board's website.
- h. The Department shall maintain for public access on its website the latest approved version of the SWMP. The Department shall update the SWMP on its website within 30 days of approval of revisions by the State Water Board.

2. Storm Water Program Implementation Requirements

a. Overview

The Department shall provide an overview of the storm water program in the SWMP. The overview will include:

- 1) A statement of the SWMP purpose;
- 2) A description of the regulatory background;
- 3) A description of the SWMP applicability;
- 4) A description of the relationship of the Permit, SWMP, and related Department documents; and
- 5) A description of the permits addressed by the SWMP.

b. Management and Organization

The Department shall provide in the SWMP an overview of its management and organizational structure, roles and responsibilities of storm water personnel, a description of the role and focal point of the Department's storm water program, and a description of the Storm Water Advisory Teams. The Department shall implement the program specified in the SWMP. The Department shall also implement any additional requirements contained in this Order.

1) *Coordination with Local Municipalities*

- a) The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and/or other State agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the agencies' jurisdictions.
- b) The Department shall include a **MUNICIPAL COORDINATION PLAN** in the SWMP. The plan shall describe the specific steps that the Department will take in establishing communication, coordination, cooperation, and collaboration with other MS4 storm water management agencies and their programs including establishing agreements with municipalities, flood control departments, or districts as necessary or appropriate. The Department shall report on the status and progress of interagency coordination activities in each Annual Report.

2) *Legal Authority*

- a) The Department shall establish, maintain, and certify that it has adequate legal authority through statute, permit, contract or other means to control discharges to and from the Department's properties, facilities and activities.
- b) The Department has provided a statement certified by its chief legal counsel that the Department has adequate legal authority to implement and enforce

each of the key regulatory requirements contained in 40 Code of Federal Regulations sections 122.26(d)(2)(i)(A-F). The Department shall submit annually, as part of the Annual Report, a **CERTIFICATION OF THE ADEQUACY OF LEGAL AUTHORITY**.

3) *Fiscal Resources*

- a) The Department shall seek to maintain adequate fiscal resources to comply with this NPDES Permit. This includes but is not limited to:
 - i) Implementing and maintaining all BMPs;
 - ii) Implementing an effective storm water monitoring program; and
 - iii) Retaining qualified personnel to manage the storm water program.
- b) The Department shall submit a **FISCAL ANALYSIS** of the storm water program annually. At a minimum, the fiscal analysis shall show:
 - i) The allocation of funds to the Districts for compliance with this Order;
 - ii) The funding for each program element;
 - iii) A comparison of actual past year expenditures with the current year's expenditures and next year's proposed expenditures;
 - iv) How the funding has met the goals specified in the SWMP and District workplans; and
 - v) Description of any cost sharing agreements with other responsible parties in implementing the storm water management program.
- c) The fourth year report shall contain a **BUDGET ANALYSIS** for the next permit cycle.

4) *Practices and Policies*

The Department shall identify in the SWMP any of the Department's practices and policies that conflict with implementation of the storm water program. The Department shall annually propose changes, including changes to implementation schedules, needed to resolve these conflicts and otherwise effectively implement the SWMP and the requirements of this Order.

5) *Inspection Program*

The Department shall have an inspection program to ensure that this Order and the SWMP are implemented, and that facilities are constructed, operated, and maintained in accordance with this Order and the SWMP. The program shall include training for inspection personnel, documentation of field activities, a reporting system that can be used to track effectiveness of control measures, enforcement procedures (or referral for enforcement) for non-compliance, procedures for taking corrective action, and responsibilities and responsible personnel of all affected functional offices and branches.

The inspection program shall also include standard operating procedures for documenting inspection findings, a system of escalating enforcement response to non-compliance (including procedures for addressing third party (i.e., contractor) non-compliance), and a system to ensure the timely resolution of all violations of this Order or the SWMP. The Department shall delegate adequate authority to appropriate personnel within all affected functional offices and branches to require corrective actions (including stop work orders).

6) *Incident Reporting - Non-Compliance and Potential/Threatened Non-Compliance*

The Department shall report all known incidents of non-compliance with this Order. Non-compliance may be emergency, field, or administrative. The Department shall electronically file a complete **INCIDENT REPORT FORM** (Attachment I) in the Storm Water Multiple Application Report and Tracking System (SMARTS)⁶ and provide verbal notifications as soon as practicable, but no later than the time frames specified in Attachment I. Submission of an Incident Report Form is not an admission by the Department of a violation of this Order. The types of incidents requiring non-compliance reporting are discussed in Attachment I. The State Water Board or Regional Water Board may require additional information. The Department shall include in the Annual Report a summary of all incidents by type and District, and report on the status of each.

The Department shall report all potential or threatened non-compliance to the State Water Board and appropriate Regional Water Board in accordance with the “Anticipated non-compliance” provisions described in Attachment VI (Standard Provisions). The report shall describe the timing, nature and extent of the anticipated non-compliance. An Incident Report Form is not required for anticipated non-compliance. Anticipated non-compliance may be for field or administrative incidents only.

c. Monitoring and Discharge Characterization Requirements

The Department shall revise and implement the SWMP consistent with the requirements specified below.

1) *Monitoring Site Selection*

Monitoring shall be conducted in two tiers. Tier 1 consists of all sites for which monitoring is required pursuant to the requirements of the General Exception, including Special Protections, to the California Ocean Plan waste discharge prohibitions for storm water and non-point source discharges to ASBS, and sites in impaired watersheds for which the Department has been assigned a WLA and monitoring requirements pursuant to an approved TMDL. Tier 2 consists of all sites where the Department has existing monitoring data, including both storm water and non-storm water. Tier 2 sites may include locations where the Department has conducted characterization monitoring or where monitoring has been conducted for other purposes.

⁶ <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

The Department shall conduct without limitation all Tier 1 monitoring as required under the ASBS Special Protections and under the adopted and approved TMDLs. The Department may satisfy Tier 1 monitoring requirements by participating in stakeholder groups. Retrofitting and verification monitoring under Tier 2 need not be initiated until there are less than 100 sites actively monitored under Tier 1. There shall be a minimum of 100 active monitoring sites at any one time, consisting of Tier 1, Tiers 1 and 2, or Tier 2.

Sites from Tier 2 shall be prioritized by the Department in consideration of the threat to water quality, including the pollutant and its concentration or load, the distance to receiving water, water quality objectives, and any existing impairments in the receiving waters. The prioritized list shall be submitted to the State Water Board within eight (8) months of the effective date of this Order. The State Water Board will review the prioritized list and may revise it to reflect Regional or State Water Board priorities. The revised list will be approved by the Executive Director and will become effective upon notice to the Department.

2) *Water Quality Monitoring*

a) Tier 1 Monitoring Requirements

i) Areas of Special Biological Significance

The Department's ASBS monitoring program shall include both core discharge monitoring and ocean receiving water and reference site monitoring. The State and Regional Water Boards must approve receiving water and reference site sampling locations and any adjustments to the monitoring program. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions exist.

(1) Core Discharge Monitoring Program

Core discharge monitoring is the monitoring of storm water effluents from the storm water outfalls at the priority discharge locations listed in Attachment III.

(a) General Sampling Requirements for Timing and Storm Size

Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected during the same storm and at approximately the same time when post-storm receiving water is sampled, and analyzed for

the same constituents as receiving water and reference site samples (see section E.2.c.2)a)i)(2)) as described below.

(b) Runoff Flow Measurements

For storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width, including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State Water Board. Report measurements annually for each precipitation season to the State and Regional Water Boards.

(c) Runoff samples – storm events

- (i) Outfalls equal to or greater than 18 inches (0.46m) in diameter or width.

Samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination. Samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS. If the Department has no outfall greater than 36 inches, then storm water runoff from the applicant's largest outfall shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B (shown in Attachment II) metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).

- (ii) Outfalls equal to or greater than 36 inches (0.91m) in diameter or width.

Samples of storm water runoff shall be collected during the same storm as receiving water samples and analyzed for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination. Samples of storm water runoff shall be further collected during the same storm as receiving water samples and analyzed for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and

phosphates). Samples of storm water runoff shall be collected and analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.

(d) If the Department does not participate in a regional monitoring program as described in provision E.2.c.2)a)i)(2)(b) in addition to (i) and (ii) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and analyzed for all Ocean Plan Table A (shown in Attachment II) constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For discharges to ASBS in more than one Regional Water Board, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

(e) The Executive Director of the State Water Board may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

(2) Ocean Receiving Water and Reference Area Monitoring Program
In addition to performing the Core Discharge Monitoring Program in provision E.2.c.2)a)i)(1) above, the Department must perform ocean receiving water monitoring. The Department may either implement an individual monitoring program or participate in a regional integrated monitoring program.

(a) Individual Monitoring Program

If the Department elects to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS, in addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:

(i) Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in provision E.2.c.2)a)i)(1)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan

PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled prior to (pre-storm) and during (or immediately after) the same storm (post storm). Post storm sampling shall be during the same storm and at approximately the same time as when the runoff is sampled. Reference water quality shall also be sampled three times annually and analyzed for the same constituents pre-storm and post-storm, during the same storm seasons when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).

- (ii) Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.
- (iii) A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.
- (iv) Once during each permit term and in each subsequent five year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the

State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.

(v) Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the discharger's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.

(vi) The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

(b) Regional Integrated Monitoring Program

The Department may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within an ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the prescribed individual monitoring approach described in provision E.2.c.2)a)i)(2)(a) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.

(i) Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are

303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis. Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm during the same storm season that receiving water is sampled. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled by the Department. Because the Department discharges to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

- (ii) ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than 18 inches). Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS by the Department. At a minimum, one reference station and one receiving water station shall be sampled in each applicable Regional Water Board.
- (iii) Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected during the same storm event when storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons.

- (iv) Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.
- (v) Determinations of compliance with Special Protections requirements for ASBS discharges (State Water Board resolution DWQ 2012-0012) shall be made by the Executive Director of the State Water Board or his designee. When a determination is made that a site or discharge is in compliance with the Special Protections, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1). This provision applies regardless of any continued monitoring that may be required at the site pursuant to the Special Protections.

ii) Total Maximum Daily Load Watersheds

The Department shall comply with the TMDL monitoring requirements in Attachment IV, or in orders of the Regional Water Boards pursuant to Water Code section 13383 that require TMDL-related monitoring. TMDL monitoring shall also include the constituents listed in Attachment II, except as exempted in Attachment IV.

Determinations of compliance with the TMDL shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance with the TMDL, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1) and monitoring of Attachment II constituents will be discontinued. This provision applies regardless of any continued monitoring that may be required at the site pursuant to the TMDL.

b) Tier 2 Retrofit and Verification Monitoring Requirements

Corrective actions shall be implemented at the top 15 percent of sites (rounded up) on the Tier 2 priority list, subject to the number of sites per year specified in provision E.2.c.1). Follow up monitoring shall be conducted to confirm the effectiveness of the measures implemented, as determined by the Executive Officer of the Regional Water Board or his designee. Follow up monitoring is not required where the discharge has been eliminated, or where

the implemented BMP provides full retention of the 85th percentile, 24-hour rain event.

Determinations of compliance at the Tier 2 sites shall be made by the Executive Officer of the Regional Water Board or his designee. When a determination is made that a site or discharge is in compliance, the site will no longer be considered an active monitoring site pursuant to provision E.2.c.1).

3) *Corrective Actions*

Corrective actions may include structural or non-structural BMPs. All structural BMPs must be designed according to the requirements in provisions E.2.d. and E.2.e.

4) *Field and Laboratory Data Requirements*

The Department shall prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the Surface Water Ambient Monitoring Program. All monitoring samples shall be collected and analyzed according to the Department's QAPP developed for the purpose of compliance with this Order. SWAMP Quality Assurance Program Plan (2008) is available at:

http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml

All samples shall be analyzed by a certified or accredited laboratory as required by Water Code section 13176. Global Positioning System (GPS) coordinates shall be recorded for all monitoring sites, including sites selected for the final Tier 2 priority list (top 15%) according to existing data.

Water quality data (receiving water and effluent) shall be uploaded to the Storm Water Multi-Application Reporting and Tracking System (SMARTS) and must conform to "CEDEN Minimum Data Templates" format. CEDEN Minimum Data Templates are available at <http://ceden.org/>.

Analytical results shall be filed electronically in SMARTS within 30 days of receipt by the Department.

5) *Monitoring Results Report*

The Department shall submit, separate from the Annual Report, a **MONITORING RESULTS REPORT (MRR)** by October 1 of each year.

- a) The MRR shall include a list of all sites in Tier 1 and Tier 2 being actively monitored, and the results of the past fiscal year's monitoring activities including effluent and receiving water quality monitoring.
- b) The Department shall specifically highlight sample values that exceed applicable WQSs, including toxicity objectives. Complete sample results or

lab data need not be included, but must be retained and filed electronically, and must be provided to the Regional Water Board or State Water Board as provided in provision E.2.c.4).

- c) The MRR shall include a summary of sites requiring corrective actions needed to achieve compliance with this Order, and a review of any iterative procedures (where applicable) at sites needing corrective actions.
- d) The reporting period for the MRR shall be July 1 of the prior year through June 30 of the current year.

6) *Compliance Monitoring and Reporting*

- a) The Department shall review and propose any updates, as needed, to the Non-compliance Reporting Plan for Municipal and Construction Activities in section 9.4.1 of the SWMP. The plan shall identify the staff in each District Office and Regional Water Board to send and receive **INCIDENT REPORT FORMS** (Attachment I). The Department shall continue to implement the July 2008 Construction Compliance Evaluation Plan or any updated plan as approved by the Executive Director.
- b) The Department shall summarize, by District, all non-compliance incidents, including construction, in the Annual Report. The summary shall include incident dates, types, locations, and the status of the non-compliance incidents.
- c) Receiving Water Limitations Compliance.
 - i) Upon a determination by the Department or the Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS, the Department shall provide verbal notification within five (5) days, and within 30 days thereafter submit a report to the appropriate Regional Water Board with a copy to the State Water Board. Verbal notification is not required where the determination is made by the Regional Water Board. An Incident Report is not required. Where the pollutant causing the exceedance is subject to a waste load allocation listed in Attachment IV of this Order, the Department shall comply with the requirements of the relevant TMDL in lieu of this provision.
 - ii) The report shall describe BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance. The report shall include an implementation schedule. The Regional Water Board Executive Officer may require modifications to the report.
 - iii) The Department shall submit any modifications to the report required by the Regional Water Board within 30 days of notification.
 - iv) The Department shall implement the revised BMPs and conduct any additional monitoring required according to the implementation schedule.

- d) Toxicity
 - i) Tests for chronic toxicity, where required, shall be estimated as specified in Short-term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002; Table IA, 40 Code of Federal Regulations section 136 and its subsequent amendments or revisions.
 - ii) For the Department's discharges, the In-stream Waste Concentration (IWC) is 100 percent (i.e., either is 100 percent storm water or 100% non-storm water). To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used. A Pass result indicates no toxicity at the IWC, and a Fail result indicates toxicity at the IWC. Results shall be reported as provided in provision E.2.c.5).
- e) Toxicity Reduction Evaluations (TREs)
 - i) The Department shall include in the SWMP a TRE workplan (1-2 pages) specifying the steps that will be taken in preparing a TRE, when a TRE is required pursuant to provision E.2.c.6)e)ii). The workplan shall include, at a minimum:
 - (a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and BMP efficiencies.
 - (b) A description of the steps that will be taken to identify effective pollutant/toxicity reduction opportunities.
 - (c) If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., a Department laboratory or outside contractor).
 - ii) Upon a determination that a discharge is causing or contributing to an exceedance of an applicable toxicity standard, a TRE may be required by the appropriate Regional Water Board Executive Officer on a site specific basis. The TRE shall be conducted according to the workplan in the SWMP.

d. Project Planning and Design

The Department shall describe in the SWMP how storm water management is incorporated into the project planning and design process, and how the procedures and methodologies used in the selection of Design and Construction BMPs will be used in Department projects. The Department shall implement the program specified in the SWMP, any documents incorporated into the SWMP by reference, and any additional requirements contained in this Order.

Department and Non-Department projects within the Department's ROW that are new development or redevelopment shall comply with the standard project planning and design requirements for new development and redevelopment specified below. These requirements shall apply to all new and redevelopment projects that have not completed the project initiation phase on the effective date of this Order.

1) *Design Pollution Prevention Best Management Practices*

The following design pollution prevention best management practices shall be incorporated into all projects that create disturbed soil area (DSA), including projects designed to meet the post-construction treatment requirements (Section E.2.d.2)). The SWMP shall be updated to reflect these principles.

- a) Conserve natural areas, to the extent feasible, including existing trees, stream buffer areas, vegetation and soils;
- b) Minimize the impervious footprint of the project;
- c) Minimize disturbances to natural drainages;
- d) Design and construct pervious areas to effectively receive runoff from impervious areas, taking into consideration the pervious areas' soil conditions, slope and other pertinent factors;
- e) Implement landscape and soil-based BMPs such as compost-amended soils and vegetated strips and swales;
- f) Use climate-appropriate landscaping that minimizes irrigation and runoff, promotes surface infiltration, and minimizes the use of pesticides and fertilizers; and
- g) Design all landscapes to comply with the California Department of Water Resources Water Efficient Landscape Ordinance.

<http://www.water.ca.gov/wateruseefficiency/landscapeordinance/technical.cfm>

Where the California Department of Water Resources Water Efficient Landscape Ordinance conflicts with a local water conservation ordinance, the Department shall comply with the local ordinance.

2) *Post-Construction Storm Water Treatment Controls*

a) Projects Subject to Post-Construction Treatment Requirements

i) Department Projects

The Department shall implement post construction treatment control BMPs for the following new development or redevelopment projects:

- (1) Highway Facility projects that create 1 acre or more of new impervious surface.
- (2) Non-Highway Facility projects that create 5,000 square feet or more of new impervious surface.

ii) Non-Department Projects within Department ROW

- (1) The Department shall exercise control or oversight over Non-Department projects through encroachment permits or other means.
- (2) Non-Department development or redevelopment projects shall be subject to the same post-construction treatment control requirements as Department projects.
- (3) For all Non-Department Projects that trigger post-construction treatment control requirements, the Department shall review and approve the design of post-construction treatment controls and BMPs prior to implementation.

iii) Waiver

Where a Regional Water Board Executive Officer finds that a project will have a minimal impact on water quality, the Executive Officer may waive the treatment control requirements, or lessen the stringency of the requirements, for a project. Waivers may not be granted for projects subject to treatment control requirements based on a waste load allocation assigned to the Department.

b) Numeric Sizing Criteria for Storm Water Treatment Control BMPs:

Treatment control BMPs constructed for Department and Non-Department projects shall be designed according to the following priorities (in order of preference):

- i) Infiltrate, harvest and re-use, and/or evapotranspire the storm water runoff;
- ii) Capture and treat the storm water runoff.

The storm water runoff volumes and rates used to size BMPs shall be based on the 85th percentile 24-hour storm event. This sizing criterion shall apply to the entire treatment train within Project Limits. Design Pollution Prevention BMPs can be used to comply with this requirement.

In the event the entire runoff volume from an 85th percentile 24-hour storm event cannot be infiltrated, harvested and re-used, or evapotranspired, the excess volume may be treated by Low Impact Development (LID)-based flow-through treatment devices. Where LID-based flow-through treatment devices are not feasible, the excess volume may be treated through conventional volume-based or flow-based storm water treatment devices.

The Department shall always prioritize the use of landscape and soil-based BMPs to treat storm water runoff. Other BMPs may be used only after landscape and soil-based BMPs are determined to be infeasible. The

Department shall also consider other effective storm water treatment control methods or devices for Department approval.

c) Scope of Design Criteria Applicability for Redevelopment Projects

i) For Highway Facilities:

- (1) Where redevelopment results in an increase in impervious area that is less than or equal to 50 percent of the total post-project impervious area within Project Limits, the numeric sizing criteria shall only apply to the new impervious area and not to the entire project.

If the redeveloped impervious area cannot be hydraulically separated from the existing impervious area, the Department shall either: provide treatment for redeveloped areas and as much of the hydraulically inseparable flow as feasible, based on site conditions and constraints; or identify treatment opportunities equivalent to the redeveloped area (see Alternative Compliance, below).

If it is not possible to separate the flows from redeveloped areas from the existing impervious area, the treatment system shall be designed to treat as much of the hydraulically inseparable flow as feasible, and shall bypass or divert any excess around the treatment device. The purpose of this requirement is to prevent overloading the treatment device and impairing its performance.

- (2) Where redevelopment results in an increase in impervious area that is greater than 50 percent of the total post-project impervious area within Project Limits, the numeric sizing criteria apply to the entire project.

ii) For Non-Highway Facilities, where redevelopment results in an increase in impervious area that is less than or equal to 50 percent of the total post-project impervious area of an existing development, the numeric sizing criteria shall only apply to the new impervious area and not to the entire project.

- (1) If the redeveloped impervious area cannot be hydraulically separated from the existing impervious area, the Department shall either provide treatment for existing and redeveloped areas, or identify treatment opportunities equivalent to the redeveloped area (See Alternative Compliance, below).

- (2) Where redevelopment results in an increase in impervious area that is greater than 50 percent of the total post-project impervious area of an existing development, the numeric sizing criteria apply to the entire project.

d) Alternative Compliance

If the Department determines that all or any portion of on-site treatment for a project is infeasible on-site, the Department shall prepare a proposal for alternative compliance for approval by the Regional Water Board Executive Officer or his designee until such time as a statewide process is approved by the Executive Director of the State Water Board. The proposal shall include documentation supporting the determination of infeasibility. Alternative compliance may be achieved outside Project Limits within the Department's ROW, including within another Department project. Alternative compliance to be achieved outside Project Limits shall include provisions for the long-term maintenance of such treatment facilities.

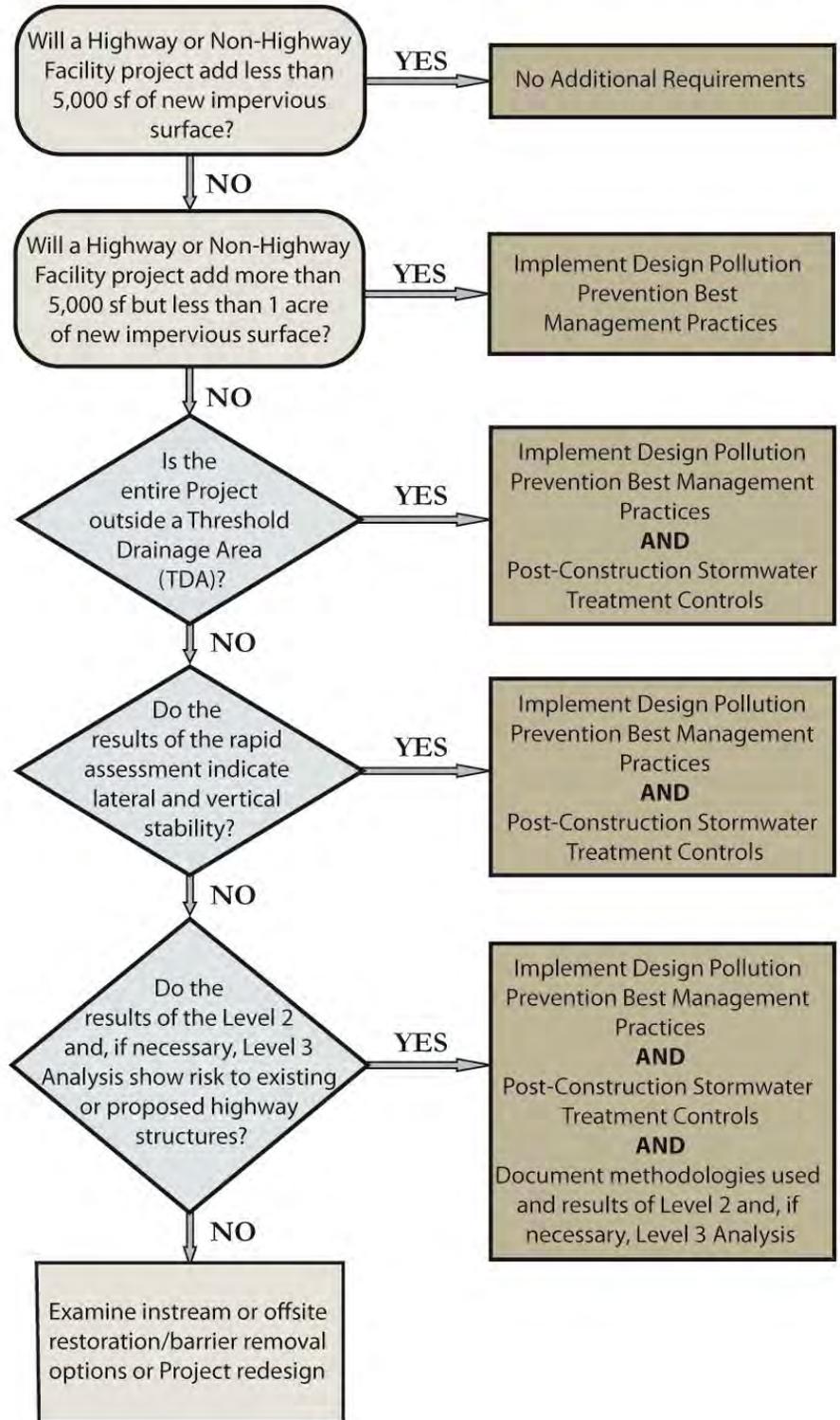
3) *Hydromodification Requirements*

The Department shall ensure that all new development and redevelopment projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. Unstable stream channels negatively impact water quality by yielding much greater quantities of sediment than stable channels. The Department shall employ the risk-based approach detailed in this permit to assess lateral and vertical stability. The approach assists the Department in assessing pre-project channel stability and implementing mitigation measures that are appropriate to protect structures and minimize stream channel bank and bed erosion. The approach is depicted in Figure 1 and described below.

- a) Highway or Non-Highway Facility projects that add between 5,000 square feet and 1 acre of new impervious surface must implement the Design Pollution Prevention Best Management Practices in Section E.2.d.1).
- b) Highway or Non-Highway Facility projects that add 1 acre or more of new impervious surface completely outside of a Threshold Drainage Area⁷ must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d.

⁷ Threshold Drainage Area is defined as the area draining to a location at least 20 channel widths downstream of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits. Delineating the Threshold Drainage Area is not necessary if there is/ are no stream crossing(s) within the Project Limits.

FIGURE 1: Hydromodification Flowchart



- c) Highway or Non-Highway Facility projects that add 1 acre or more of new impervious surface with any impervious portion of the project located within a Threshold Drainage Area must conduct a rapid assessment of stream stability⁸ at each stream crossing (e.g., pipe, culvert, swale or bridge) within that Threshold Drainage Area. If the stream crossing is a bridge, a follow up rapid assessment of stream stability is also required and can be coordinated with the federally-mandated bridge inspection process. The assessment will be conducted within a representative channel reach to assess lateral and vertical stability. A representative reach is a length of stream channel that extends at least 20 channel widths upstream and downstream of a stream crossing. For example, a 20 foot-wide channel would require analyzing a 400 foot distance upstream and downstream of the discharge point or bridge. If sections of the channel within the 20 channel width distance are immediately upstream or downstream of steps, culverts, grade controls, tributary junctions, or other features and structures that significantly affect the shape and behavior of the channel, more than 20 channel widths should be analyzed.
- d) If the results of the rapid assessment indicate that the representative reach is laterally and vertically stable (i.e., a rating of excellent or good) the Department does not have to conduct further analyses and must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d.
- e) If the results of the rapid assessment indicate that the representative reach will not be laterally and vertically stable (i.e., a rating of excellent or good), the Department must determine whether the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures by conducting appropriate Level 2 (and, if necessary, Level 3) analyses. The Department shall follow the Level 2 and 3 analysis guidelines contained in HEC-20 (FHWA, 2001) or a suitable equivalent within an accessible portion of the reach. If the results of the appropriate Level 2 (and, if necessary Level 3) analyses indicate that there is no risk to existing or proposed highway structures, the Department must implement the Design Pollution Prevention Best Management Practices and the Post-Construction Storm Water Treatment Controls in Section E.2.d. and document the methodologies used, the results, and the mitigation measures suggested as part of the appropriate Level 2 and, if necessary, Level 3 analyses.
- f) If the results of the Level 2 and 3 analysis indicate that the instability, in conjunction with the proposed project, poses a risk to existing or proposed highway structures, other options must be implemented, including, but not limited to, in-stream and floodplain enhancement/restoration, fish barrier

⁸ Guidance and worksheets used for the rapid assessment of stream stability are in the Federal Highway Administration publication "Assessing Stream Channel Stability at Bridges in Physiographic Regions" (FHWA, 2006).

removal as identified in the report required under Article 3.5 of the Streets and Highways Code (see below), regional flow control, off-site BMPs, and, if necessary, project re-design.

- 4) *Stream Crossing Design Guidelines to Maintain Natural Stream Processes*
The Department shall review and revise as necessary the guidance document “Fish Passage Design for Road Crossings” (Department, 2009). In reviewing and revising the guidance document, the Department shall be consistent with the latest stream crossing design, construction, and rehabilitation criteria contained in the California Salmonid Stream Habitat Restoration Manual (California Department of Fish & Game, 2010) and National Marine Fisheries Service guidance (NMFS, 2001). The review shall be completed no later than one year after the effective date of this Order. The Department shall submit in the Year 2 Annual Report a report detailing the review of the guidance document. The Year 2 Annual Report shall also report on the implementation of the road crossing guidelines.

If it is infeasible to meet any of the guidelines specified above, the Department shall prepare written documentation justifying the determination of infeasibility. Documentation shall be provided to the Regional Water Board for approval.

The Department shall submit to the State Water Board by October 1 of each year the same report required under Article 3.5 of the Streets and Highways Code requiring the Department to report on the status of its efforts in locating, assessing, and remediating barriers to fish passage.

e. BMP Development & Implementation

In the SWMP, the Department shall include a description of how BMPs will be developed, constructed and maintained. The Department shall continue to evaluate and investigate new BMPs through pilot studies. The Department shall submit updates to the **STORM WATER TREATMENT BMP TECHNOLOGY REPORT** and the **STORM WATER MONITORING AND BMP DEVELOPMENT STATUS REPORT** in the Annual Report.

1) *Vector Control*

- a) All storm water BMPs that retain storm water shall be designed, operated and maintained to minimize mosquito production, and to drain within 96 hours of the end of a rain event, unless designed to control vectors. BMPs shall be maintained at the frequency specified by the manufacturer. This limitation does not apply in the Lake Tahoe Basin and in other high-elevation regions of the Sierra Nevada above 5000 feet elevation with similar alpine climates. The Department shall operate and maintain all BMPs to prevent the propagation of vectors, including complying with applicable provisions of the California Health and Safety Code relating to vector control.

- b) The Department shall cooperate and coordinate with the California Department of Public Health (CDPH) and with local mosquito and vector control agencies on issues related to vector production in the Department's structural BMPs. The Department shall prepare and maintain an inventory of structural BMPs that retain water for more than 96 hours. The inventory need not include BMPs in the Lake Tahoe Basin or other regions of the Sierra Nevada above 5000 feet. The inventory shall be provided to CDPH in electronic format for distribution to local mosquito and vector control agencies. The inventory shall be provided in Year 2 of the permit and updated every two years.

2) *Storm Water Treatment BMPs*

- a) The Department shall inspect all newly installed storm water treatment BMPs within 45 days of installation to ensure they have been installed and constructed in accordance with approved plans. If approved plans have not been followed, the Department shall take appropriate remedial actions to bring the BMP or control into conformance with its approved design.
- b) The Department shall inspect all installed storm water treatment BMPs at least once every year, beginning one year after the effective date of this Order.
- c) The Department may drain storm water treatment BMPs to the MS4 if the discharge does not cause or contribute to exceedances of water quality standards. Retained sediments shall be disposed of properly, in compliance with all applicable local, State, and federal acts, laws, regulations, ordinances, and statutes.
- d) The Department shall develop and utilize a watershed-based database to track and inventory treatment BMPs and treatment BMP maintenance within its jurisdiction. At a minimum, the database shall include:
 - i) Name and location of BMP;
 - ii) Watershed, Regional Water Board and District where project is located;
 - iii) Size and capacity;
 - iv) Treatment BMP type and description;
 - v) Date of installation;
 - vi) Maintenance certifications or verifications;
 - vii) Inspection dates and findings;
 - viii) Compliance status;
 - ix) Corrective actions, if any; and
 - x) Follow-up inspections to ensure compliance.

Electronic reports for each BMP inspected during the reporting period shall be submitted to each associated Regional Water Board in tabular form. A summary of the tracking system data shall be included in the Annual Report along with a report on maintenance activities for post construction BMPs.

The tracking system database shall be made available to the State Water Board or any Regional Water Board upon request.

3) BMPs shall not constitute a hazard to wildlife.

4) *Biodegradable Materials.*

The Department shall utilize wildlife-friendly 100% biodegradable⁹ erosion control products wherever feasible. At any site where erosion control products containing non-biodegradable materials have been used for temporary site stabilization, the Department shall remove such materials when they are no longer needed. If the Department finds that erosion control netting or products have entrapped or harmed wildlife at any site or facility, the Department shall remove the netting or product and replace it with wildlife-friendly biodegradable products.

f. Construction

1) *Compliance with the Statewide Construction Storm Water General Permit (CGP) and Lake Tahoe Construction General Permit (TCGP)*

Construction activities that may receive coverage under the CGP or the TCGP are not covered under this MS4 Permit. The Department shall electronically file Permit Registration Documents (PRD) for coverage under the CGP or TCGP for all projects subject to the CGP or TCGP.

2) *Construction Activities not Requiring Coverage Under the CGP*

For construction activities that are not subject to the CGP or the TCGP, the Department shall implement BMPs to reduce the discharge of pollutants to the MEP in storm water discharges associated with land disturbance activities including clearing, grading and excavation activities that result in the disturbance of less than one acre of total land area. The Department shall also implement BMPs to reduce the discharge of pollutants to the MEP for construction and maintenance activities that do not involve land disturbance such as roadway and parking lot repaving and resurfacing. The Department must comply with any region-specific waste discharge requirements, including any requirements applicable to activities involving less than one acre land disturbance.

3) *Construction Projects Involving Lead Contaminated Soils*

The Department has applied for and received variances from the California Department of Toxic Substances Control (DTSC) for the reuse of some soils that contain lead. For construction projects that have received a DTSC variance, the Department shall notify the appropriate Regional Water Board in writing 30 days prior to advertisement for bids to allow a determination by the Regional Water Board of the need for development of Waste Discharge Requirements (WDRs).

⁹ For purposes of this Order, photodegradable synthetic products are not considered biodegradable.

4) *Pavement Grindings*

The Department shall comply with the requirements of the Regional Water Boards for the management of pavement grindings as well as with all local and State regulations, including Titles 22 and 27 of the California Code of Regulations.

5) *Contractor Compliance*

The Department shall require its contractors to comply with this Order and with all applicable requirements of the CGP.

6) *Construction Non-Compliance Reporting*

Incidents of non-compliance with the CGP shall be reported pursuant to the provisions of the CGP. The Department shall provide in the Annual Report a summary of all construction project non-compliance (Section E.2.c.6b)).

g. Compliance with Statewide Industrial Storm Water General Permit (IGP)

Industrial activities are not covered under this MS4 permit. The Department shall electronically file PRDs for coverage under the IGP for all facilities subject to coverage under the IGP. The categories of industrial facilities are provided in Attachment 1 of the Industrial General Permit (NPDES Permit No. CAS000001; the current Order No. 97-03-DWQ). The Department shall require its industrial facility contractors to comply with all requirements of the IGP. The discharge of pollutants from facilities not covered by the Industrial General Permit will be reduced to the MEP through the appropriate implementation of BMPs.

h. Maintenance Program Activities and Facilities Operations

1) *Implement SWMP Requirements*

The Department shall implement the program specified in the SWMP to reduce or eliminate pollutants in storm water discharges from Department maintenance facilities and maintenance activities. The Department shall also implement any additional requirements contained in this Order.

2) A **FACILITY POLLUTION PREVENTION PLAN (FPPP)** describes the activities conducted at a facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in storm water runoff from the facility.

The Department shall prepare, revise and/or update the FPPPs for all maintenance facilities by October 1 of the first year. Each facility shall be evaluated separately and assigned appropriate site specific BMPs. The FPPP shall describe the activities conducted at the facility and the BMPs to be implemented to reduce or eliminate the discharge of pollutants in storm water runoff from the facility. The FPPP shall describe the inspection program used to ensure that maintenance BMPs are implemented and maintained. The Department shall identify in each Annual Report the status of the FPPP for each

Maintenance Facility by District and Region, including the date of the last update or revision and the nature of any revisions.

The Department shall evaluate all non-maintenance Facilities, excluding leased properties, for water quality problems. If the Department identifies a water quality problem at a non-maintenance facility, it shall prepare an FPPP for that facility. If Regional Water Board staff determines that a non-maintenance facility may discharge pollutants to the storm water drainage system or directly to surface waters, the Department shall prepare an FPPP for that facility.

Regional Water Board staff has the authority to require the submittal of an FPPP at any time, to require changes to a FPPP, and to require changes in the implementation of the provisions of a FPPP.

3) *Highway Maintenance Activities*

a) The Department shall develop and implement runoff management programs and systems for existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters. The Department shall:

- i) Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures). Priority shall be given to sites in sensitive watersheds or where there is an existing or potential threat to water quality;
- ii) Establish schedules for implementing appropriate controls; and
- iii) Identify road segments with slopes that are prone to erosion and sediment discharge and stabilize these slopes to control the discharge of pollutants to the MEP. An inventory of vulnerable road segments shall be maintained in the District Work Plans. Stabilization activities shall be reported in the Annual Report. This section does not apply to landslides and other forms of mass wasting which are covered under section E.2.h.3)d).

b) *Vegetation Control*

The Department shall control its handling and application of chemicals including pesticides, herbicides, and fertilizers to reduce or eliminate the discharge of pollutants to the MEP. The Department shall incorporate integrated pest management and integrated vegetation management practices into its vegetation control program¹⁰. At a minimum, the Department shall:

- i) Apply herbicides and pesticides in compliance with federal, state and local use regulations and product label directions.

¹⁰ <http://www.epa.gov/opp00001/factsheets/ipm.htm> and <http://www.ipm.ucdavis.edu/>

- (1) Violations of regulations shall be reported to the County Agricultural Commissioners within 10 business days.
 - (2) The Annual Report shall include a summary of violations and follow-up actions to correct them.
- ii) Minimize the application of chemicals by using integrated pest management and integrated vegetation management. For example, the Department may reduce the need for application of fertilizers and herbicides by using native species and using mechanical and biological methods for control of exotic species.
 - iii) Prior to chemical applications, assess site-specific and application-specific conditions to prevent discharge. The assessment shall include the following variables:
 - (1) Expected precipitation events, especially those with the potential for high intensity;
 - (2) Proximity to water bodies;
 - (3) Intrinsic mobility of the chemical;
 - (4) Application method, including any tendency for aerial dispersion;
 - (5) Fate and transport of the chemical after application;
 - (6) Effects of using combinations of chemicals; and
 - (7) Other conditions as identified by the applicator.
 - iv) Apply nutrients at rates and by means necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.
 - v) Ensure that all employees or contractors who, within the scope of their duties, prescribe or apply herbicides, pesticides, or fertilizers (including over-the-counter products) are appropriately trained and licensed to comply with these provisions.
 - vi) Propose SWMP provisions as appropriate.
 - vii) Include the following items in the Annual Report:
 - (1) A summary of the Department's chemical use. Report the quantity of chemicals used during the previous reporting period by name and type of chemical, by District, and by month.
 - (2) An assessment of long-term trends in herbicide usage. Include a table presenting yearly District herbicide totals by chemical type;
 - (3) A comparison of the statewide herbicide use with the Department's herbicide reduction goals;

- (4) An analysis of the effectiveness of implementation of vegetation control BMPs. Improvements to BMP implementation either being used or proposed for usage shall be discussed. If no improvements are proposed, explain why;
- (5) Justification for any increases in use of herbicides, pesticides, and fertilizers;
- (6) A report on the number and percentage of employees who apply pesticides and have been trained and licensed in the Department's Pesticide and Fertilizer Pollution Control Program policies; and
- (7) Training materials, if requested by the State Water Board.

c) Storm Water Drainage System Facilities Maintenance

- i) The Department shall inspect all urban¹¹ drainage inlets and catch basins a minimum of once per year and shall remove all waste and debris from drainage inlets and catch basins when waste and debris have accumulated to a depth of 50 percent of the inlet or catch basin capacity.
- ii) Waste and debris, including sweeper and vacuum truck waste, shall be managed and reported in accordance with all applicable laws and regulations, including the Cal. Code Regs. Title 27, Division 2, Subdivision 1.
- iii) The Department shall develop a **WASTE MANAGEMENT PLAN** that includes a comprehensive inventory of waste storage, transfer, and disposal sites; the source(s) of waste and the physical and chemical characterization of the waste retained at each site; estimated annual volumes of material and existing or planned waste management practices for each waste and facility type. Waste characterization need not be conducted on a site-by-site basis but may be evaluated programmatically based upon the highway environment and associated land uses contributing to the sites, climate, and ecoregion. The Waste Management Plan shall be submitted for State Water Board review and approval within one year of the effective date of this Order.

d) Landslide Management Activities

The Department shall develop a **LANDSLIDE MANAGEMENT PLAN** that includes BMPs for Department construction and maintenance work landslide-related activities (e.g., prevention, containment, clean-up). The *Landslide Management Plan* shall address all forms of mass wasting such as slumps, mud flows, and rockfalls, and shall include BMPs specifically for burn site management activities. The Department shall submit the *Landslide Management Plan* with the Year 1 Annual Report and implement the *Landslide Management Plan* for the remainder of the Permit term.

¹¹ For purposes of this requirement, the term "urban" shall mean located within an "urbanized area" as determined by the latest Decennial Census by the Bureau of the Census (Urbanized Area).

4) *Surveillance Activities*

a) Spill Response

The Department will follow the applicable Emergency Management Agency (EMA) procedures and timelines specified in Water Code sections 13271 and 13272 for reporting spills.

b) Illegal Connection/Illicit Discharge (IC/ID) and Illegal Dumping Response

i) The Department shall implement the BMPs and other requirements of the SWMP and this Order to reduce and eliminate IC/IDs and illegal dumping.

ii) The Department shall develop an **IC/ID AND ILLEGAL DUMPING RESPONSE PLAN** that includes, at a minimum, the following:

- (a) Procedures for investigating reports or discoveries of IC/IDs or incidents of illegal dumping, for remediating or eliminating the IC/IDs, and for clean-up of illegal dump sites.
- (b) Procedures for prevention of illegal dumping at sites subject to repeat or chronic incidents of illegal dumping.
- (c) Procedures for educating the public, raising awareness and changing behaviors regarding illegal dumping, and encouraging the public to contact the appropriate local authorities if they witness illegal dumping.

Within 6 months of the effective date of this Order, the Department shall submit the **IC/ID AND ILLEGAL DUMPING RESPONSE PLAN** to the State Water Board Executive Director for approval.

iii) The Department shall report all suspected IC/IDs to the Regional Water Board.

c) Reporting Requirements for Trash and Litter

The Department shall report on the trash and litter removal activities that are currently underway or are initiated after adoption of this Order. Activities include, but are not limited to, storm drain maintenance, road sweeping, public education and the Adopt-A-Highway program. Reporting and assessment of these or future activities shall follow protocols established by the Department and shall include estimated annual volumes of the trash and litter removed. Results shall be submitted as part of the Annual Report in a summary format by District. Prior year's data shall be included to facilitate an analysis of trends.

d) Department Activities Outside the Department's Right-of-Way

The Department shall include provisions in its contracts that require the contractor to obtain and comply with applicable permits for project-related facilities and operations outside the Department's ROW. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry

processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads.

5) *Maintenance Facility Compliance Inspections*

- a) District staff shall inspect all maintenance facilities at least twice annually. Follow up inspections shall be conducted when deficiencies are noted. The inspections are to identify areas contributing to a discharge of pollutants associated with maintenance facility activities, to determine if control practices to reduce pollutant loadings identified in the Facility Pollution Prevention Plans (FPPP) are adequate and properly implemented, and to determine whether additional control practices are needed. The District shall keep a record of inspections. The record of the inspections shall include the date of the inspection, the individual(s) who performed the inspection, a report of the observations, recommendations for any corrective actions identified or needed, and a description of any corrective actions undertaken.
- b) The Regional Water Board may require the Department to conduct additional site inspections, to submit reports and certifications, or to perform additional sampling and analysis to the extent authorized by the Water Code.
- c) Records of all inspections, compliance certifications, and non-compliance reporting shall be retained for a period of at least three years. With the exception of non-compliance reporting, the Department is not required to submit these records unless requested.

6) *Operation and Maintenance of Post-Construction BMPs*

The Department shall prepare and implement long-term operation and maintenance plans for every site subject to the post-construction storm water treatment design standards. The plans must ensure the following: a) Long-term structural LID BMPs are maintained as necessary to ensure they continue to work effectively; b) Proprietary devices are maintained according to the manufacturer's directions; and c) Post-construction BMPs are replaced if they lose their effectiveness.

i. Non-Departmental Activities

The Department shall summarize its control over all non-departmental (third party) activities performed on Department ROW in the SWMP. The summary shall describe how the Department shall ensure compliance with this Order in all non-departmental activities.

The Department shall not grant or renew encroachment permits or easements benefitting any third party required to obtain coverage under the Statewide Construction and/or Industrial Storm Water General Permits unless the party has obtained coverage. In all leases, rental agreements, and all other contracts with

third parties conducting activities within the ROW, the Department shall require the third party to comply with applicable requirements of the Construction General Permit, the Industrial General Permit, and this Order.

j. Non-Storm Water Activities/ Discharges

- 1) The Department shall describe the management activities for all non-storm water discharges in the SWMP. Management activities shall include the procedures for prohibiting illicit discharges and illegal connections, and procedures for spill response, cleanup, reporting, and follow-up.
- 2) *Agricultural Return Flows*
The Department shall provide reasonable support to the monitoring activities of agricultural dischargers whose runoff enters the MS4. Reasonable support includes facilitating monitoring activities, providing necessary access to monitoring sites, and cooperating with monitoring efforts as needed. It does not include actively conducting monitoring or providing funding. The Department may require agricultural dischargers to follow established Department access and encroachment procedures in establishing sites and conducting monitoring activities, and may deny access at sites that may restrict traffic flow or pose a danger to any party.
- 3) See Section B of this Order for the complete list of conditionally exempt non-storm water discharges and compliance requirements.

k. Training

- 1) The Department shall implement a training program for Department employees and construction contractors. The training program shall be described in the SWMP.
- 2) The training program shall cover:
 - a) Causes and effects of storm water pollution;
 - b) Regulatory requirements;
 - c) Best Management Practices;
 - d) Penalties for non-compliance with this Order; and
 - e) Lessons learned.
- 3) The Department shall provide a review and assessment of all training activities in the Annual Report.

I. Public Education and Outreach

The Department shall implement a Statewide Public Education Program and describe it in the SWMP. The Department shall continue to seek opportunities to participate in public outreach and education activities with other MS4 permittees.

1) The Statewide Public Education Program shall include the following elements:

- a) Research: A plan for conducting research on public behavior that affects the quality of the Department's runoff. The information gathered will form the foundation for all the public education conducted.
- b) Education: Education of the general public to modify behavior and communicate with commercial and industrial entities whose actions may add pollutants to the Department's storm water.
- c) Mass Media Advertising: Continue the advertising campaign as a focal point of the public education strategy. The campaign should focus on the behaviors of concern and should be designed to motivate the public to change those behaviors. The public education campaign should be revised and updated according to the results of the research. The Department may cooperate with other organizations to implement the public education campaign.

2) A **PUBLIC EDUCATION PROGRAM PROGRESS REPORT** shall be submitted as part of the Annual Report.

m. Program Evaluation

1) The Department shall implement the program specified in the SWMP and any additional requirements contained in this Order.

2) **Field Activities SELF-AUDIT**

The Department will perform compliance evaluations for field activities including construction, highway maintenance, facility maintenance, and selected targeted program components. The results of the field compliance evaluations for each fiscal year will be provided in the Annual Report.

3) **OVERALL PROGRAM EFFECTIVENESS EVALUATION:**

Each year, the Department shall submit an **OVERALL PROGRAM EFFECTIVENESS EVALUATION** together with the Annual Report. The Department shall increase the scope of the evaluation each year in response to the environmental monitoring data it collects. The effectiveness evaluation shall be comparable to that outlined in CASQA's *Municipal Stormwater Program Effectiveness Assessment Guidance*¹² and shall emphasize assessment of BMPs specifically targeting primary pollutants of concern. The effectiveness evaluation shall include, but is not limited to, the following components:

¹² <https://www.casqa.org/store/products/tabid/154/p-7-effectiveness-assessment-guide.aspx>

- a) Assessment of program effectiveness in achieving permit requirements and measurable objectives.
 - b) Assessment of program effectiveness in protecting and restoring water quality and beneficial uses.
 - c) Identification of quantifiable effectiveness measurements for each BMP, including measurements that link BMP implementation with improvement of water quality and beneficial use conditions.
 - d) Identification of how the Department will propose revisions to the SWMP to optimize BMP effectiveness when effectiveness assessments identify BMPs or programs that are ineffective or need improvement.
- n. Measurable Objectives
The Department shall implement the program specified in the SWMP and any additional requirements contained in this Order. In the SWMP, the Department shall identify measurable objectives to meet the SWMP's goals, proposed activities and tasks to meet the objectives, and a time schedule for the proposed activities and tasks. In the Annual Report, the Department shall report on its progress in meeting the measurable objectives.
- o. References
The Department shall provide references for all information, documents, and studies used in the development of the SWMP.

3. Annual Report

- a. The Department shall submit 13 copies of an **ANNUAL REPORT** to the State Water Board Executive Director by October 1 of each year. An electronic copy shall also be uploaded into SMARTS in the portable document format (PDF). The reporting period for the Annual Report shall be July 1 through June 30. The Annual Report shall contain all information and submittals required by this Order including, but not limited to:
 - 1) A District-by-District description of storm water pollution control activities conducted during the reporting period;
 - 2) A progress report on meeting the SWMP's measurable objectives;
 - 3) An Overall Program Effectiveness Evaluation as described in section E.2.m.3);
 - 4) Proposed revisions to the SWMP, including revisions to existing BMPs, along with corresponding justifications;
 - 5) A report on post-construction BMP maintenance activities;
 - 6) A list of non-approved BMPs that were implemented in each District during the reporting period including the type of BMP, reason for use, physical location, and description of any monitoring;
 - 7) An evaluation of project planning and design activities conducted during the year;

- 8) A summary of non-compliance with this Order and the SWMP as specified in Section E.2.c.6)b). The summary shall include an assessment of the effectiveness of any Department enforcement and penalties, and as appropriate, proposed solutions to improve compliance;
- 9) An evaluation of the Monitoring Results Report, including a summary of the monitoring results;
- 10) Proposed revisions to the Department's Vegetation Control Program;
- 11) Proposals for monitoring and control of non-storm water discharges that are found to be sources of pollutants as described in Section B. of this Order;
- 12) District Workplans (See below); and
- 13) Measures implemented to meet region-specific requirements.

A partial summary of reporting requirements is contained in Attachment IX of this Order.

b. ***DISTRICT WORKPLANS***

The Department shall submit ***DISTRICT WORKPLANS*** (workplans) for each District by October 1 of each year, as part of the Annual Report. The workplans will be forwarded to the appropriate Regional Water Board Executive Officer for acceptance. Workplans are deemed accepted after 60 days after receipt by the Regional Water Board unless rejected in writing. District staff shall meet with Regional Water Board staff on an annual basis prior to submittal of the workplans to discuss alternatives and ensure that appropriate post construction controls are included in the project development process through review of the workplan and early consultation and coordination between District and Regional Water Board staff. Workplans shall conform with the requirements of applicable Regional Water Board Basin Plans and shall include, at a minimum:

- 1) A description of all activities and projects, including maintenance projects, to be undertaken by the Districts. For all projects with soil disturbing activities, this shall include a description of the construction and post construction controls to be implemented;
- 2) The area of new impervious surface and the percentage of new impervious surface to existing impervious surface for each project;
- 3) The area of disturbed soil associated with each project or activity;
- 4) A description of other permits needed from the Regional Water Boards for each project or activity;
- 5) Potential and actual impacts of the discharge(s) from each project or activity;
- 6) The proposed BMPs to be implemented in coordination with other MS4 permittees to comply with WLAs and LAs assigned to the Department for specific pollutants in specific watersheds or sub watersheds;
- 7) The elements of the statewide monitoring program to be implemented in the District;

- 8) Identification of high-risk areas (such as locations where spills or other releases may discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities);
- 9) Spill containment, spill prevention and spill response and control measures for high-risk areas; and
- 10) Proposed measures to be taken to meet Region-specific requirements included in Attachment V.
- 11) An inventory of vulnerable road segments having slopes that are prone to erosion and sediment discharge.

4. TMDL Compliance Requirements

a. Implementation

The Department shall comply with all TMDL-related requirements identified in Attachment IV.

In addition, consistent with provision E.11.b of this Order, the State Water Board may reopen this Order to incorporate any modifications or revisions to the TMDLs in Attachment IV, or to incorporate any new TMDLs adopted during the term of this Order that assign a WLA to the Department or that identify the Department as a responsible party in the TMDL implementation plan.

b. Status Review Report

The Department shall prepare a **TMDL STATUS REVIEW REPORT** to be submitted with each Annual Report. The **TMDL STATUS REVIEW REPORT** shall include all information required in Attachment IV.

5. ASBS Compliance Requirements

a. Priority Discharges

Attachment III, ASBS Priority Discharge Locations, identifies representative monitoring locations where the Department has priority discharges to ASBS. Priority discharges are those that pose the greatest threat to water quality in the ASBS and which the State Water Board identifies to require monitoring and potential installation of structural or non-structural controls.

b. Alternate Locations

The Executive Director of the State Water Board may authorize revisions to Attachment III, ASBS Priority Discharge Locations, where access limitations or safety considerations make it infeasible to conduct monitoring. Alternate locations proposed by the Department shall be in as close proximity to the original priority discharge locations as is feasible.

c. Compliance Schedule

- 1) On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) to ASBS shall be effectively prohibited.
- 2) No later than September 20, 2013, the Department shall submit a draft written ASBS Compliance Plan to the State Water Board Executive Director that describes its strategy to comply with these provisions, including the requirement to maintain natural water quality in the affected ASBS (see provision E.5.d.). The final ASBS Compliance Plan, including a description and final schedule for structural controls based on the results of runoff and receiving water monitoring, shall be submitted no later than September 20, 2015 and shall be included in the SWMP.
- 3) Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these provisions shall be implemented.
- 4) Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these provisions shall be operational.
- 5) Within six (6) years of the effective date of the Exception, the Department must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the Department must re-sample the receiving water, pre- and post-storm. If after re-sampling, the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See Figure 2.
- 6) The Executive Director of the State Water Board may only authorize additional time to comply with provisions E.5.b.4) and E.5.b.5) above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If the Department claims physical impossibility, it shall notify the Executive Director of the State Water Board in writing within thirty (30) days of the date that the discharger Department first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in provisions E.5.c.4) or E.5.c.5). The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Permit provision. The Department shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of

the delay on water quality, the measures taken or to be taken by the Department to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Department shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

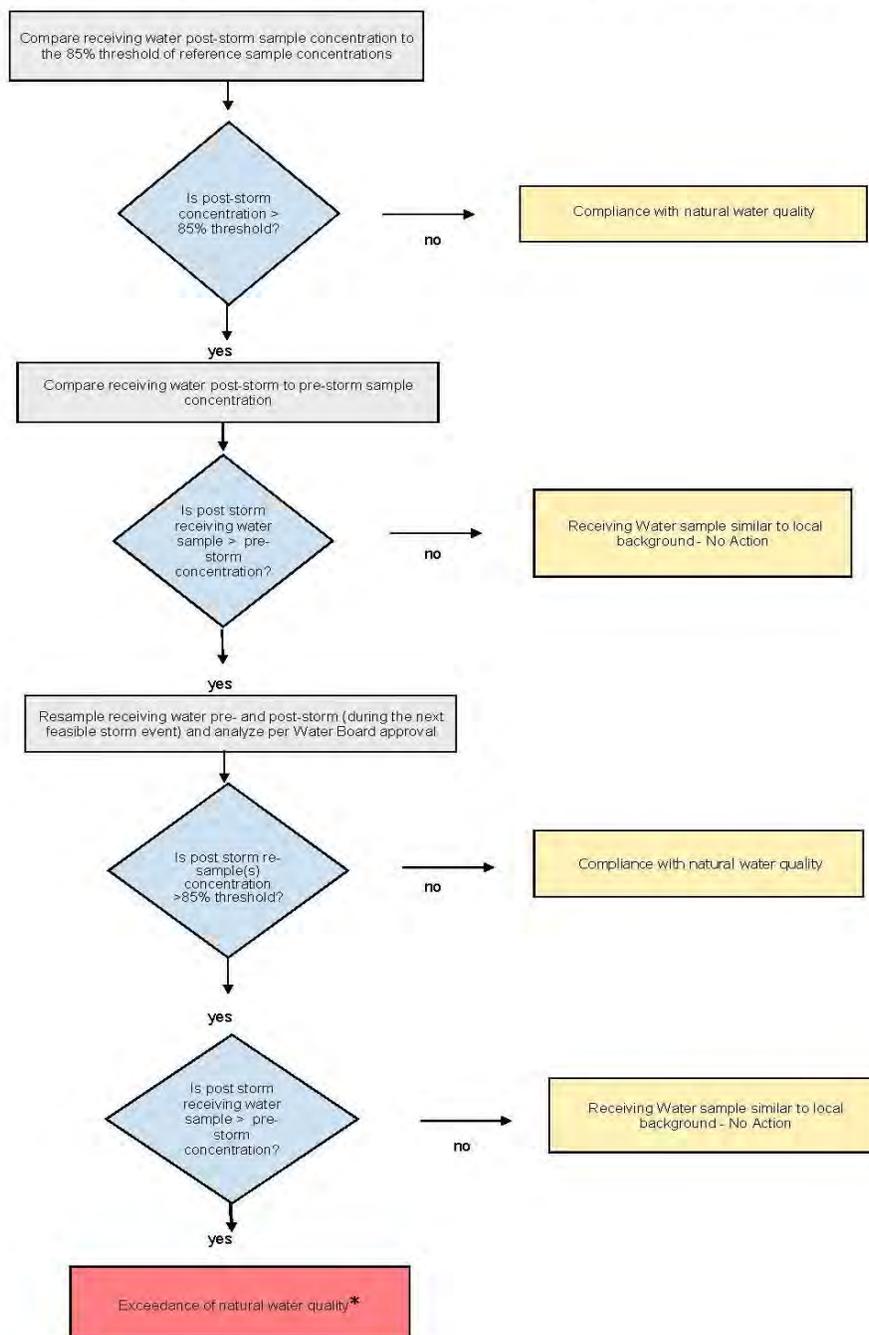
The Department may request an extension of time for compliance based on lack of funding. The request for an extension shall require a demonstration and documentation of a good faith effort to acquire funding through the Department's budgetary process, and a demonstration that funding was unavailable or inadequate.

d. ASBS Compliance Plan

The Department shall develop and submit to the Executive Director of the State Water Board a draft ASBS Compliance Plan not later than September 20, 2013. The ASBS Compliance Plan shall address all locations listed in Attachment III as follows:

- 1) Include a map of surface drainage of storm water runoff, showing areas of sheet runoff, priority discharge locations, and any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion, and waste and hazardous material storage areas, if applicable.
- 2) Describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.
- 3) Require minimum inspection frequencies as follows:
 - a) The minimum inspection frequency for construction sites shall be weekly during the rainy season;
 - b) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season; and
 - c) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season, and maintained to remove trash and other anthropogenic debris.

Figure 2
ASBS Special Protections
Flowchart to Determine Compliance with Natural Water Quality



*** When an exceedance of natural water quality occurs, the Department must comply with section I.A.2.h of the Special Protections as well as the requirements of this Order. Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.**

- 4) Address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the discharger can document to the satisfaction of the State Water Board Executive Director that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:
 - a) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
 - b) A 90% reduction in pollutant loading during storm events, for the Department's total discharges.

The baseline for these determinations is the effective date of the Exception, except for those structural BMPs installed between January 1, 2005 and adoption of the Special Protections.

- 5) Address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.
 - 6) Describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures currently employed and planned for higher threat discharges, and shall include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, the Department must first consider, and use where feasible, LID practices to infiltrate, use, or evapotranspire storm water runoff on-site, if LID practices would be the most effective at reducing pollutants from entering the ASBS.
 - 7) The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.
- e. Reporting
- If the results of the receiving water monitoring described in provision E.2.c.2)a)i) indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the discharger shall submit a report to the State Water Board and Regional Water Board within 30 days

of receiving the results.

- 1) The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.
- 2) The report shall describe BMPs that are currently being implemented, BMPs that are identified in the SWMP for future implementation, and any additional BMPs that may be added to the SWMP to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.
- 3) Within 30 days of the approval of the report by the State Water Board Executive Director, the discharger shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.
- 4) As long as the discharger has complied with the procedures described above and is implementing the revised SWMP, the discharger does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.

6. Region Specific Requirements

- a. The Department shall implement the region-specific requirements specified in this Order.
- b. In the SWMP, the Department shall describe how individual Districts will address region-specific requirements in each Regional Water Board.
- c. Region specific requirements are specified in Attachment V of this Order.

7. Regional Water Board Authorities

- a. Upon the effective date of this Order, the Regional Water Boards shall enforce the requirements of this Order. Enforcement may include, but is not limited to, reviewing FPPPs, reviewing workplans and monitoring reports, conducting compliance inspections, conducting monitoring, reviewing Annual Reports and other information, and issuing enforcement orders.
- b. Regional Water Boards may require submittal of FPPPs.
- c. Regional Water Boards may require retention of records for more than three years.
- d. To the extent authorized by the Water Code, Regional Water Boards may impose additional monitoring and reporting requirements and may provide guidance on monitoring plan implementation (Water Code, § 13383).
- e. Regional Water Board staff may inspect the Department's facilities, roads, highways, bridges, and construction sites.

- f. Regional Water Boards may issue other individual storm water NPDES permits or WDRs to the Department, particularly for discharges beyond the scope of this Order.

8. Requirements of Other Agencies

This Order does not preempt or supersede the authority of other State or local agencies (such as the Department of Toxic Substances Control or the California Coastal Commission) and local municipalities to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdictions as allowed by State and federal law.

9. Standard Provisions

The Department shall comply with the Standard Provisions (Attachment VI) and any amendments thereto.

10. Permit Compliance and Rescission of Previous Waste Discharge Requirements

This Order shall serve and become effective as an NPDES permit and the Department shall comply with all its requirements on July 1, 2013. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 99-06-DWQ, except for compliance purposes for violations occurring before the effective date of this Order.

11. Permit Re-Opener

This Order may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations 122.62, 122.63, 122.64, and 124.5. The State Water Board may reopen and modify this Order at any time prior to its expiration under any of the following circumstances:

- a. Present or future investigations demonstrate that the discharge(s) regulated by this Order may have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses.
- b. New or revised Water Quality Objectives come into effect, or any new TMDL is adopted or revised that assigns a WLA to the Department or that identifies the Department as a responsible party in the TMDL implementation plan. In such cases, effluent limitations and other requirements in this Order may be modified as necessary to reflect the new TMDLs or the new or revised Water Quality Objectives; or
- c. TMDL-specific permit requirements for adopted TMDLs are developed by a Regional Water Board for incorporation into this Order.

- d. The State Water Board determines, after opportunity for public comment and a public workshop, that revisions are warranted to those provisions of the Order addressing compliance with water quality standards in the receiving water and/or those provisions of the Order establishing an iterative process for implementation of management practices to assure compliance with water quality standards in the receiving water.

12. Dispute Resolution

In the event of a disagreement between the Department and a Regional Water Board over the interpretation of any provision of this Order, the Department shall first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a satisfactory resolution is not obtained at the Regional Water Board level, the Department may submit the issue in writing to the Executive Director of the State Water Board or his designee for resolution, with a copy to the Executive Officer of the Regional Water Board. The issue must be submitted to the Executive Director within ten days of any final determination by the Executive Officer of the Regional Water Board. The Executive Officer of the Regional Water Board will be provided an opportunity to respond.

13. Order Expiration and Reapplication

- a. This Order expires on June 30, 2018.
- b. If a new order is not adopted by June 30, 2018, then the Department shall continue to implement the requirements of this Order until a new one is adopted.
- c. In accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations, the Department shall file a report of waste discharge no later than 180 days before the expiration date of this Order as application for reissuance of this permit and waste discharge requirements. The application shall be accompanied by a SWMP, and a summary of all available water quality data for the discharge and receiving waters, including conventional pollutant data from at least the most recent three years, and toxic pollutant data from at least the most recent five years, in the discharge and receiving water. Additionally, the Discharger shall include the final results of any studies that may have a bearing on the limits and requirements of the next permit.

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

**FACT SHEET
FOR**

ORDER 2012-0011-DWQ

AS AMENDED BY
ORDER WQ 2014-0006-EXEC,
ORDER WQ 2014-0077-DWQ, AND
ORDER WQ 2015-0036-EXEC

NPDES NO. CAS000003
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
STATEWIDE STORM WATER PERMIT
WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

This Fact Sheet contains information regarding the waste discharge requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit for the California State Department of Transportation (Department) for discharges of storm water and certain types of non-storm water. This Fact Sheet describes the factual, legal, and methodological basis for the permit conditions, provides supporting documentation, and explains the rationale and assumptions used in deriving the limits and requirements.

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act (CWA)) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the Clean Water Act added section 402(p). Section 402(p) establishes that storm water discharges are point source discharges and lays out a framework for regulating municipal and industrial storm water discharges under the NPDES program. On November 16, 1990, the United States Environmental Protection Agency (U.S. EPA) promulgated final regulations that establish the storm water permit requirements.

Pursuant to the 1990 regulations, storm water permits are required for discharges from a municipal separate storm sewer system (MS4) serving a population of 100,000 or more. U.S. EPA defines an MS4 as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a State (40 Code of Federal Regulations

(C.F.R.), § 122.26(b)(8)). The regulations also require storm water permits for 11 categories of industry, including construction activities where the construction activity: (1) disturbs more than one (1) acre of land; (2) is part of a larger common plan of development; and/or (3) is found to be a significant threat to water quality.

Before July 1999, storm water discharges from Department storm water systems were regulated by individual NPDES permits issued by the Regional Water Quality Control Boards (Regional Water Boards). On July 15, 1999, the State Water Resources Control Board (State Water Board) issued a statewide permit (Order No. 99-06-DWQ), which regulated all storm water discharges from Department owned MS4s, maintenance facilities and construction activities. The existing permit (Order No. 99-06-DWQ) will be superseded by adoption of a new permit.

Industrial activities are covered by two General Permits that have been adopted by the State Water Board. The Department's construction activities are subject to the requirements under the NPDES General Permit for Construction Activities (CGP, NPDES Permit No. CAS000002) for construction activities that are equal to or greater than one (1) acre. The exception to this is in the Lake Tahoe area, where the Lahontan Regional Water Board adopted its own construction general permit (NPDES Permit No. CAG616002). The Department's industrial facility activities are subject to the requirements of the NPDES General Permit for Industrial Activities (IGP, NPDES Permit No. CAS000001).

The Department is responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, the Department's facilities, and related properties. The Department's discharges consist of storm water and non-storm water discharges from State owned right-of-way (ROW).

Clean Water Act section 402(p) and 40 Code of Federal Regulations section 122.26 (a)(v) give the State authority to regulate discharges from an MS4 on a system-wide or jurisdiction-wide basis. The State Water Board considers all storm water discharges from all MS4s and activities under the Department's jurisdiction as one system. Therefore, this Order is intended to cover all of the Department's municipal storm water activities.

This Order will be implemented by the Department and enforced by the State Water Board and nine Regional Water Boards.

The Department operates highways and highway-related properties and facilities that cross through local jurisdictions. Some storm water discharges from the Department's MS4 enter the MS4s owned and managed by these local jurisdictions. This Order does not supersede the authority of local agencies to prohibit, restrict, or control storm water discharges and conditionally exempt non-storm water discharges to storm drain systems or other watercourses within their jurisdiction as allowed by State and federal law. The Department is expected to comply with the lawful requirements of municipalities and other local, regional, and/or state agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the agencies' jurisdictions.

GENERAL DISCHARGE PROHIBITIONS

This Order authorizes storm water and conditionally exempt non-storm water discharges from the Department's properties, facilities and activities. This Order prohibits the discharge of material other than storm water, unless specifically authorized in this Order.

The Department owns and operates highway systems that are located adjacent to and discharge into many ASBS. This Order specifies that Department discharges to an ASBS are prohibited except in compliance with the conditions and special protections contained in the General Exception for Storm Water and Non-Point Source Discharges to ASBS, State Water Board Resolution 2012-0012. This State Water Board resolution is hereby incorporated by reference and the Department is required to comply with applicable requirements. Attachment III identifies 77 priority Department ASBS discharge locations. These locations represent sites having significant potential to impact the ASBS that are feasible to retrofit. The following locations are not included in the list:

1. Inland sites discharging indirectly to the ASBS;
2. Sites where the discharge is attenuated through vegetation;
3. Sites where it is infeasible to install a BMP, e.g. an overhanging outfall or where there is insufficient space to install a treatment control; and
4. Sites that would pose a safety hazard to motorists, or that would be unsafe to install or maintain.

Provision E.5 of the Order requires the Department to ensure that structural controls at these locations are operational within six (6) years of the effective date of the General Exception.

NON-STORM WATER

Non-storm water discharges are subject to different requirements under the Order depending on whether they are discharged to ASBS.

Non-storm water discharges outside ASBS:

Non-storm water discharges must be effectively prohibited unless they are authorized by a separate NPDES permit or are conditionally exempt under provisions of the Order consistent with 40 CFR, §122.26 (d)(2) (iv)(B). Non-storm water discharges that are not specifically or conditionally exempted by this Order are subject to the existing regulations for point source discharges. Conditionally exempt non-storm water discharges that are found to be significant sources of pollution are to be effectively prohibited.

Discussion of Agricultural Return Flows:

The Department (2007a) indicated in its Non-Storm Water Report that agricultural irrigation water return flows carrying pollutants pass under the Department's ROW in many locations and enter its MS4. Agricultural return flows are not prohibited or conditionally exempted non-

storm water discharges and are not subject to the non-storm water requirements of the Order.

The regulations conditionally exempt MS4s from the requirement to effectively prohibit “irrigation water” discharges to the MS4. The regulations also completely exempt MS4s from addressing non-storm water discharges (also called “illicit discharges”) if they are regulated by an NPDES permit (40 C.F.R., §§ 122.26(b)(2); 122.26(d)(2)(iv)(B)). The term “irrigation water” is not defined and the regulations do not clarify whether that term is intended to encompass agricultural return flows that may run on to the Department’s rights of way.

Because agricultural return flows cannot be regulated by an NPDES permit, it is unlikely that they were intended to be treated as “illicit discharges” under the federal MS4 regulations. In discussing illicit non-storm water discharges and the requirement to effectively prohibit such discharges, the preamble of the Phase I final regulations states: “The CWA prohibits the *point source* discharge of non-storm water not subject to an NPDES permit through municipal separate storm sewers to waters of the United States. Thus, classifying such discharges as illicit properly identifies such discharges as being illegal” (55 FR 47996) (emphasis added). Implicit in this statement is that illicit discharges do not include non-point source discharges, including agricultural return flows, which are statutorily excluded from the definition of a point-source discharge (C.W.A., § 502(14)).¹³

Clean Water Act Section 402(l)(1) states that an NPDES permitting agency “shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture.” Accordingly, agricultural return flows co-mingling with an illicit discharge would be treated as a point source discharge. This fact, however, does not lead the State Water Board to find that agricultural return flows should be subject to the conditional prohibition on non-storm water discharges.

First, the illicit discharge prohibition acts to prevent non-storm water discharges “*into* the storm sewers” (C.W.A., § 402(p)(3)(B)(ii)) (emphasis added). Based on a plain reading of the statutory language,¹⁴ a determination of what constitutes an illicit discharge should be made with reference to the nature of the discharge as it enters the MS4. Unless the agricultural return flow has co-mingled with a point source discharge prior to entering the MS4, it is not subject to the discharge prohibition. Further, since certain point source discharges are conditionally exempted from the requirement for effective prohibition under 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(1), the fact that the agricultural return flow may have co-mingled with such an exempted dry weather point source discharge prior to entering the MS4 does not render it an illicit discharge subject to the effective

¹³ Elsewhere in the preamble, EPA refers to the conditionally exempted non-storm water discharges as “seemingly innocent flows that are characteristic of human existence *in urban environments* and which discharge to municipal separate storm sewers” (55 F.R.48037) (emphasis added). This language further suggests that the term “irrigation water” was not intended to encompass irrigation return flows characteristic of a rural area.

¹⁴ 40 C.F.R. §122.26(d)(2)(iv)(B)(1) similarly states that the MS4 is to “prevent illicit discharges *to* the municipal separate storm sewer system.” (Emphasis added.)

prohibition.¹⁵ See *Fishermen Against the Destruction of the Environment, Inc. v. Closter Farms, Inc.* (11th Cir. 2002) 300 F.3d 1294.

Second, even assuming that the agricultural return flow mingling with a point source discharge *after* entering the MS4 would trigger the requirements related to non-storm water discharges, agricultural return flows are not expected to require an effective prohibition. Irrigation of agricultural fields typically occurs in dry weather, not wet weather, and therefore the State Water Board anticipates that irrigation return flows into the Department's MS4 would generally not co-mingle with discharges other than exempt non-storm water discharges.

Further, agricultural return flows entering an MS4, while not regulated by an NPDES permit, are through much of the State regulated under WDRs, waivers, and Basin Plan prohibitions. The regulations exempt MS4s from addressing non-storm water discharges that are regulated by an NPDES permit. Flows to the Department's MS4 regulated through state-law based permits are subject to regulatory oversight analogous to being subject to an NPDES permit. The appropriate regulatory mechanism for these discharges is the non-point source regulatory programs and not a municipal storm water permit.¹⁶

Non-Storm Water Discharges to ASBS:

Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally.

Discussion of Utility Vault Discharges:

In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to segments of the Department MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number of utility vault discharges to MS4s that

¹⁵ The Federal Register discussion clarifies that "irrigation return flows are excluded from regulation under the NPDES program," but that "joint discharges," i.e. discharges with a component "from activities unrelated to crop production" may be regulated (55 FR 47996).

¹⁶ It should also be noted that the Department has limited control options since up gradient flows such as agricultural runoff must in many cases be allowed to flow under or alongside the roadway so as to not threaten roadway integrity.

discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to MS4s with a direct discharge to an ASBS are not expected to result in the MS4 discharge causing a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order. It should also be noted that, under the California Ocean Plan Section III.E.2 (Implementation Provisions for ASBS), limited-term activities that result in temporary and short-term changes in existing water quality in the ASBS may be permitted.

EFFLUENT LIMITS

The State of California Nonpoint Source Program Five-Year Implementation Plan (SWRCB, 2003) (the Plan) describes a variety of pollutants in urban storm water and non-storm water that are carried in MS4 discharges to receiving waters. These include oil, sand, de-icing chemicals, litter, bacteria, nutrients, toxic materials and general debris from urban and suburban areas. The Plan identifies construction as a major source of sediment erosion and automobiles as primary sources of petroleum hydrocarbons.

The Natural Resources Defense Council (NRDC) also identified two main causes of storm water pollution in urban areas (NRDC, 1999). Both identified causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious cover that increase the volume and velocity of runoff: (i) rooftops, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.
2. The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in urban runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

As a result of these two causes, runoff leaving developed urban areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

NPDES storm water permits must meet applicable provisions of sections 301 and 402 of the Clean Water Act. For discharges from an MS4, Clean Water Act section 402(p)(3)(B)(iii) requires control of pollutants to the maximum extent practicable (MEP). A permitting agency also has the discretion to require dischargers to implement more stringent controls, if

necessary, to meet water quality standards (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1166.), (discussed below under Receiving Water Limitations).

MEP is the technology-based standard established by Congress in Clean Water Act section 402(p)(3)(B)(iii) that municipal dischargers of storm water must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve. MEP is generally achieved by emphasizing pollution prevention and source control BMPs as the first lines of defense in combination with structural and treatment methods where appropriate. The MEP approach is an ever evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP.

In a precedential order (State Water Board Order WQ 2000-11 (In the Matter of the petitions of the Cities of Bellflower et al.)), the State Water Board has stated as follows:

While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. Probably the most comparable law that uses the term is the Superfund legislation, or CERCLA, at section 121(b). The legislative history of CERCLA indicates that the relevant factors, to determine whether MEP is met in choosing solutions and treatment technologies, include technical feasibility, cost, and state and public acceptance. Another example of a definition of MEP is found in a regulation adopted by the Department of Transportation for onshore oil pipelines. MEP is defined as to “the limits of available technology and the practical and technical limits on a pipeline operator”

These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.

The final determination of whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the permitting agency, and not by the discharger.

Because of the numerous advances in storm water regulation and management and the size of the Department’s MS4, this Order does not require the Department to fully incorporate and

implement all advances in a single permit term. The Order allows for prioritization of efforts to ensure the most effective use of available funds.

This Order will have an impact on costs to the Department above and beyond the costs from the Department's prior permit. Such costs will be incurred in complying with the post-construction, hydrograph modification, Low Impact Development, and monitoring and reporting requirements of this Order. Additional costs will also be incurred in correcting non-compliant discharges. Recognizing that there are cost increases associated with the Order, the State Water Board has prepared a cost analysis to approximate the anticipated cost associated with implementing this permit. The resulting cost analysis is discussed later in this Fact Sheet under the section on "Cost of Compliance and Other MEP Considerations." The cost analysis has been prepared based on available data and is not a cost-benefit analysis.

The individual and collective activities required by this Order and contained in the Department's Storm Water Management Plan (SWMP) meet the MEP standard.

RECEIVING WATER LIMITATIONS

Under federal law, an MS4 permit must include "controls to reduce the discharge of pollutants to the maximum extent practicable . . . and such other provisions as . . . the State determines appropriate for the control of such pollutants." (Clean Water Act §402(p)(3)(B)(iii).) The State Water Board has previously determined that limitations necessary to meet water quality standards are appropriate for the control of pollutants discharged by MS4s and must be included in MS4 permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15; see also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F3d 1159.). The Proposed Order accordingly prohibits discharges that cause or contribute to violations of water quality standards.

The Proposed Order further sets out that, upon determination that a Permittee is causing or contributing to an exceedance of applicable water quality standards, the Permittee must engage in an iterative process of proposing and implementing additional control measures to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board precedential Order WQ 99-05 and required by that Order to be included in all municipal storm water permits.

The Ninth Circuit held in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (2011) 673 F.3d 880 that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. The Ninth Circuit holding is consistent with the position of the State Water Board and Regional Water Boards that exceedances of water quality standards in an MS4 permit constitute violations of permit terms subject to enforcement by the Boards or through a citizen suit. While the Boards have generally directed dischargers to achieve compliance by improving control measures through the iterative process, the Board retains the discretion to

take other appropriate enforcement and the iterative process does not shield dischargers from citizen suits.

The State Water Board has received multiple comments, from the Department and from other interested parties, expressing confusion and concern about the Order provisions regarding receiving water limitations and the iterative process. The Department has commented that the provisions as currently written do not provide the Department with a viable path to compliance with the proposed Order. Other commenters, including environmental parties, support the current language.

As stated above, the provisions in this Order regarding receiving water limitations and the iterative process are based on precedential Board orders. Accordingly, substantially identical provisions are found in the proposed statewide Phase II MS4 NPDES permit, as well as the Phase I NPDES permits issued by the Regional Water Boards. In the context of the proposed Phase II MS4 permit, similar comments have been received. Because of the broad applicability of any policy decisions regarding the receiving water limitations and iterative process provisions, the State Water Board has proposed a public workshop to consider this issue and seek public input.

Rather than delay consideration of adoption of the tentative Order in anticipation of any future changes to the receiving water limitations and iterative process provisions that may result from the public workshop and deliberation, the Board has added a specific reopener clause at Section 11.d. to facilitate any future revisions as necessary.

NUMERIC EFFLUENT LIMITATIONS AND BLUE RIBBON PANEL OF EXPERTS

Under 40 Code of Federal Regulations section 122.44(k)(2)&(3); the State Water Board may impose BMPs for control of storm water discharges in lieu of numeric effluent limitations.¹⁷

In 2005, the State Water Board assembled a blue ribbon panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction storm water permits. The panel issued a report dated June 19, 2006, which included recommendations as to the feasibility of including numeric limitations in storm water permits, how such limitations should be established, and what data should be required (SWRCB, 2006).

¹⁷ On November 12, 2010, U.S. EPA issued a revision to a November 22, 2002 memorandum in which it had “affirm[ed] the appropriateness of an iterative, adaptive management best management practices (BMP) approach” for improving storm water management over time. In the revisions, U.S. EPA recommended that, in the case the permitting authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality excursion, the permitting authority, where feasible, include numeric effluent limitations as necessary to meet water quality standards. However, the revisions recognized that the permitting authority’s decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit. U.S. EPA has since invited comment on the revisions to the memorandum and will be making a determination as to whether to “either retain the memorandum without change, to reissue it with revisions, or to withdraw it.”

http://www.epa.gov/npdes/pubs/sw_tmdlwla_comments_pdf

The report concluded that “It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target.”

Consistent with the findings of the Blue Ribbon Panel and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Department to implement BMPs to comply with the requirements of the Order.

In 1980, the State Water Resources Control Board adopted concentration-based numeric effluent limitations for total nitrogen, total phosphate, total iron, turbidity, and grease and oil for storm water discharges in the Lake Tahoe Basin. The Lahontan Regional Water Board included revised versions of those limitations in Table 5.6-1 of the Water Quality Control Plan for the Lahontan Region (Basin Plan). The numeric effluent limitations in Table 5.6-1 were included in previous iterations of the Department's MS4 permit. This Order does not include these referenced numeric effluent limitations. The TMDL for sediment and nutrients in Lake Tahoe, approved by U.S. EPA on August 16, 2011, removed statements from the Basin Plan requiring the effluent limitations in Table 5.6-1 to apply to municipal jurisdictions and the Department. The Lake Tahoe TMDL would constitute cause for permit revocation and reissuance in accordance with 40 Code of Federal Regulations section 122.62(a)(3), so the removal of the referenced numeric effluent limitations is consistent with 40 Code of Federal Regulations section 122.44(l)(1). Further, any water quality based effluent limitations in MS4 permits are imposed under section 402(p)(3)(B) of the Clean Water Act rather than under section 301(b)(1)(C), and are accordingly not subject to the antibacksliding requirements of section 402(o). The Order requires compliance with pollutant load reduction requirements established by the Lake Tahoe TMDL for total nitrogen, total phosphorus, and fine sediment particles.

OTHER PROVISIONS OF THIS ORDER

Storm Water Management Plan (SWMP)

The SWMP describes the procedures and practices that the Department proposes to reduce or eliminate the discharge of pollutants to storm drainage systems and receiving waters. On May 17, 2001, the State Water Board approved a Storm Water Management Plan submitted by the Department. That SWMP was updated in 2003 (Department, 2003c) and the updates were approved by the Executive Director of the State Water Board on February 13, 2003. On January 15, 2004, the Department submitted a proposed Storm Water Management Plan as part of its NPDES permit application to renew its previous statewide storm water permit (Order No. 99-06-DWQ). The State Water Board and Regional Water Board staff and the Department discussed and revised Best Management Practices (BMP) controls and many

other components proposed in each section of the SWMP during numerous meetings from January 2004 to 2006. The Department submitted a revised SWMP in June 2007 (Department, 2007c). The 2004 and 2007 SWMPs have not been approved by the State Water Board and the Department has continued to implement the 2003 SWMP. The Department is in the process of revising aspects of the 2003 SWMP to address the Findings of Violation and Order for Compliance issued by U.S. EPA in 2011 (U.S. EPA Docket No. CWA-09-2011-0001).

This Order requires the Department to update, maintain and implement an effective SWMP that describes how the Department will meet requirements of this Order. Within one year of the effective date of the Order, the Department shall submit for Executive Director approval a SWMP consistent with the provisions and requirement of the Order. The SWMP is an integral and enforceable component of this Order and is required to be updated on an annual basis.

In ruling upon the adequacy of federal regulations for discharges from small municipal storm sewer systems, the court in *Environmental Defense Center v. United States EPA* (9th Cir. 2003) 344 F.3d 832 held that NPDES “notices of intent” that required the inclusion of a proposed storm water management program (SWMP) are subject to the public participation requirements of the federal Clean Water Act because they are functionally equivalent to NPDES permit applications and because they contain “substantive information” about how the operator will reduce its discharges to the maximum extent practicable. By implication, the public participation requirements of the Clean Water Act may also apply to proposals to revise the Department’s SWMP. Although the Proposed Order contains significantly more detailed and prescriptive requirements for achievement of MEP than previously adopted orders for the Department, some of the substantive information about how MEP will be achieved is arguably still set out in the SWMP. This Order accordingly provides for public participation in the SWMP revision process. However, because there may be a need for numerous revisions to the SWMP during the term of this Order, a more streamlined approach to SWMP revisions is needed to provide opportunities for public hearings while preserving the State Water Board’s ability to effectively administer its NPDES storm water permitting program. (See *Costle v. Pacific Legal Foundation* (1980) 445 U.S. 198, 216-221, *Natural Resources Defense Council v. Costle* (9th Cir. 1977) 568 F.2d 1369, 1382.)

This Order establishes that revisions to the SWMP requiring Executive Director approval will be publicly noticed for thirty days on the State Water Board’s website (except as otherwise specified). During the public notice period, a member of the public may submit a written comment or request that a public hearing be conducted. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. Upon review of the request or requests for a public hearing, the Executive Director may, in his or her discretion, schedule a public hearing to take place before approval of the SWMP revision. The Executive Director shall schedule a hearing if there is a significant degree of public interest in the proposed revision. If no public hearing is conducted, the Executive Director may approve the SWMP revision if it meets the conditions set forth in this Order.

Any SWMP revision approved by the Executive Director will be posted on the State Water Board's website.

The Department references various policies, manuals, and other guidance related to storm water in the SWMP. These documents are intended to facilitate implementation of the SWMP and must be consistent with all requirements of the Order.

In addition to the annual submittal of the proposed SWMP revisions, this Order also requires the Department to submit workplans that explain how the program will be implemented in each District. The purpose of the workplans is to bring the proposed statewide program of the SWMP to the practical and implementable level at the District, watershed, and water body level.

Legal Authority

The Department has submitted a certification of adequate legal authority to implement the program. Through implementation of the storm water program, the Department may find that the legal authority is, in fact, not adequate. This Order requires the Department to reevaluate the legal authority each year and recertify that it is adequate. The Department is required to submit the Certification of the Adequacy of Legal Authority as part of the Annual Report each year. If it becomes clear that the legal authority is not adequate to fully implement the SWMP and the requirements of this Order, the Department must seek the authority necessary for implementation of the program.

SWMP Implementation Requirements

Management and Organization

The Department must maintain adequate funding to implement an effective storm water program and must submit an analysis of the funding each year. This includes a report on the funding that is dedicated to storm water as well as an estimate of the funding that has been allocated to various program elements that are not included in the storm water program funding. An example of this would be to estimate the funding that has been made available to the Maintenance Program to implement the development of Maintenance Facility Pollution Prevention Plans (FPPP) and to implement the Best Management Practices (BMPs) that are necessary for water quality.

The Department's facilities and rights-of-way may cross or overlap other MS4s. The Department is required to coordinate their activities with other municipalities and local governments that have responsibility for storm water runoff. This Order requires the Department to prepare a Municipal Coordination Plan describing the approach that the Department will take in establishing communication, coordination, cooperation and collaboration with other storm water management programs.

Discharge Monitoring and Reporting Program

Since 1998, the Department has conducted monitoring of runoff from representative transportation facilities throughout California. The key objectives of the characterization

monitoring were to produce scientifically credible data on runoff from the Department's facilities, and to provide useful information in designing effective storm water management strategies. Between 2000 and 2003, the Department conducted a three-year characterization monitoring study (Department, 2003b). The study generated over 60,000 data points from over 180 monitoring sites. Results were compared with California Toxics Rule (CTR) objectives and other relevant receiving water quality objectives (U.S. EPA, 2000b). Copper, lead, and zinc were estimated to exceed the CTR objectives for dissolved and total fractions in greater than 50 percent of samples. Diazinon and chlorpyrifos were also found to exceed the California Department of Fish and Game recommended chronic criteria in a majority of samples.

The discharge monitoring program has been structured to focus on the highest priority water quality problems in order to ensure the most effective use of limited funds. A tiered approach is established that gives first priority to monitoring in ASBS and TMDL watersheds. Monitoring in these locations must be conducted pursuant to the applicable requirements of the ASBS Special Protections or TMDL, without limitation as to the number of sites. The second monitoring tier requires the Department to examine and prioritize existing monitoring locations where existing data show elevated levels of pollutants. Fifteen percent of the highest priority sites must be scheduled for retrofit, with a maximum of 100 sites per year.

Monitoring constituents were chosen by the State Water Board from the results of the Department's comprehensive, multi-component storm water characterization monitoring program conducted in 2002 and 2003 and various other characterization studies.

Toxicity in storm water discharges from the Department's rights-of-way has been reported in a number of studies. A 2005 report prepared for the Department by the University of California at Davis "Toxicity of Storm Water from Caltrans Facilities" reported significant occurrences of acute and chronic toxicity (Department, 2005). Toxicity Identification Evaluations showed toxicity from a number of compounds, including heavy metals, organic compounds, pesticides and surfactants. Toxicity testing is required under the Order, and a workplan for conducting Toxicity Reduction Evaluations is required to be included in the SWMP.

Monitoring data must be filed electronically in the Storm Water Multiple Application Report and Tracking System (SMARTS). Receiving water monitoring data must be comparable¹⁸ with the Surface Water Ambient Monitoring Program (SWAMP), (SWAMP, 2010), and must be uploaded to the California Data Exchange Network (CEDEN).

¹⁸ U.S. EPA defines comparability as the measure of confidence with which one data set, element, or method can be considered as similar to another. Functionally, SWAMP comparability is defined as adherence to the SWAMP Quality Assurance Program Plan and the Surface Water Ambient Monitoring Program Information Management Plan.

Incident Reporting - Non-Compliance and Potential/Threatened Non-Compliance

The Department may at times be out of compliance with the requirements of this Order. Incidents of non-compliance and potential or threatened non-compliance must be reported to the State and Regional Water Boards. This Order identifies the conditions under which non-compliance reporting will be required. This Order distinguishes between emergency, field, and administrative (procedural) incidents that require notification to the State and Regional Water Boards, and requires that a summary of non-compliance incidents and the subsequent actions taken by the Department to reduce, eliminate and prevent the reoccurrence of the non-compliance be included in the Annual Report.

Emergency, field and administrative incidents are defined in Attachment I and have separate reporting requirements. Generally, failure to meet any permit requirement that is local or regional in nature will be reported to the Regional Water Boards. Attachment I outlines the reporting timelines for the three categories. This reporting will be conducted through the Storm Water Multiple Application Report and Tracking System (SMARTS)¹⁹. Distribution of this report internally between the State Water Board and any Regional Water Boards will be conducted through this system.

Project Planning and Design

In Order WQ 2000-11, the State Water Board considered Standard Urban Storm Water Mitigation Plans (SUSMPs) related to new development and redevelopment. The SUSMPs include a list of BMPs for specific development categories, and a numeric design standard for structural or treatment control BMPs. The numeric design standard created objective and measurable criteria for the amount of runoff that must be treated or infiltrated by BMPs. While this Order does not regulate construction activities, it does regulate the post-construction storm water runoff pursuant to municipal storm water regulations. SUSMPs are addressed in this Order through the numeric sizing criteria that apply to treatment BMPs at specified new and redevelopment projects and through requirements to implement Low Impact Development through principles of source control, site design, and storm water treatment and infiltration.

The Order provides the Department with an alternative compliance method for complying with the Treatment Control BMP numeric sizing criteria for projects where on-site treatment is infeasible. Under that method, the Department may propose complying with the requirements by installing and maintaining equivalent treatment BMPs at an offsite location (meaning outside of Project Limits) within the watershed, or by contributing funds to achieve the same amount of treatment at a regional project within the watershed. This compliance method will provide some flexibility to the Department in meeting the treatment control requirements.

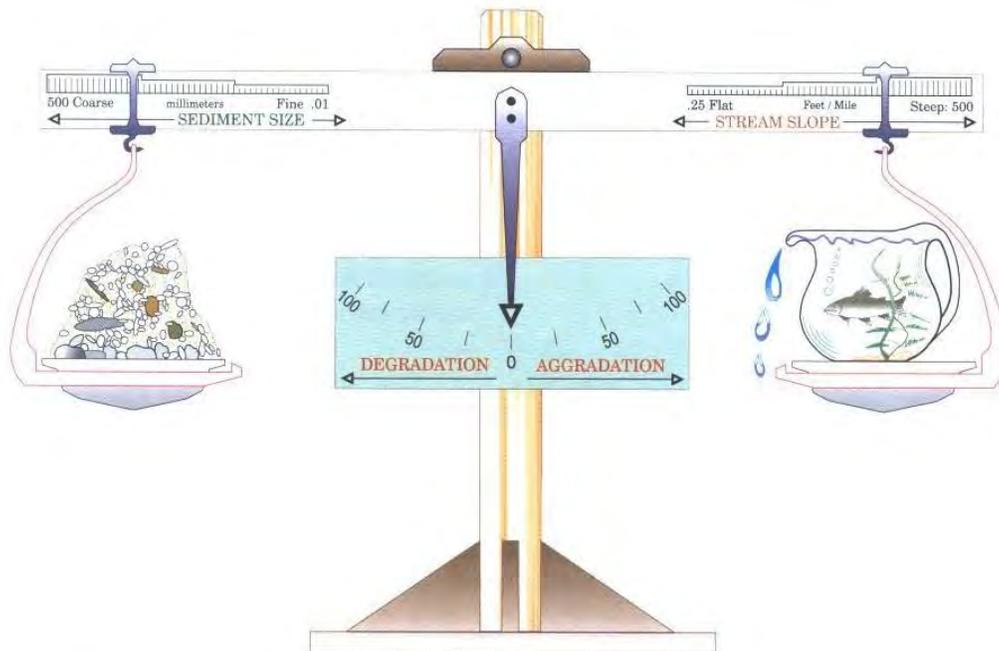
¹⁹ <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

Hydromodification and Channel Protection

Department development and redevelopment projects have the potential to negatively impact stream channels and downstream receiving waters. The potential impacts of hydromodification by Department projects must be assessed in the project planning and design stage, and measures taken to mitigate them. This section describes the rationale and approach for the hydromodification and channel protection requirements.

A dominant paradigm in fluvial geomorphology holds that streams adjust their channel dimensions (width and depth) in response to long-term changes in sediment supply and bankfull discharge. The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which the moving sediment, forming or removing bars, and forming or changing bends and meanders, are doing work that results in the average morphologic characteristics of channels (Finkenbine, 2000). A.W. Lane showed the generalized relationship between sediment load, sediment size, stream discharge and stream slope, as shown in Figure 1, (Rosgen, 1996). A change in any one of these variables sets up a series of mutual adjustments in the companion variables resulting in a direct change in the physical characteristics of the stream channel.

Figure 1 - Schematic of the Lane Relationship



$$(\text{Sediment LOAD}) \times (\text{Sediment SIZE}) = (\text{Stream SLOPE}) \times (\text{Stream DISCHARGE})$$

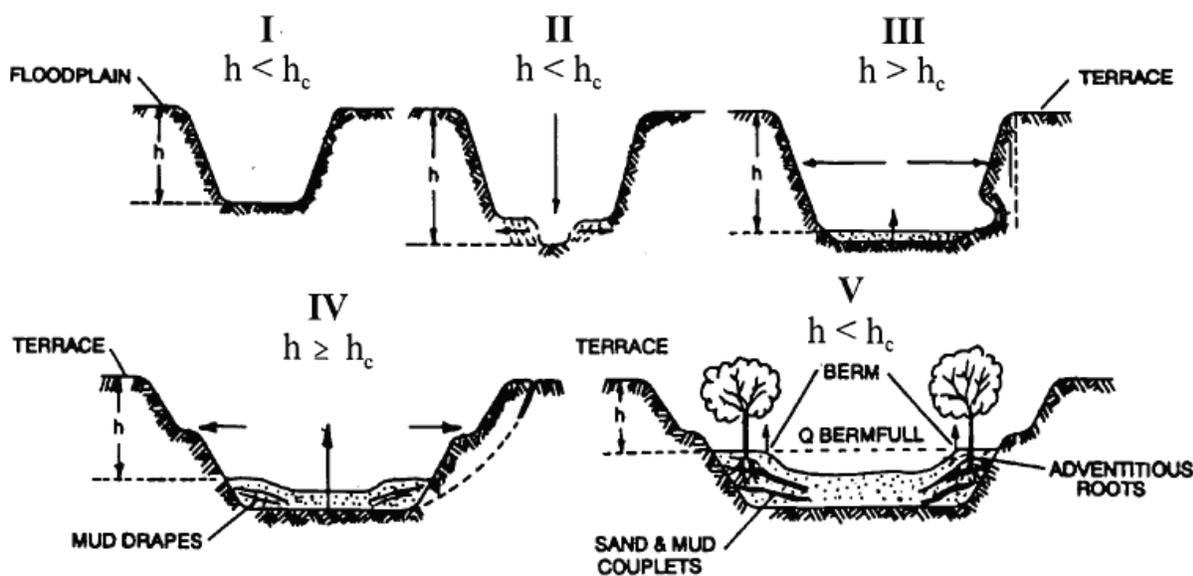
After Lane (1955) as cited in Rosgen (1996)

Stream slope times stream discharge (the right side of the scale) is an approximation of stream power, a unifying concept in fluvial geomorphology (Bledsoe, 1999). Urbanization generally increases stream power and affects the resisting forces in a channel (represented as sediment load and sediment size on the left side of the scale).

During construction, sediment loads can increase from 2 to 40,000 times over pre-construction levels (Goldman, 1986). Most of this sediment is delivered to stream channels during large, episodic rain events (Wolman, 2001). This increased sediment load leads to an initial aggradation phase where stream depths may decrease as sediment fills the channel, leading to a decrease in channel capacity and an increase in flooding and overbank deposition. A degradation phase initiates after construction is completed.

Schumm et al (Schumm, 1984) developed a channel evolution model that describes the series of adjustments from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 2).

Figure 2 - Channel Changes Associated with Urbanization



h = bank height

h_c = critical bank height (the bank is susceptible to failure when bank heights are greater than critical bank height. Stable banks have low angles and heights)

After Incised Channel Evolution Sequence in Schumm et al. 1984

Channel incision (Stage II) and widening (Stages III and to a lesser degree, Stage IV) are due to a number of fundamental changes on the landscape. Connected impervious area and compaction of pervious surfaces increase the frequency and volume of bankfull discharges (Stein, 2005; Booth, 1997), resulting in an increase in stream power. Increased drainage density (miles of stream length per square mile of watershed) also affects receiving channels (May, 1998; SCVURPPP, 2002). Increased drainage density and hydraulic efficiency leads to an increase in the frequency and volume of bankfull discharges because the time of concentration is shortened. Flows from engineered pipes and channels are also often “sediment starved” and seek to replenish their sediment supply from the channel.

Encroachment of stream channels can also lead to an increase in stream slope, which leads to an increase in stream power. In addition, watershed sediment loads and sediment size (with size generally represented as the median bed and bank particle size, or d_{50}) decrease during urbanization (Finkenbine, 2000; Pizzuto, 2000). This means that even if pre- and post-development stream power are the same, more erosion will occur in the post-development stage because the smaller particles are less resistant.

As shown in Stages II and III, the channel deepens and widens to accommodate the increased stream power (Hammer, 1973; Booth, 1990) and decrease in sediment load and sediment size. Channels may actually narrow as entrained sediment from incision is deposited laterally in the channel (Trimble, 1997). After incised channels begin to migrate laterally (Stage III), bank erosion begins, which leads to general channel widening (Trimble, 1997). At this point, a majority of the sediment that leaves a drainage area comes from within the channel, as opposed to the background and construction related hillslope contribution (Trimble, 1997). Stage IV is characterized by more aggradation and localized bank instability. Stage V represents a new quasi-equilibrium channel morphology in balance with the new flow and sediment supply regime. In other words, stream power is in balance with sediment load and sediment size.

The magnitude of the channel morphology changes discussed above varies along a stream network as well as with the age of development, slope, geology (sand-bedded channels may cycle through the evolution sequence in a matter of decades whereas clay-dominated channels may take much longer), watershed sediment load and size, type of urbanization, and land use history. It is also dependent on a channel's stage in the channel evolution sequence when urbanization occurs. Management strategies must take into account a channel's stage of adjustment and account for future changes in the evolution of channel form (Stein, 2005).

The hydromodification requirements in this Order are based on established Federal Highway Administration procedures for assessing stream stability at highway crossings. These procedures are geomorphically based and have historically been used to inform bridge and culvert design and to ensure that these structures are not impacted by decreased lateral and vertical stability (FHWA, 2001; FHWA, 2006). Maintaining lateral and vertical stability will not only protect highway structures but will serve the broader interest of maintaining stable stream form and function.

These hydromodification requirements are risk based and reflect the concept that stable channels (as determined from a Level 1 rapid analysis) do not have to undergo any further analysis and that hydrology-based design standards are protective.

If stream channels are determined to be laterally and or vertically unstable, the analysis procedures are much more rigorous and the mitigation measures are potentially more extensive. There is support in the literature for the type of tiered, risk-based approach taken in this Order (Booth, 1990; Watson, 2002; Bledsoe, 2002; Bledsoe et al., 2008).

California Senate Bill 857 (2006) amended Article 3.5 of the Streets and Highways Code to require the Department to assess and remediate barriers to passage of anadromous fish at stream crossings along the State Highway System. The bill also requires the Department to, among other things, prepare an annual report to the legislature on the status of the Department's efforts in locating, assessing, and remediating barriers to fish passage. Waters of the State supporting the beneficial use of fish migration could be adversely impacted by improperly designed or maintained stream crossings, or through natural channel evolution processes. Accordingly, this Order requires the Department to also submit the annual report required under SB 857 to the State Water Board.

Low Impact Development (LID)

On January 20, 2005, the State Water Board adopted sustainability as a core value for all California Water Boards' activities and programs, and directed State Water Board staff to consider sustainability in all future policies, guidelines, and regulatory actions. Sustainability can be achieved through appropriate implementation of the LID techniques required by this Order.

The proper implementation of LID techniques not only results in water quality protection benefits and a reduction of land development and construction costs, but also enhances property values, and improves habitat, aesthetic amenities, and quality of life (U.S. EPA, 2007). Further, properly implemented LID techniques reduce the volume of runoff leaving a newly developed or re-developed area thereby lowering the peak rate of runoff, and thus minimizing the adverse effects of hydromodification on stream habitat (SWRCB, 2007). The requirements of this Order facilitate the implementation of LID strategies to protect water quality, reduce runoff volume, and to promote sustainability.

Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, LID takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management.

LID is a tool that can be used to better manage natural resources and limit the pollution delivered to waterways. To achieve optimal benefits, LID needs to be integrated with watershed planning and appropriate land use programs. LID by itself will not deliver all the water quality outcomes desired; however, it does provide enhanced storm water treatment and mitigates increased volume and flow rates (SWRCB, 2007).

This Order approaches LID through source control design principles, site design principles and storm water treatment and infiltration principles. Source control and site design principles are required as applicable to provide enough flexibility such that projects are not forced to include inappropriate or impractical measures. Not all of the storm water treatment

and infiltration principles identified in the Order are required to be implemented but are listed in order of preference with the most environmentally protective and effective alternatives listed first.

BMP Development and Implementation

The Department has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities. This BMP program includes development, construction, maintenance and evaluation of BMPs, and investigation of new BMPs. The goal of BMP implementation is to control the discharge of pollutants to the applicable standards.

While erosion control BMPs are typically used on construction sites, some are used as permanent, post-construction BMPs. Typical erosion control BMPs involve use of straw or fiber rolls and mats. These rolls and mats are often held together by synthetic mesh or netting. Synthetic materials are persistent in the environment and have been found to be a source of pollutants, trash (Brzozowski, 2009), and hazard to wildlife through entrapment (Brzozowski, 2009; Barton and Kinkead, 2005; Walley et al, 2005; Stuart et al, 2001). For erosion control products used as permanent, post-construction BMPs, this Order requires the use of biodegradable materials, and the removal of any temporary erosion control products containing synthetic materials when they are no longer needed. Biodegradable materials are required in erosion control products used by the Departments of Transportation in the states of Delaware and Iowa (Brzozowski, 2009). Use of synthetic (plastic) materials is also prohibited through a Standard Condition in Streambed Alteration Agreements by the California Department of Fish and Game, Region 1 (Van Hattem, personal communication, 2009).

Potential Unintended Public Health Concerns Associated with Structural BMPs

The Department worked collaboratively with the California Department of Public Health (CDPH) on a comprehensive, multi-component monitoring program of more than 120 structural BMPs for mosquito production (Department, 2004). The data revealed that certain BMPs may unintentionally create habitat suitable for mosquitoes and other vectors. The California Health and Safety Code prohibits landowners from knowingly providing habitat for or allowing the production of mosquitoes and other vectors, and gives local vector control agencies broad inspection and abatement powers. This Order requires the Department to comply with applicable provisions of the Health and Safety Code and to cooperate and coordinate with CDPH and local mosquito and vector control agencies on vector control issues in the Department's MS4.

Construction

The Department's construction activities were previously regulated under the MS4 permit (Order 99-06-DWQ), which required the Department to comply with the substantive provisions of the CGP but not the requirement to file separate notices of intent for each construction project. Some Regional Water Boards have had difficulty enforcing the provisions of the CGP when enrollment under that permit is not required. This Order requires the Department to file for separate coverage for each construction project under the

CGP. This change is expected to increase the Department's accountability for discharges from construction sites and improve the ability of the Regional Water Boards to take enforcement actions as necessary.

Though discharges from construction activities are not regulated under this Order, any discharges from a site occurring after completion of construction (i.e. post-construction discharges) are fully subject to the requirements of this Order.

Some Department construction-related activities such as roadway and parking lot repaving and resurfacing may mobilize pollutants, even though they may not trigger coverage under the CGP. Such activity may discharge pollutants to the environment, however. BMPs for the control of such discharges are specified in the Department's Project Planning and Design Guide and Construction Site BMP Field Manual and Trouble Shooting Guide, and in the California Stormwater Quality Association (CASQA) California Stormwater BMP Handbook (Department, 2010; Department, 2003a); (CASQA, 2009). The Department is required to implement BMPs to control such discharges.

Because some Department construction projects may not involve grading or land disturbance of one acre or more, these smaller projects do not trigger requirements to enroll under the Construction General Permit. This Order requires the Department to implement BMPs to control discharges from such projects to the MEP. Failure to implement appropriate BMPs is a violation of this Order.

Maintenance Program Activities

Preservation of vegetation is an effective method for the control of pollutants in runoff; however the Department must control vegetation in its rights-of-way for purposes of traffic safety and nuisance. The Department currently implements a vegetation control program with a stated purpose of minimizing the use of agricultural chemicals and maximizing the use of appropriate native and adapted vegetation for erosion control, filtering of runoff, and velocity control.

Notwithstanding the Department's commitment to reduce the use of agricultural chemicals, the Department reported a total amount of 208,549 pounds of herbicide used in the 2008-2009 Storm Water Management Program Annual Report (Department (2010a); CTSW-RT-10-182-32.1). Reported reasons for increased herbicide usage included:

1. Local weather conditions, such as increased rainfall, leading to increased weed production.
2. The need to address new mandates for fire suppression (fuel abatement) adjacent to roadways.
3. Requests from local cities and counties.
4. Increase in or outbreaks of noxious weeds in areas adjacent to farmland.

This Order contains detailed requirements for the control of vegetation and reporting requirements for the use of agricultural chemicals.

The Department's maintenance facilities discharge pollutants to the MS4. This Order requires the Department to prepare Facility Pollution Prevention Plans (FPPPs) for all maintenance facilities. The Department is also required to implement BMP programs at each facility as necessary and periodically inspect each facility.

Spill cleanup is part of the Department's maintenance program. This Order requires the Department to ensure that spills on its rights-of-way are fully and appropriately cleaned up, and to provide appropriate notifications to local municipalities which may be affected by the spill. The Department is also required to notify the appropriate Regional Water Board of any spill with the potential to impact receiving waters.

This Order requires the Department to monitor and clean storm drain inlets when they have reached 50 percent capacity. The Department must initiate procedures contained in an Illegal Connection/Illicit Discharge (IC/ID) and Illegal Dumping Response Plan where storm water structures are found to contain excessive material resulting from illegal dumping, and it must determine if enhanced BMPs are needed at the site.

This Order requires the Department to implement the BMPs and other requirements of the SWMP and this Order to reduce and eliminate IC/IDs. It also requires the Department to prepare a Storm Drain System Survey Plan and an Illegal Dumping Response Plan.

Facilities Operations

There is potential for the discharge of pollutants from Department facilities during rain events. The discharge of pollutants from facilities not covered by the IGP will be reduced to the MEP through the appropriate implementation of BMPs.

This Order requires the Department to file an NOI for coverage under the IGP for industrial facilities as specified in Attachment 1 of the IGP. This requirement is expected to increase the Department's accountability for discharges from industrial facilities and improve the ability of the Regional Water Boards to take enforcement actions as necessary.

Department Activities Outside the Department's Right-of-Way

Facilities and operations outside the Department's ROW may support various Department activities. Facilities may include concrete or asphalt batch plants, staging areas, concrete slurry processing or other material recycling operations, equipment and material storage yards, material borrow areas, and access roads. Facilities may be operated by the Department or by a third party. The Department is required to include provisions in its contracts that require the contractor to obtain and comply with applicable permits for facilities and operations outside the Department's ROW when these facilities are active for the primary purpose of accommodating Department activities.

Non-Department Projects and Activities

Non-Department projects and activities include construction projects or other activities conducted by a third party within the Department's ROW. The Department is responsible for runoff from all non-Department projects and activities in its rights-of-way unless a separate

permit is issued to the other entity. At times, local municipalities or private developers may undertake construction projects or other activities within the Department's ROW. The Department may exercise control or oversight over these third party projects or activities through encroachment permits or other means. This Order sets project planning and design requirements for non-Department projects.

Management Activities for Non-Storm Water Discharges

Non-storm water discharges are dry weather flows that do not originate from precipitation events. Non-storm water discharges are illicit discharges and are prohibited by the federal regulations (40 C.F.R., § 122.26 (d)(2)(iv)(B)(1)) unless exempted or separately permitted. Procedures for prohibiting illicit discharges and illegal connections, and for responding to illegal dumping and spills are needed to prevent environmental damage and must be described in the SWMP.

Training and Public Education

Education is an important element of municipal storm water runoff management programs. U.S. EPA (2005) finds that "An informed and knowledgeable community is crucial to the success of a storm water management program since it helps ensure the following: Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, [and] greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."

U.S. EPA also states "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children."

This Order requires the Department to implement a Training and Public Education program. The Training and Public Education program focuses on three audiences: Department employees, Department contractors, and the general public. The Department must implement programs for all three audiences. The Training and Public Education program is considered a BMP and an analysis of its effectiveness is needed.

Program Evaluation

This Order requires the Department to evaluate the effectiveness and adequacy of the storm water program on an annual basis. This includes both water quality monitoring and a self-audit of the program. The audit is intended to determine the effectiveness of the storm water and non-storm water programs through the evaluation of factors and program components such as:

1. Storm water and non-storm water discharges, including pollutant concentrations from locations representative of the Department's properties, facilities, and activities;
2. Maintenance activity control measures;
3. Facility pollution prevention plans;

4. Permanent control measures; and
5. Highway operation control measures.

In addition to water quality monitoring and the self-audit, the Department must perform an Overall Program Effectiveness Evaluation each year to determine the effectiveness of the program in achieving environmental and water quality objectives. The scope of the evaluation is expected to increase each year in response to the continuing collection of environmental monitoring data.

Reporting

Comprehensive reporting is needed to determine compliance with this Order and to track the effectiveness of the Department's storm water program over time. A summary of the reports required from the Department is presented in Attachment IX of the Order. The State Water Board and Regional Water Boards have the authority under various sections of the California Water Code to request additional information as needed.

The Department must track, assess and report on program implementation to ensure its effectiveness. In addition to the individual reports referenced above, the Department is required to submit an annual report to the State Water Board by October 1 of each year. The Annual Report must evaluate compliance with permit conditions, evaluate and assess the effectiveness of BMPs, summarize the results of the monitoring program, summarize the activities planned for the next reporting cycle, and, if necessary, propose changes to the SWMP.

Total Maximum Daily Loads (TMDL)

Section 303(d) of the Clean Water Act requires States to identify waters ("impaired" water bodies) that do not meet water quality standards after applying certain required technology-based effluent limits. States are required to compile this information in a list and submit the list to the U.S. EPA for review and approval. This list is known as the Section 303(d) list of impaired waters.

As part of the listing process, States are required to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as the sum of the individual waste load allocations (WLAs) for point sources of pollution, plus the load allocations (LAs) for nonpoint sources of pollution, plus the contribution from background sources of pollution and a margin of safety. The State Water Board and Regional Water Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs.

TMDLs are developed by either the Regional Water Boards or U.S. EPA in response to Section 303(d) listings. TMDLs developed by Regional Water Boards include implementation provisions and can be incorporated as Basin Plan amendments. TMDLs developed by U.S. EPA typically contain the total load and load allocations required by Section 303(d), but do not contain comprehensive implementation provisions. Subsequent

steps after Regional Water Board TMDL development are: approval by the State Water Board, approval by the Office of Administrative Law, and ultimately, approval by U.S. EPA.

The Department has been assigned mass based and concentration based WLAs for constituents contributing to a TMDL in specific regions. The Department is subject to TMDLs in the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Lahontan, Colorado River, Santa Ana, and San Diego Regions. These TMDLs are summarized in Table 1 of this Fact Sheet below, and Table IV.2 of Attachment IV of this Order.

Table 1. Department Statewide TMDLs

Water Body	Pollutant	U.S. EPA Approved/Established
<i>North Coast Region</i>		
Albion River *	Sediment	December 2001
Big River *	Sediment	December 2001
Lower Eel River *	Temperature & Sediment	December 18, 2007
Middle Fork Eel River *	Temperature & Sediment	December 2003
South Fork Eel River *	Sediment & Temperature	December 16, 1999
Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury) *	Sediment & Temperature	December 29, 2004
Garcia River	Sediment	March 16, 1998
Gualala River *	Sediment	November 29, 2004
Klamath River	Temperature, Dissolved Oxygen, Nutrient, & Microcystin	December 28, 2010
Lost River	Nitrogen and Biochemical Oxygen Demand	December 30, 2008
Mad River *	Sediment & Turbidity	December 21, 2007
Navarro River *	Temperature & Sediment	December 27, 2000
Noyo River *	Sediment	December 16, 1999
Redwood Creek *	Sediment	December 30, 1998
Scott River	Sediment and Temperature	August 11, 2006
Shasta River	Dissolved Oxygen & Temperature	January 26, 2007
Ten Mile River *	Sediment	December 2000

Water Body	Pollutant	U.S. EPA Approved/Established
Trinity River *	Sediment	December 20, 2001
South Fork Trinity River and Hayfork Creek *	Sediment	December 1998
Van Duzen River & Yager Creek *	Sediment	December 16, 1999
<i>San Francisco Bay Region</i>		
Napa River	Sediment	January 20, 2011
Richardson Bay	Pathogens	December 18, 2009
San Francisco Bay	PCBs	March 29, 2010
San Francisco Bay	Mercury	February 12, 2008
San Pedro and Pacifica State Beach	Bacteria	August 1, 2013
San Francisco Bay Urban Creeks	Diazinon & Pesticide-Related Toxicity	May 16, 2007
Sonoma Creek	Sediment	September 8, 2010
<i>Central Coast Region</i>		
San Lorenzo River (includes Carbonera Lompico, Shingle Mill Creeks)	Sediment	February 19, 2004
Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)	Sediment	January 20, 2004
<i>Los Angeles Region</i>		
Ballona Creek	Metals (Ag, Cd, Cu, Pb, & Zn) and Selenium	December 22, 2005 and reaffirmed on October 29, 2008
Ballona Creek	Trash	August 1, 2002 and February 8, 2005
Ballona Creek Estuary	Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, and Total PAHs)	December 22, 2005
Ballona Creek, Ballona Estuary and Sepulveda Channel	Bacteria	March 26, 2007
Ballona Creek Wetlands *	Sediment and Invasive Exotic Vegetation	March 26, 2012
Calleguas Creek and its Tributaries and Mugu	Metals and Selenium	March 26, 2007

Water Body	Pollutant	U.S. EPA Approved/Established
Lagoon		
Calleguas Creek its Tributaries and Mugu Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation	March 14, 2006
Colorado Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, Sediment Toxicity, Polycyclic Aromatic Hydrocarbons, and Metals	June 14, 2011
Dominguez Channel, Greater Los Angeles and Long Beach Harbor Waters	Toxic Pollutants: Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs	March 23, 2012
Legg Lake	Trash	February 27, 2008
Long Beach City Beaches and Los Angeles & Long Beach Harbor Waters *	Indicator Bacteria	March 26, 2012
Los Angeles Area (Echo Park Lake) *	Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash	March 26, 2012
Los Angeles Area (Lake Sherwood) *	Mercury	March 26, 2012
Los Angeles Area (North, Center, and Legg Lakes) *	Nitrogen and Phosphorus	March 26, 2012
Los Angeles Area (Peck Road Park Lake) *	Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash	March 26, 2012
Los Angeles Area (Puddingstone Reservoir) *	Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin	March 26, 2012
Los Angeles River and Tributaries	Metals	December 22, 2005 and October 29, 2008 & Reopened and Modified on November 3, 2011
Los Angeles River	Trash	July 24, 2008
Los Angeles River Watershed	Bacteria	March 23, 2012
Los Cerritos *	Metals	March 17, 2010
Machado Lake	Pesticides and Polychlorinated Biphenyls	March 20, 2012
Machado Lake	Trash	February 27, 2008

Water Body	Pollutant	U.S. EPA Approved/Established
Machado Lake	Eutrophic, Algae, Ammonia, and Odors (Nutrient)	March 11, 2009
Malibu Creek Watershed	Bacteria	January 10, 2006, Revised November 8, 2013**
Malibu Creek and Lagoon *	Sedimentation and Nutrients to Address Benthic Community Impairments	July 2, 2013
Malibu Creek Watershed	Trash	June 26, 2009
Marina del Rey Harbor	Toxic Pollutants	March 16, 2006
Marina del Rey, Harbor Back Basins, Mothers' Beach	Bacteria	March 18, 2004, Revised November 7, 2013**
Revolon Slough and Beardsley Wash	Trash	August 1, 2002 and February 8, 2005
San Gabriel River *	Metals (Cu, Pb, & Zn) and Selenium	March 26, 2007
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	Coliform	January 13, 2012
Santa Clara River Reach 3 *	Chloride	June 18, 2003
Santa Monica Bay *	DDTs and PCBs	March 26, 2012
Santa Monica Bay Nearshore & Offshore	Debris (trash & plastic pellets)	March 20, 2012
Santa Monica Bay Beaches	Bacteria	June 19, 2003, Revised November 7, 2013**
Upper Santa Clara River	Chloride	April 6, 2010
Ventura River Estuary	Trash	February 27, 2008
Ventura River and its Tributaries	Algae, Eutrophic Conditions, and Nutrients	June 28, 2013
Central Valley Region		
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	Mercury	February 7, 2007
Clear Lake	Nutrients	September 21, 2007
Sacramento – San Joaquin Delta	Methylmercury	October 20, 2011
Lahontan Region		

Water Body	Pollutant	U.S. EPA Approved/Established
Lake Tahoe	Sediment and Nutrients	August 16, 2011
Truckee River	Sediment	September 16, 2009
<i>Colorado River Region</i>		
Coachella Valley Storm Water Channel	Bacterial Indicators	April 27, 2012
<i>Santa Ana Region</i>		
Big Bear Lake	Nutrients for Hydrological Conditions	September 25, 2007
Lake Elsinore and Canyon Lake	Nutrients	September 30, 2005
Rhine Channel Area of the Lower Newport Bay *	Chromium and Mercury	June 14, 2002
San Diego Creek and New Port Bay, including the Rhine Channel *	Metals (Cadmium, Copper, Lead, & Zinc)	June 14, 2002
San Diego Creek and Upper Newport *	Cadmium	June 14, 2002
San Diego Creek Watershed	Organochlorine Compounds (DDT, Chlordane, PCBs, and Toxaphene)	November 12, 2013
Upper & Lower Newport Bay	Organochlorine Compounds (DDT, Chlordane, & PCBs)	November 12, 2013
<i>San Diego Region</i>		
Chollas Creek	Diazinon	November 3, 2003
Chollas Creek	Dissolved Copper, Lead, and Zinc	December 18, 2008
Rainbow Creek	Total Nitrogen and Total Phosphorus	March 22, 2006
Project 1 – Revised Twenty Beaches and Creek in the San Diego Region (Including Tecolote Creek)	Indicator Bacteria	June 22, 2011
* U.S. EPA Established TMDL		
** OAL Approved, U.S. EPA Approval Pending		

The TMDL-based requirements of this Order are not limited to the maximum extent practical (MEP) standard. The TMDL-based requirements have been imposed in accordance with 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B). Pursuant to 40 Code of Federal Regulations section 122.44(d)(1)(vii)(B), the effluent limitations for NPDES permits must be consistent with the assumptions and requirements of any available WLA for the discharge prepared by the state and approved by EPA, or established by EPA. In addition, Water Code section 13263, subdivision (a), requires that waste discharge requirements implement

any relevant water quality control plans (basin plans), including TMDL requirements that have been incorporated into the basin plans.

Effluent limitations for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of best management practices (BMPs). (See 33 U.S.C. §1342(p)(3)(B)(iii); 40 C.F.R. §122.44(k)(2)&(3).) Where effluent limitations are expressed as BMPs, there should be adequate demonstration in the administrative record of the permit, including in the Fact Sheet, that the BMPs will be sufficient to comply with the WLAs.²⁰ (See 40 C.F.R. §§ 124.8, 124.9 & 124.18.) The NPDES permit must also specify the monitoring necessary to determine compliance with permit limitations. (See 40 C.F.R. § 122.44(i).) Where effluent limitations are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data). The permit should additionally provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance.²¹

As detailed below, this Order establishes BMP-based requirements for TMDL implementation that are consistent with the requirements and assumptions of the relevant WLAs. This Order further requires implemented BMPs to be monitored for effectiveness and to be adaptively managed for modifications as necessary to achieve WLAs.

Overview

The State Water Board and Regional Water Boards have reviewed the WLAs, implementation requirements, and monitoring requirements specified in the adopted and approved Regional Water Board Basin Plans or in U.S. EPA-established TMDLs applicable to the Department. In most of the relevant TMDLs, the Department's contribution to impairment is a small portion of the overall contribution from multiple sources (less than five percent). While the Department is generally a small contributor to impairment, the statewide reach of its highway system means that it is a contributor in numerous impaired watersheds. The Department must comply with applicable TMDLs across the state.

The fact that one discharger – the Department – must implement requirements for over 84 TMDLs administered by nine Regional Water Boards poses a unique challenge in permitting. Many of the TMDLs are designed to address the same pollutants causing impairment, and progress in achievement of the WLA for these pollutant categories requires implementation of similar control measures coupled with monitoring and adaptive management. In past

²⁰ Establishing Total Maximum Daily Load Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," Memorandum, U.S. EPA, November 22, 2002. On November 12, 2010, U.S. EPA issued a revision to the November 22, 2002, memorandum, recommending that "where the TMDL includes WLAs for storm water sources that provide numeric pollutant load or numeric surrogate pollutant parameter objectives, the WLA should, where feasible, be translated into numeric WQBELs in the applicable storm water permits." The revision further stated, however, that the permitting authority's decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit.

²¹ *Ibid.*

regulatory actions, however, the Department has been directed to comply with the TMDL requirements by reference to the sections of the relevant basin plan and through coordination with the relevant Regional Water Board. As a result, the Department has devoted significant effort to coordination and exercises to determine the next steps, with limited progress in installing on-the-ground control measures to achieve actual water quality improvements. This Order provides a focused and streamlined process for TMDL compliance so that the Department may proceed as quickly as possible to installation of control measures and monitoring, and adaptive management of those control measures to result in water quality improvements. The Order's TMDL requirements provide consistency in determining compliance requirements, where appropriate. To allow for consistency, with resulting time and cost-efficiency, in achieving compliance with the TMDL requirements applicable to the Department, the State Water Board has developed a set of pollutant category requirements to be implemented by the Department.

The pollutant categories are as follows:

1. Sediment/Nutrients/Mercury/Siltation/Turbidity TMDLs
2. Metals/Toxics/Pesticides TMDLs
3. Trash TMDLs
4. Bacteria TMDLs
5. Diazinon TMDLs
6. Selenium TMDLs
7. Temperature TMDLs
8. Chloride TMDLs

Table IV.2 of Attachment IV of this Order lists all TMDLs applicable to the Department. For each TMDL, Table IV.2 cross-references one or more pollutant category. The Department must implement the cross-referenced pollutant category requirements to achieve compliance with the TMDL provisions of the Order. Where TMDL-specific, rather than, or in addition to, pollutant category-specific permit requirements are appropriate (because of the unique local conditions or specific requirements in the TMDL), those requirements are also noted in Table IV.2. In addition, Table IV.2 cross-references the monitoring, reporting and adaptive management requirements applicable to all pollutant categories.

Attachment IV of this Order recognizes that, because the Department must comply with numerous TMDLs, the Department must phase in implementation requirements for TMDLs over several years. To achieve the highest water quality benefit as quickly as feasible in the permit term, this phase-in must be accomplished in a manner that addresses discharges with the highest impact on water quality first. Accordingly, Attachment IV requires the Department, by October 1, 2014, to prepare and submit an inventory of all impaired reaches subject to TMDLs to which the Department discharges with prioritized implementation of controls for these reaches based on a set of qualitative criteria. In preparing the initial prioritization, the Department must consider the degree of impairment of the water body, measured by the percent pollution reduction needed to achieve the WLA, the contributing drainage area from the Department's right of way (ROW) relative to the watershed draining to the reach, and the relative proximity of the ROW to the receiving water.

The State Water Board will allow a 30-day public comment period on the Department's initial prioritization and will work with the Department and the Regional Water Boards to compile a final prioritization to be approved by the State Water Board Executive Director. Criteria for final prioritization to be considered by the Department, the State Water Board and Regional Water Boards include:

- a. Opportunities for synergistic benefits with existing or anticipated projects or activities within the reach, e.g., cooperative efforts with other dischargers or projects within an ASBS.
- b. Multiple TMDLs that can be addressed by a single BMP within a reach.
- c. TMDL deadlines specified in a Basin Plan.
- d. Regional Water Board and State Water Board priorities.
- e. Accessibility for construction and/or maintenance (i.e. safety considerations).
- f. Multi-benefit projects that provide benefits in addition to water quality improvement, such as groundwater recharge or habitat enhancement.

In finalizing the prioritization, the State Water Board and Regional Water Boards will consider the compliance date for attainment of the WLAs established in the Basin Plans and may adjust the prioritization accordingly. It is the intent of the State Water Board to have the Department meet listed TMDL deadlines where feasible.

Upon State Water Board Executive Director approval of final prioritization, the Department must implement control measures to achieve 1650 Compliance Units (CUs) per year. One CU is equivalent to one acre of the Department's ROW, from which the runoff is retained, treated, or otherwise controlled prior to discharge to the relevant reach. BMPs installed during construction activities in TMDL watersheds may receive CU credit for that portion of the treatment volume that exceeds the baseline treatment control requirements specified in the Order. A CU may be claimed when the BMP retrofit project enters the Project Initiation Document (PID) phase of implementation per the requirements of the Order. If a BMP retrofit project is not completed within the approved time schedule, the CU(s) will be revoked unless the Executive Director approves a delay.

The determination of the number of CUs the Department must complete each year is based on the objective of addressing every TMDL in Attachment IV within 20 years. A primary factor considered in the determination of the number of CUs to be completed each year is the compliance due date for the final WLA for many of the relevant TMDLs. The State Water Board considered two approaches in determining the annual number of CUs.

The first approach is based on a simple calculation of the number of acres of ROW that must be treated to ensure that all TMDL watersheds are addressed over a 20 year time frame. Data submitted by the Department indicate that there are 68,000 acres of ROW within TMDL watersheds.

It is not possible or necessary to treat 100 percent of the runoff from TMDL watersheds. In evaluating monitoring sites for discharges into ASBS, staff found that approximately 64

percent of the sites considered could not be addressed, either due to access limitations or safety considerations. Similar conditions are expected to exist in TMDL watersheds, although the percentage will not be as high because the terrain found along most of California's coastline is more difficult and rugged than the terrain that typically exists in the rest of the state. Accordingly, for purposes of this calculation based on the Department's preliminary estimates, the percentage of inaccessible/unsafe sites is reduced by one-half for TMDL watersheds, or 32 percent, translating into approximately 22,000 fewer acres ($68,000 \times 32 \text{ percent} = 22,000$) that must be treated. Therefore, the Department will have to address approximately 46,000 acres of ROW to comply with the TMDL requirements of Attachment IV. With the objective of addressing all TMDLs in Attachment IV within 20 years, the Department must treat or otherwise address 2300 acres per year ($46,000/20 = 2300$) throughout the state within the TMDL watersheds listed in Attachment IV.

The second approach for determination of CUs considered by the State Water Board is based on the Department's updated estimates of ROWs that must be treated. This proposal provided by the Department segregates the TMDLs into eight pollutant categories, similar to those presented in Attachment IV, including sediments, metals, trash and bacteria. The Department proposed annual CU commitments based upon the individual categories, with 600 CUs for sediments, a combined 710 CUs for metals and trash, and 340 CUs for bacteria, for an annual total of 1650 CUs. The proposal does not include other pollutant categories in which the acreage and controls for sediments, metals, trash, and bacteria would overlap with the acreage and controls for these other pollutants. This overlap of coverage was identified for the above categorical annual commitments so that the total ROW acreage requiring treatment equates to 33,000 acres.

Though the two approaches produce similar results, the State Water Board confirms that the second approach is sufficient for TMDL-implementation planning at the current stage of TMDL implementation; therefore the second compliance unit determination approach described above is implemented in this Order. The State Water Board believes that 1650 CUs represent a reasonable balance of resources and environmental protection, and will be sufficient to address the TMDLs in Attachment IV in the foreseeable future. The Department is ultimately responsible for demonstrating that it has complied with the TMDLs in Attachment IV by meeting the WLAs and other TMDL performance criteria, independent of its annual obligation to receive credit for compliance units. 1650 CUs per year may be more or less than is needed to comply with the TMDLs in Attachment IV within 20 years. This permit expires in 2018; therefore Attachment IV of this Order requires the Department to present to the State Water Board, at a public meeting to be scheduled approximately 180 days prior to the expiration of the Order, a TMDL Progress Report containing an evaluation of the progress achieved during this permit term. The State Water Board will then evaluate the compliance unit approach and the Department's progress in meeting the 20 year objective before consideration of subsequent requirements in a subsequently renewed permit.

Using an average cost \$176,000 per BMP/acre²², the proposed annual cost to meet this requirement relying solely on retrofits is approximately \$290,000,000. The Department's contribution to impairment in any given TMDL is generally a small portion of the overall contribution from multiple sources. In many cases, synergistic effects can be achieved and water quality improvements are better served through coordinated efforts with other parties to the TMDL. To encourage collaborative implementation, Attachment IV of this Order allows CUs for collaborative efforts based on the amount of financial participation made by the Department. To determine an appropriate financial equivalence staff used the cost data submitted by the Department of \$176,000 per BMP/acre or per CU. However, to encourage collaborative efforts, staff proposes a 50 percent discount for participation in these types of agreements. Attachment IV accordingly sets the CU equivalent at \$88,000. Based on the same approach described above, and relying solely on contributions to collaborative efforts, the annual cost to the Department is approximately \$145,000,000.

Attachment IV allows for two types of collaborative implementation: Cooperative Implementation Agreements between the Department and other responsible parties to conduct work to comply with a TMDL, and a Cooperative Implementation Grant Program funded by the Department and administered by the State Water Board. The grant program will be used to fund capital projects in impaired watersheds in which the Department has been assigned a WLA or otherwise has responsibility for implementation of the TMDL. Cooperative implementation will satisfy some or all of the Department's obligations under a TMDL, whether or not discharges from the Department's ROW are controlled or treated.

Cooperative implementation has the following advantages:

- Allows for retrofit projects off the ROW, at locations that may otherwise have space, access, or safety limitations within the ROW;
- Provides for the involvement of local watershed partners who have an interest and expertise in the best way to protect, manage, and enhance water quality in the watershed;
- Allows for implementation of BMPs and other creative solutions not typically available to the Department;
- Allows for larger watershed scale projects; and
- Leverages resources from other entities.

In addition, the Cooperative Implementation Grant Program eliminates the Department's complex budgeting and project approval process to expedite the implementation of BMPs in impaired watersheds.

If the Department elects to fund a Cooperative Implementation Grant Program, the Department and the State Water Board will enter into a formal agreement to specify the terms of the grant program and the commitments and responsibilities of the parties. The agreement will specify the following:

²² Construction capital cost based on information provided by Department staff.

- The Department will pay all State Water Board costs in administering the grant program. No credit for compliance units will be given for administrative costs paid to the State Water Board.
- The Department will track and report on the projects funded under the grant program.
- Grantees will be responsible for the long term management, operation, and maintenance of BMPs.
- Grants are limited to other responsible parties named in the TMDL.
- Projects shall address storm water runoff and treat or control the same Pollutants of Concern that the Department is responsible for.
- Priority is given to projects that address impairments in the highest priority reaches identified in the prioritization process specified in Attachment IV, Section I.A.
- If the grant program is discontinued, any unexpended funds will be returned to the Department and the corresponding compliance units will be revoked and added to subsequent annual compliance unit totals.

Attachment IV reflects the State Water Board's commitment to streamlining TMDL compliance for the Department to proceed as quickly as feasible to implement on-the-ground control measures and obtain measurable improvement in water quality. In the prioritization process, the Department and the Water Boards will consider the final compliance deadlines under the TMDLs; however, the State Water Board recognizes that the requirements in Attachment IV do not mirror all specific interim deadlines for studies, reports, and pollutant reductions in the TMDLs included to demonstrate progress toward meeting the WLAs. The requirements in Attachment IV are general yet consistent with specific planning, study, and reporting requirements in the TMDLs.

The Department is required annually to include in the TMDL Status Review Report its proposal for reaches to be addressed in the upcoming year, with selected control measures and projected schedule for implementation. The Department is also required to report a set of information that encompasses updates on cooperative and individual implementation activities completed, as well as an analysis of the effectiveness of existing BMPs and activities in meeting the WLAs. This information will be reviewed by the State Water Board and will be publicly available. Control measures and implementation schedules proposed for the upcoming year are subject to the approval of the Executive Director, or designee.

Attachment IV does not list the final required WLAs for each TMDL. With few exceptions, the WLAs are to be achieved jointly by a number of storm water dischargers and accordingly are of limited use in determining and enforcing the Department's specific responsibilities under the TMDL. The State Water Board finds that effective implementation and enforcement of Attachment IV is better achieved through clear requirements for implementation of controls, and monitoring and adaptive management of such controls, than by implementation of joint WLAs into the permit requirements.

Nevertheless, the WLAs, both Department-specific and joint with other dischargers, are discussed in the sections below. While the WLAs are not incorporated into Attachment IV as permit requirements, the discussion establishes that Attachment IV is consistent with the

requirements and assumptions of the WLAs. In general, the Department is a relatively small contributor to the impairment to be addressed by the relevant TMDLs.²³ Attachment IV requires a focused effort to address the priority discharges through measurable and streamlined progress in implementation of controls, effectively addressing the relatively small contribution from the Department. The Department must verify progress through reporting of subsequent monitoring and adaptive management activities.

As an additional step in determining compliance toward achievement of WLAs, the Department must submit a TMDL Progress Report with its application for permit reissuance in January of 2018, analyzing the effectiveness of the control measures installed for each reach and whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final TMDL compliance deadlines. The TMDL Progress Report will be subject to public review and comment and will inform the State Water Board as it considers subsequent requirements in a subsequently reissued permit.

A. General Requirements for all TMDLs: Comprehensive TMDL Monitoring, Reporting, and Adaptive Management

As previously discussed, an NPDES permit must specify the monitoring necessary to determine compliance with effluent limitations. Where effluent limitations are specified as BMPs, the permit should specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved. The permit should additionally provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance. Attachment IV requires continuation of existing monitoring plans as approved by the Regional Water Board Executive Officer. Where there is no approved monitoring plan in place for a TMDL, the Department is required to submit a plan to the State Water Board by January 1, 2015, with a time schedule to implement the plan. The submitted plan must be designed to assess the effectiveness of implemented BMPs and to inform BMP selection. The Department shall use the monitoring data to conduct an on-going assessment of the performance and effectiveness of BMPs and shall use the assessment to inform modifications to control measures to achieve WLAs and other applicable performance standards.

BMP effectiveness monitoring and the adaptive management strategy related to BMP implementation allows for flexibility in source control methods until the most appropriate BMPs are identified and installed for the control of a pollutant. The Department will evaluate the effectiveness of the controls that were implemented each year and submit the results of the evaluation in the TMDL Status Review Report, which is submitted as part of the Annual Report. If the controls implemented are shown to be ineffective, then the Department must either re-design the BMP or implement a new type of control measure to address the inadequacies of the current design. The process of assessing the performance and

²³ In the few instances where the Department's contribution is a relatively high percentage of the total contribution from identified sources, as identified in this Fact Sheet, the State Water Board would expect the Department to prioritize addressing such discharges and evaluating the performance and effectiveness of the selected BMPs.

effectiveness of BMPs and using that assessment to modify or replace inadequate BMPs ensures that the Department will make progress toward achieving the requirements of the TMDLs within the permit term.

The Department must also prepare and submit a TMDL Progress Report to the State Water Board as part of its permit reissuance application. That report must include: (1) a summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of BMP effectiveness assessment, (2) a determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines, (3) where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants, and (4) a summary of the estimated amount of pollutants that were prevented from entering into the receiving waters. The TMDL Progress Report will be subject to public review and comment and will inform the requirements of the reissued permit.

B. Sediments/Nutrients/Mercury/Siltation/Turbidity Pollutant Category

General Description of Pollutant Category

The TMDLs in this pollutant category identify sediment from roads as a significant or primary source of these pollutants. Excessive sediment loads have resulted in the non-attainment of water quality objectives for sediment, suspended material, and settleable material. Excess sediment delivery to stream channels is associated with several natural processes as well as anthropogenic sources.

Sources of Pollutant and How Pollutants Enters the Waterway

Natural sources include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that are capable of delivering sediment to a watercourse. Slide areas include shallow and deep seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

Mercury is negatively impacting the beneficial uses of many waters of the state. As of 2010, more than 180 water bodies are designated as impaired by mercury, and fish in these waters can have mercury concentrations that pose a health risk for humans and wildlife that eat the fish, including threatened and endangered species. The beneficial uses impacted by

mercury include, but may not be limited to, COMM, WILD, and RARE beneficial uses. Also REC-1 has been used for many waters to indicate fish consumption as part of fishing. Sources of mercury include gold and mercury mines, naturally mercury enriched soils, atmospheric deposition, improper disposal of mercury containing items, such as batteries and dental amalgam. Mercury from many of these sources can end up in storm water and industrial and municipal wastewater.

Watershed Contribution

The Department is a relatively minor source of pollutants and small percentage of the watershed. The Department will address the highest problem areas and therefore, addressing the problem at the appropriate level for the Sediment, Nutrients, Mercury, Siltation and Turbidity TMDLs.

Control Measures

Attachment IV requires the Department to implement control measures to prevent erosion and sediment discharge. The measures that control the discharge of sediment can be effective in controlling releases of nutrients and mercury. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying natural runoff flow patterns.

In addition to TMDL requirements, the Department has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities. This BMP program includes implementation, maintenance and evaluation of BMPs, and the investigation of new BMPs. The goal of BMP implementation is to control the discharge of pollutants to achieve the applicable standards. Erosion control BMPs are typically used on construction sites, although some are also used as permanent, post-construction BMPs.

Department's Contribution

The Department's discharge contribution is discussed under the individual TMDLs below. The TMDLs in this pollutant category attribute most anthropogenic sediment related beneficial use impairments to logging activities and, to a lesser degree, some agricultural activities. Logging activities routinely include extensive construction and maintenance of unpaved roads which range over large areas, whereas the Department maintains a network of paved highways which account for a small fraction of the total area devoted to all paved roadways within the boundaries of these TMDLs.

The requirements in Attachment IV are generally sufficient to address the sediment TMDLs that originate from a comparatively minor pollutant source, and this is accomplished by focusing on the most problematic areas and activities within this relatively low-volume subset of anthropogenic discharges for this pollutant category.

NORTH COAST REGION SEDIMENT TMDLS

As discussed under individual TMDLs below, the TMDLs in this pollutant category attribute most anthropogenic sediment-related beneficial use impairments to logging activities and, to a lesser degree, some agricultural activities. Logging activities in the North Coast region routinely include extensive construction and maintenance of unpaved roads which range over large areas of the Coast Range's vertical topography, whereas the Department maintains a network of paved highways which accounts for a small fraction of the total area devoted to all paved roadways within the boundaries of these TMDLs.

WLAS

The North Coast Regional Water Board has adopted the "Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region" on November 29, 2004. The goals of the Policy are to control sediment waste discharges to impaired water bodies so that the TMDLs are met, sediment water quality objectives are attained, and beneficial uses are no longer adversely affected by sediment. This policy requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards.

The sediment control requirements in Attachment IV (TMDL Requirements) of this Order are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonids fishery are often the most sensitive to sediment discharges. The North Coast Regional Water Board's basin plan has the following narrative water quality objectives which apply to sediment-related discharges to receiving waterbodies:

Parameter	Water Quality Objectives
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses.
Settleable Material	Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Turbidity	Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

Department's Contribution:

The Department's specific discharge contribution is discussed under the individual TMDLs below.

Albion River Sediment TMDL, December 2001

Final WLA

U.S. EPA states that there are no significant individual point sources of sediment in the Albion River watershed.

Final WLA Specific to the Department

U.S. EPA states that there are no significant individual point sources of sediment in the Albion River watershed. As a consequence, its wasteload allocation is set to zero.

Final Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading)

Approximately five percent of the total miles of roads within the watershed are paved, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. The Department's paved roadways thus constitute some undetermined fraction of the total paved road mileage: its wasteload allocation is set to zero.

Big River Sediment TMDL, December 2001

Final WLA

U.S. EPA states that there are no significant individual point sources of sediment in the Big River watershed, so the wasteload allocation is zero.

Final WLA Specific to the Department

U.S. EPA states that there are no significant individual point sources of sediment in the Big River watershed.

Final Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading)

Approximately three (3) percent of the miles of roadways within the watershed are paved, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. The Department is not listed as a source of point source discharges of sediment.

Lower Eel River Sediment & Temperature TMDL, December 18, 2007

Final Sediment WLA

For the Department’s facilities, construction sites, and municipalities, the wasteload allocation is expressed as equivalent to the load allocations, as specified in the following table:

Sediment Source		Average Daily		Average Daily		Percent Reduction 1955 -2003
		1955 – 2003 Loading	Load Allocation	1955 – 2003 Loading	Load Allocation	
		(tons/mi ² /yr)	(tons/mi ² /yr)	(tons/mi ² /day)	(tons/mi ² /day)	
Natural Load Allocation		718	718	2.0	2.0	0%
Roads	Episodic	43	9	0.1	0.02	80%
	Chronic	115	17	0.3	0.05	85%
Timber Harvest		590	147	1.6	0.4	75%
Skid Trail		7	1	0.02	0.5	90%
Bank Erosion		21	6	0.1	0.03	70%
Total Human-related Load Allocation		775	180	2.1	0.5	77%
Total Load Allocations Natural and Human-Related Sources		1,493	898	4.1	2.5	

Final WLA Specific to the Department

As stated above, U.S. EPA’s wasteload allocation for the temperature TMDL assigned to the Department and other point source dischargers is zero net increase in receiving water temperature.

Final Deadlines

As noted above, U.S. EPA did not set a specific sediment WLA for the Department.

Department’s Contribution (relative contribution to pollutant loading)

The Department’s relative sediment contribution is not known.

Eel River (Middle-Fork) Eden Valley and Round Valley HSAs Temperature and Sediment TMDL, December 2003

Final Sediment WLA

U.S. EPA states that because discharge from point sources cannot be readily determined, and because possible loading from point sources is not distinguished from general management-related loading in the source analysis, U.S. EPA considers the rates set as load allocations (i.e., for nonpoint sources) to also represent wasteload allocations (i.e., for those point sources that would be covered by general NPDES permits).

Table 7: Sediment TMDLs and Allocation (t/mi²/yr)

Source	Black Butte	Elk Creek	Round Valley	Upper MF	Williams Thatcher	BASINWIDE Load
TOTAL Natural	724	1,059	374	410	417	574
Percent Reduction over current	0%	0%	0%	0%	0%	0%
Subtotals Landslides	9	12	10	2	2	6
Percent Reduction over current	0%	5%	5%	0%	5%	5%
Subtotal Small Management Sources	7	41	9	8	19	23
Percent Reduction over current	0%	32%	95%	0%	89%	70%
Total Management-Related	16	53	19	10	21	29
Percent Reduction over current	0%	27%	91%	0%	88%	65%
TMDL – ALL SOURCES	740	1,112	393	420	438	603
Percent Reduction over current	0%	2%	32%	0%	26%	8%
Percent Natural	98%	95%	95%	98%	95%	95%
Percent Management	2%	5%	5%	2%	5%	5%

Final Sediment WLA Specific to the Department

As discussed above, U.S. EPA did not assign a specific sediment WLA to the Department.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)

U.S. EPA states that the Department's discharges of sediment, like other point sources of anthropogenic sediment discharges in this TMDL, are comparatively minor sources of this pollutant.

South Fork Eel River Temperature & Sediment TMDL, December 16, 1999

U.S. EPA's source analysis indicates that the sediment loading due to nonpoint erosion from roads and other anthropogenic activities accounts for a substantial portion of the total sediment loading in this watershed.

The waste load allocation for point sources are for sediment only, i.e., they are not directly related to the temperature portion of the TMDL, nor does U.S. EPA set a waste load allocation for point sources under the temperature portion of the TMDL. However, U.S. EPA also states that any improvements in stream temperature from reduced sedimentation contribute to the cumulative benefits of both sediment and temperature load reductions, and this assumption is accommodated in U.S. EPA's calculations for the margin of safety in this TMDL.

Final Sediment WLA

U.S. EPA set the wasteload allocation to zero because it found that there are no point sources of sediment in this watershed.

Final Sediment WLA Specific to the Department

As stated above, U.S. EPA states that there are no point source discharges of sediment within this TMDL, so the Department's wasteload allocation is set to zero.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)

U.S. EPA states that there are no discharges from point sources within this TMDL, and because of this finding, the Department's potential contribution to anthropogenic sediment loading is insignificant.

Upper Main Eel River Temperature & Sediment TMDL, December 29, 2004

Final Sediment WLA

For the sediment TMDL, U.S. EPA states that point sources are not significant, and sets the waste load allocation to zero.

Final Sediment WLA Specific to the Department

U.S. EPA views point source contributions to sediment loading in this TMDL, so the Department's wasteload allocation is set to zero.

Final Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)

U.S. EPA considers all point sources of anthropogenic sediment loading to be insignificant for purposes of this TMDL.

Garcia River Sediment & Temperature TMDL, March 16, 1998**Final Sediment WLA**

The wasteload allocation is effectively set to zero for "controllable" anthropogenic discharges of sediment, including those associated with roads, since all controllable discharges of sediment from roadways are prohibited.

Final Sediment WLA Specific to the Department

Although not specifically included in this TMDL, the wasteload allocation for all "controllable" anthropogenic discharges of sediment from roadways is effectively set to zero.

Final Sediment Deadlines

The structure of this 2002 TMDL requires responsible parties to choose an option for controlling 'sediment delivery', and some 'due dates' have already passed, e.g., January 2005 was the deadline for the Long Term Road System Plan- it is unclear which option, if any, has been selected by the Department.

Department's Sediment Contribution (relative contribution to pollutant loading)

The Department's relative sediment pollutant loading is not known.

Gualala River Sediment & Temperature TMDL, November 29, 2004**Final Sediment WLA**

U.S. EPA set the wasteload allocation for sediment discharges to zero, noting that point sources of sediment pollution are insignificant within the area described in this TMDL.

Final Sediment WLA Specific to the Department

There is no wasteload allocation specifically assigned to the Department, but as mentioned above, U.S. EPA set these to zero because of their comparative insignificance as sources.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment Contribution (relative contribution to pollutant loading)

Approximately three percent of the miles of roadways included within this TMDL are paved. The Department's potential contribution to pollutant loading is some unspecified fraction of the former, whereas logging road construction, logging road usage, and other activities associated with logging operations constitute the majority of anthropogenic sediment discharges. Due to its relative insignificance as a source of sediment pollution the Department's wasteload allocation is set to zero.

Klamath River in California Temperature, Dissolved Oxygen, Nutrients, and Microcystin TMDL, December 28, 2010
Final Nutrients WLA

Daily mass-based nutrient (total phosphorus and total nitrogen) and organic matter load allocations are assigned to segments of the Klamath River and its tributaries.

Source Area	Daily TP Load Allocations (lbs/day)	Daily TN Load Allocations (lbs/day)
Stateline	245+	3,139+
Upstream of Copco 1 Reservoir	(61)+	(330)+
Stateline to Iron Gate Dam inputs	22+	339+
Δ Iron Gate Hatchery	0+	0+
Tributaries between Iron Gate Dam and the Shasta River	49+	317+
Shasta River	75+	220+
Tributaries between Shasta River and Scott River	17+	97+
Scott River	87+	1,279+
Tributaries between Scott River and Salmon River	187+	1,050+
Salmon River	193+	1,583+
Tributaries between Salmon River and Trinity River	90+	504+
Trinity River	762+	5,783+
Tributaries between Trinity River and Turwar Creek	179+	1,004+
Total Maximum Daily Load	1,845	14,985

Final Nutrients WLA Specific to the Department

There are no WLAs that are assigned specifically to the Department. The Department is expected to address nutrient inputs into the Klamath River watershed through control of sediment from its road and highway facilities.

Final Nutrients Deadlines

There are no final deadlines for achievement of WLAs. However, the Department shall submit annual reports to the North Coast Regional Water Board documenting progress in implementing.

Department's Nutrients Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the nutrient pollutant loading is not known.

Lost River Nitrogen Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments December 30, 2008

The Lower Lost River TMDL was developed by the North Coast Regional Water Quality Control Board and approved by U.S. Environmental Protection Agency (U.S. EPA) (regional board resolution number R1-2010-0026). It established TMDLs for Nitrogen and Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments. The Lower Lost River TMDLs implementation plan which was established by U.S. EPA is included in the Klamath River TMDL. Both the Klamath River TMDL and the Lower Lost River TMDL were both approved on December 28, 2010.

Final Nitrogen WLAs

Segment	Total Dissolved Inorganic Nitrogen WLA (average kg/day)	Total Carbonaceous Biochemical Oxygen Demand (CBOD) (average kg/day)
Lost River from Border of Tule Lake Refuge	79.5	197.0
Tule Lake Refuge TMDLs	181.5	90.10
Lower Klamath Refuge TMDLs	76.2	889.9

Final Nitrogen WLAs Specific to the Department

Segment	Dissolved inorganic nitrogen, (average kg/day)	Carbonaceous Biochemical Oxygen Demand (CBOD) (average kg/day)
Lost River from border of Tule Lake Refuge	0.3	0.5
Tule Lake Refuge TMDLs	0.3	0.5
Lower Klamath Refuge TMDLs	0.3	0.5

Final Nitrogen Deadlines

There are no deadlines associated with these TMDLs.

Department's Nitrogen Contribution (relative contribution to pollutant loading)

Segment	Percentage of Total Dissolved Inorganic Nitrogen WLA	Percentage of Total Carbonaceous Biochemical Oxygen Demand (CBOD) WLA
Lost River from border of Tule Lake Refuge	100	100
Tule Lake Refuge TMDLs	3.0	10.1
Lower Klamath Refuge TMDLs	100	100

Mad River Sediment and Turbidity TMDL, December 21, 2007

U.S. EPA states that almost all sources of sediment in the Mad River watershed are from diffuse, nonpoint sources, including runoff from roads, timber operations, and natural background. In the Mad River basin, individual point sources are negligible sources of sediment and suspended sediment. To ensure protection of the cold water beneficial use, EPA has determined that it is appropriate to consider the rates set forth in these TMDLs as load allocations to also represent wasteload allocations for the *diffuse* discharges in the watershed that are subject to NPDES permits, as discussed below.

Final WLAs for Sediment and Turbidity

Wasteload allocations for diffuse, permitted point sources function similarly to and are represented by the nonpoint source load allocations, and wasteload allocations for permitted point sources are provided concentration-based wasteload allocations equivalent to what is included in the permits in order to account for incidental sediment and suspended sediment discharges. The TMDLs for sediment and turbidity include separate but identical load allocations for nonpoint sources and wasteload allocations for the diffuse point sources for each subarea. These WLAs are equivalent to and represented by the LAs, and the LAs are expressed on a unit loading basis (tons/mi²/year); therefore, they are not added to the LAs in the TMDL equation.

Table 20. Total Sediment Load Allocations Summary for the Mad River Watershed

Sediment Source	Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	
Natural Load Allocation	894	894	2.4	2.4	0%
Roads	Landslides	1,298			
	Surface	242			
Roads Subtotal	1,540	174	4.2	0.5	89%
Harvest	Landslide	38			
	Surface	2			

Sediment Source	Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	
Harvest Subtotal	40	5	0.1	0.01	89%
Total Human-related Load	1,580	179	4.3	0.5	89%
Total Load: All Sources	2,474	1,073	6.8	2.9	57%
Note: values have been rounded.					

Suspended sediment is estimated as a proportion of total sediment load, and the reductions for the suspended sediment load are shown in Table 21 (below). The reductions reflect similar priorities as for the total sediment load. Suspended sediment is estimated as a proportion of total sediment load, and the reductions for the suspended sediment load are shown in Table 21. The reductions reflect similar priorities as for the total sediment load.

Table 21. Suspended Sediment Load Allocations Summary for the Mad River Watershed

Sediment Source		Average Annual		Average Daily		Percent Reduction over 1976 – 2006 Period
		1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	1976 – 2006 Loading (tons/mi ² /yr)	Load Allocation (tons/mi ² /yr)	
Natural Load Allocation		809	809	2.2	2.2	0 %
Road	Landslides	1,174				
	Surface	219				
Roads Subtotal		1,393	158	3.8	0.4	89%
Harvest	Landslides	34				
	Surface	2				
Harvest Subtotal		36	4	0.1	0.01	89%
Total Human-related Load		1,430	162	3.9	0.4	89%
Total Load: All Sources		2,238	971	6.1	2.7	57%

Final WLAs for Sediment and Turbidity Specific to the Department

U.S. EPA grouped the Department’s discharges under its NPDES municipal storm water permit with other “diffuse” NPDES-permitted storm water discharges occurring in this TMDL. U.S. EPA’s source analysis did not distinguish between land areas subject to NPDES regulation and nonpoint sources of sediment and turbidity. U.S. EPA’s TMDLs thus include separate but identical load allocations (LAs) for nonpoint sources and wasteload allocations (WLAs) for the “diffuse” point sources for each subarea. These WLAs are equivalent to and

represented by the LAs, and the LAs are expressed on a unit loading basis (tons/mi²/year); therefore, they are not added to the LAs in the TMDL equation.

For the diffuse permitted sources such as the Department's discharges under its municipal storm water permit, the waste load allocation is expressed as equivalent to the load allocation for (all) roads. The load allocations for roads are listed in the tables given above.

U.S. EPA also states that the Regional Water Board may wish to refine these TMDLs and allocations further in the future.

Final Sediment and Turbidity Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Sediment and Turbidity Contribution

U.S. EPA states that non-NPDES nonpoint sources are responsible for nearly all sediment loading in the watershed, but does not estimate the Department's potential contribution to sediment and turbidity waste loading in this TMDL. Only six percent of the roads in this watershed are paved, and some unspecified portions of the latter are State highways.

Navarro River Sediment and Temperature TMDL, December 27, 2000

Final Sediment WLA

The Navarro River TMDLs for temperature and sediment are based on separate analyses. Reduced sediment loads could be expected to lead to increased frequency and depth of pools, and to reduced wetted channel width/depth ratios.

Final Sediment WLA Specific to the Department

The Department is not specifically mentioned as a source of pollutant loading for temperature and sediment, nor are any other point sources of these pollutants. The wasteload allocation for the Department is therefore presumed to be set to zero.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution

As mentioned above, neither Department nor other point sources are identified as sources of pollutant loading for temperature or sediment, so U.S. EPA has determined that these potential sources are insignificant in this TMDL.

Noyo River Sediment TMDL, December 16, 1999

Final Sediment WLA

U.S. EPA apportioned the total load among several non-point sources of sediment, after accounting for background load. As a consequence, this TMDL does not include wasteload allocations for point sources.

Final Sediment WLA Specific to the Department

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution (relative to pollutant loading)

As stated above, U.S. EPA did not establish wasteload allocations for point sources of sediment.

Redwood Creek Sediment TMDL, U.S. EPA Established December 30, 1998

Final Sediment WLA

U.S. EPA did not establish wasteload allocations for point sources in this TMDL.

Final WLA

U.S. EPA established this TMDL on December 30, 1998 and it became effective immediately.

Final WLA Specific to the Department and the Department's Contribution

As stated above, U.S. EPA did not establish wasteload allocations for point sources of sediment.

Final Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Contribution (relative to pollutant loading)

The Department's contribution relative sediment pollutant loading is not known.

Scott River Sediment and Temperature TMDL, August 11, 2006

Final Sediment WLA

U.S. EPA states that there are no point sources of sediment and/or temperature related discharges within the area encompassed by this TMDL, so the wasteload allocation is set to zero.

Final Sediment WLA Specific to the Department

None.

Final Sediment Deadlines

U.S. EPA directed Regional Water Board staff to evaluate the Department's state-wide NPDES permit in the North Coast Region by September 8, 2008. The purpose of the evaluation was to determine the adequacy and effectiveness of the Department's storm water program in preventing and reducing elevated water temperatures in the North Coast Region, including the Scott River watershed.

Department's Sediment Contribution (relative to pollutant loading)

As noted above, U.S. EPA did not establish specific wasteload allocations for point sources, so the wasteload allocations are set to zero. The Department's point source contribution is therefore judged to be insignificant.

Ten Mile River Sediment TMDL, December 2000

Final Sediment WLA

U.S. EPA states that there are no point sources of sediment discharges within the area included within this TMDL: wasteload allocations are therefore set to zero.

Final Sediment WLA Specific to the Department

As stated above, U.S. EPA did not establish wasteload allocations for point sources such as the Department in this TMDL, so the wasteload allocations are set to zero.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Sediment Contribution (relative pollutant loading)

The Department's relative sediment contribution is judged to be insignificant.

Trinity River Sediment TMDL, December 20, 2001

Final Sediment WLA

U.S. EPA did not subdivide waste load and load allocations into specific sources such as roads and timber harvest, unlike several of its other sediment-related TMDLs in Region 1. U.S. EPA divided the basin into subareas because of the wide range of sediment delivery rates within each of the several subareas. U.S. EPA further states that although nonpoint sources are responsible for most sediment loading in the watershed, point sources also discharge some sediment.

The TMDL identified wasteload allocations for point sources and load allocations for nonpoint sources as pollutant loading rates (tons/square mile/year) for subareas within the Trinity Basin. The source analysis supporting these allocations evaluated sediment loading at a subarea scale, and did not attempt to distinguish sediment loading at the scale of specific land ownership, nor did the source analysis specifically distinguish between land areas subject to NPDES regulation and land areas not subject to NPDES regulation. As a

consequence, the TMDL includes separate but identical load allocations for nonpoint sources and wasteload allocations for point sources for each subarea. The joint LA/WLA's for each subarea are given in the following tables:

Table 5-2. TMDL and Allocations by Source Category for Upper Area

Source Categories		Subareas within the Upper Assessment Area				
		Reference Subwatersheds ¹	Westside Tributaries ²	Upper Trinity ³	East Fork Tributaries ⁴	East Side Tributaries ⁵
Current Sediment Delivery Rate						
Background (non-management)		1,125	421	2,759	258	241
Management	Roads	129	101	162	319	48
	Timber Harvest	240	31	1,084	46	22
	Legacy (Roads, Mining)	7	25	21	26	96
	Total Mgmt.	376	157	1,267	391	96
Total Sediment Delivery		1,051	578	4,026	649	337
Total as percent of background		133%	137%	146%	252%	140%
Loading Capacity (TMDL) and Allocations (tons/mi²/yr)						
TMDL (= 1.25 X Background)		1,406	526	3,449	323	301
Background Allocation		1,125	421	2,759	258	241
Total Management Allocation (= TMDL – Background)		281	105	690	65	60
Percent reduction needed in management to attain TMDL		25%	33%	46%	83%	37%
<ol style="list-style-type: none"> 1. Stuarts Fork, Swift Creek, Coffee Creek 2. Stuart Arm Area, Stoney Creek, Mule Creek, East Fork Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek; 3. Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstem Area, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowside Gulch Area, Scorpion Creek 4. East Fork Trinity, Cedar Creek, Squirrel Gulch Area 5. East Side Tributaries, Trinity Lake 						

Table 5.3 TMDL and Allocations by Source Category for Upper Middle Area

Source Categories	Subareas within the Upper Assessment Area						
	Weaver and Rush Creeks (72 mi ²)	Deadwood Creek, Hoadley Gulch and Poker Bar Area (47 mi ²)	Lewiston Lake Area (25 mi ²)	Grass Valley Creek ¹ (37 mi ²)	Indian Creek (34 mi ²)	Reading and Brown Creek (104 mi ²)	
Current Sediment Delivery Rates (tons/mi²/yr)							
Background (non-management)	675	273	195	175	324	263	
Management	Roads	144	220	83	287	1,570	125
	Timber Harvest	61	280	37	1,136	330	204
	Legacy (Roads, Mining)	81	62	69	65	68	42
	Total Mgmt.	286	562	189	1,488	1,968	372
Total Sediment Delivery	961	835	384	1,663	2,292	635	
Total as percent of background	142%	305%	197%	950%	707%	241%	
Loading Capacity (TMDL) and Allocations (tons/mi²/yr)							
TMDL (= 1.25 X Background)	844	341	244	219	405	329	
Background Allocation	675	273	195	175	324	263	
Total Management Allocation (= TMDL – Background)	169	68	49	44	81	66	
Percent reduction needed in management to attain TMDL	41%	88%	74%	97%	96%	82%	
1. The rates in Grass Valley Creek do not account for the amount of sediment trapped by Buckhorn Dam and Hamilton Ponds.							

Table 5.4 TMDL and Allocations by Source Category for Lower Middle Assessment Area

Source Categories		Subareas within the Lower Middle Assessment Area				
		Reference Subwatersheds ¹ (434 mi ²)	Canyon Creek (64 mi ²)	Upper Tributaries ² (72 mi ²)	Middle Tributaries ³ (54 mi ²)	Lower Tributaries ² (96 mi ²)
Current Sediment Delivery Rates (tons/mi²/yr)						
Background (non-management)		1,568	1,302	268	210	221
Management	Roads	11	2,482	60	37	41
	Timber Harvest	4	4	29	16	20
	Legacy (Roads, mining)	9	17	46	28	29
	Total Mgmt.	24	2,503	135	81	90
Total Sediment Delivery		1,592	3,805	403	291	311
Total as percent of background		102%	292%	150%	139%	141%
Loading Capacity (TMDL) and Allocations (tons/mi²/yr)						
TMDL (= 1.25 X Background)		1,592	1,628	335	263	276
Background Allocation		1,568	1,302	268	210	221
Total Management Allocation (= TMDL – Background)		24	326	67	53	55
Percent reduction needed in management to attain TMDL		0	87%	50%	35%	39%
1. New River, Big French, Manzanita, North Fork, East Fork North Fork. 2. Dutch, Soldier, Oregon Gulch, Conner Creek Area. 3. Big Bar Area, Prairie Creek, Little French Creek. 4. Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quinby Creek Area, Hawkins, Sharber.						

Table 5.5. TMDL and Allocations by Source Category for Lower Assessment Area

Source Categories	Subareas within the Lower Assessment Area. Outside of Hoopa Valley Tribe Reservation Boundaries					
	Reference Subwatersheds Horse Linto Creek: 64 mi ²)	Mill Creek and Tish Tang (39mi ²)	Willow Creek (43 mi ²)	Campbell Creek and Supply Creek (11 mi ²)	Lower Mainstem Area and Coon Creek (32mi ²)	
Current Sediment Delivery Rates (tons/mi²/yr)						
Background (non-management)	2,110	839	374	7,845	252	
Management	Roads	483	703	854	14,349	76
	Timber Harvest	87	83	201	785	15
	Legacy (Roads, Mining)	26	26	26	26	22
	Total Mgmt.	596	812	1,081	15,160	113
Total Sediment Delivery	2,706	1,651	1,455	23,005	365	
Total as percent of background	128%	197%	389%	293%	145%	
Loading Capacity (TMDL) and Allocations (tons/mi²/yr)						
TMDL (= 1.25 X Background)	2,638	1,049	468	9,806	315	
Background Allocation	2,110	839	374	7,845	245	
Total Management Allocation (= TMDL – Background)	528	210	94	1,961	63	
Percent reduction needed in management to attain TMDL	11%	74%	91%	87%	44%	
Note: Since Background rates for Lower Mainstem Area and Coon Creek were not available from GMA (2001), U.S. EPA used the same rate as was calculated for the Quinby Creek Area is comparable in size and underlain by the same geology type (Galice Formation).						

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation.

Final Sediment WLA Specific to the Department

U.S. EPA issued joint LAs and WLA’s, as noted above, so source-specific wasteload allocations were not developed for this TMDL.

Department’s Sediment Contribution (relative pollutant loading)

It is not possible to estimate the Department’s point source contribution from the source analysis developed by U.S. EPA.

South Fork Trinity River Watershed Sediment Total Maximum Daily Load (U.S. EPA, 1998)

Final Sediment WLA

U.S. EPA states that there are no point source discharges, and set the waste load allocation to zero.

Final Sediment WLA Specific to the Department

There is no waste load allocation for the Department's discharges. In keeping with U.S. EPA's rationale, this means that the waste load allocation for the Department's sediment discharges is zero.

Final Deadlines

No deadlines were specified.

Department's Pollutant Contribution

The Department is mentioned as a possible source of sediment discharges, but the relative contribution of its potential discharges were not measured or estimated. The State highways it mentions in the geographic area included in the TMDL are portions of Highways 36 and 101.

Van Duzen River Watershed Sediment Total Maximum Daily Load (U.S. EPA, 1999)

Final Sediment WLA

U.S. EPA states that there are no point source discharges, and set the waste load allocation to zero.

Final Sediment WLA Specific to the Department

There is no waste load allocation for the Department's discharges. In keeping with U.S. EPA's rationale, this means that the waste load allocation for the Department's sediment discharges is zero.

Final Sediment TMDL Deadlines

No deadlines were specified.

Department's Pollutant Contribution

The Department is mentioned as a possible source of sediment discharges, but the relative contribution of its potential discharges were not measured or estimated. The State highways it mentions in the geographic area included in the TMDL are portions of Highways 3, 36, and 299.

SAN FRANCISCO BAY REGION SEDIMENT AND MERCURY TMDLS

Napa River Sediment TMDL, January 20, 2011

Final Sediment WLA

The wasteload allocations are listed in the following table:

Point Source Category	Current Load		Reduction Needed (percentage)	Wasteload Allocations	
	Metric (Tons/year)	Percentage of Natural Background		Metric (Tons/year)	Percent of Natural Background
Construction Storm Water Order No. 99-08-DWQ	500	0.3	0	500	.03
Municipal Storm Water NPDES Permit No. CAS000001	800	0.5	0	800	0.5
Industrial Storm Water NPDES Permit No. CAS000001	500	0.3	0	500	0.3
Department Storm Water-Order No. 99-06-DWQ	600	0.4	0	600	0.4
Wastewater Treatment Plant Discharges^a					
City of St. Helena NPDES Permit No. CA0038016	30	<0.1	0	30	<0.1
Town of Yountville/CA Veteran's Home NPDES Permit No. CA0038121	30	<0.1	0	30	<0.1
City of Calistoga NPDES Permit No. CA0037966	40	<0.1	0	40	<0.1
TOTAL	2,500	2		2,500	2

a. For wastewater treatment plant discharges, compliance with existing permit effluent limit of 30 mg/L of TSS is consistent with these wasteload allocations.

Note: Above estimates for loads, percent reductions, and allocations are rounded to two significant figures.

Final Sediment WLA Specific to the Department

The Department's wasteload allocation is 600 metric tons/year.

Final Sediment Deadlines

The Department is deemed to be implementing appropriate control measures if it discharges in compliance with its municipal storm water permit, and if it conducts the monitoring program included in its storm water permit.

Department's Sediment Contribution (relative to pollutant loading)

The Regional Water Board indicates that the Department is a fairly minor anthropogenic source of sediment discharges, and attributes its current discharges to only 0.4% of natural background loading. As a consequence, the Regional Water Board has determined that compliance with its NPDES permit will enable the Department to meet its sediment wasteload allocation.

Sonoma Creek Sediment TMDL, September 8, 2010

Final WLA

Although roadways are cited as a major source of sediment loading in the Sonoma Creek watershed, the Regional Water Board has determined that compliance with its NPDES permit for storm water will enable the Department to meet its wasteload allocation for sediment.

Final Sediment WLA Specific to the Department

The Department's wasteload allocation is 100 tons/year, which is its current (2005) estimated annual discharge of sediment within the area encompassed by this TMDL.

Final Sediment Deadlines

In collaboration with stakeholders in the watershed, Water Board staff will develop a detailed monitoring program to assess progress of TMDL attainment and provide a basis for reviewing and revising TMDL elements or implementation actions. As an initial milestone, by fall 2011, the Regional Water Board and watershed partners were required to complete monitoring plans to evaluate: a) attainment of water quality targets; and b) suspended sediment and turbidity conditions. Initial data collection, based on the protocols established in these monitoring plans was anticipated to begin in the winter of 2011-2012.

Department's Sediment Contribution (relative to pollutant loading)

The Regional Water Board estimates that the Department's point source discharges of sediment constitute approximately 8% of total point sources discharges of sediment.

San Francisco Bay Mercury TMDL, February 12, 2008

The San Francisco Bay Mercury TMDL was adopted by the San Francisco Bay Regional Water Quality Control Board as Resolution Number R2-2006-0052 on August 9, 2006. It was approved by U.S. EPA on February 12, 2008.

Final Mercury WLA

There are no WLAs specific to the Department. Instead, the Department's WLA is an unspecified portion of the WLA assigned to the city or municipal NPDES permit in which the Department's roads or facilities reside.

Final Mercury WLA Specific to the Department

No deadlines specified.

Final Mercury Deadlines

The WLAs must be attained by February 12, 2028.

Department's Mercury Contribution (relative contribution to pollutant loading)

The Department's contribution is unknown.

CENTRAL COAST SEDIMENT TMDLS

Although roadways are cited as a major source of sediment loading in some Central Coast watersheds, the Central Coast Regional Water Board has determined that compliance with the Department's NPDES permit will meet the Department's wasteload allocation.

***San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks)
Sediment TMDL, February 19, 2004***

Final Sediment WLA

The sediment load to the San Lorenzo River derives from both nonpoint sources and point sources. The TMDL combines nonpoint source LAs and point source WLAs for each segment of this TMDL, as specified in the following table:

Sediment Source Category	Allocation (tons/year)			
	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
Upland Timber Harvest Plan (THP) Roads	0	419	362	25,215
Streamside THP Roads on Steep Slopes	0	182	164	10,949
Upland Public/ Private Roads	146	1,235	367	13,835
Streamside Public/Private Roads on Steep Slopes	77	135	239	6,178

Sediment Source Category	Allocation (tons/year)			
	Shingle Mill Creek	Carbonera Creek	Lompico Creek	San Lorenzo River
THP Land	0	23	16	1,057
Other Urban and Rural Land	310	2,622	965	43,368
Mass Wasting	0	4,082	6,440	157,388
Channel/Bank Erosion	324	3,030	989	48,149
Total Allocation = TMDL³	857	11,728	9,542	306,139

Note:

³ The term "TMDL" is used here for familiarity. The allowable loads for the San Lorenzo River and its tributaries are actually expressed as a Total Annual Loads (tons/year). This expression of load accounts for seasonal variation in sediment loads explained by the seasonality of rainfall in this region of the Central Coast.

Final Sediment WLA Specific to the Department

As stated above, no specific waste load allocation was assigned to the Department.

Final Sediment Deadlines

Compliance with its municipal storm water permit is deemed to be sufficient to meet the Department's waste load allocation for sediment.

Department's Sediment Contribution (relative contribution to pollutant loading)

This TMDL does not estimate the relative contribution of the Department's roadways/facilities to sediment discharges, but this source appears to be moderate based on this TMDL's source analysis.

Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary) Sediment TMDL, January 20, 2004

Final WLA

The sediment load to Morro Bay, Los Osos Creek and Chorro Creek derives from both nonpoint sources and point sources. The TMDL combines nonpoint source LAs and point source WLAs for each segment of this TMDL, as specified in the following table:

Final Sediment WLA Specific to the Department

Loading Allocations (TMDL expressed as annual load)	Watershed	Total (Tons/Yr) Rounded to the nearest ton
	Chorro Creek at Reservoir	6,541
	Dairy Creek	440
	Pennington Creek	966
	San Luisito Creek	7,315
	San Bernardo Creek	10,269
	Minor Tributaries	4,489
	Chorro Creek (Subtotal)	30,020
	Los Osos Creek	3,052
	Warden Creek and Tributaries	1,812
	Los Osos Creek (Subtotal)	4,864
	Morro Bay Watershed (Total)	34,885

Final Sediment WLA Specific to the Department

Although no specific wasteload allocation was assigned to the Department, this TMDL states that discharges which are in compliance with their respective storm water (and other) NPDES permits are meeting their portion of shared responsibility for achieving sediment load reduction.

Final Sediment Deadlines

Implementation will rely on the State’s Plan for NPS pollution control (CWC §13369) and continued implementation of existing regulatory controls as appropriate for point sources, including storm water pursuant to NPDES surface water discharge regulations and Waste Discharge Requirements under Porter-Cologne. Final compliance with sediment load reductions is scheduled to be achieved by 2054 (50 years from the adoption of the TMDL).

Department’s Sediment Contribution (relative contribution to pollutant loading)

The Department’s contribution to sediment loading was not estimated in this TMDL.

LOS ANGELES REGION SEDIMENT/NUTRIENTS/MERCURY TMDLS

Department’s Pollution Contribution:

Although roadways are cited as a major source of sediment loading in some watersheds, for purposes of current sediment-related TMDLs, the Los Angeles Regional Water Board has determined that compliance with its NPDES permit will meet the Department’s wasteload allocations for sediment.

**Ballona Creek Wetlands Sediment and Invasive Exotic Vegetation TMDLs,
March 26, 2012**

Final Sediment WLA

U.S. EPA established wasteload allocations (WLAs) for sediment to address the impairments identified for the Ballona Creek Wetlands. WLAs are assigned to the Los Angeles County MS4 and their co-permittees, and the Department, who are responsible for the loading of sediment into Ballona Creek Wetlands. The WLAs are the total allowable sediment load that can be discharged into Ballona Creek Wetlands. This total sediment load includes both suspended sediment and sediment bed load that are transported from Ballona Creek Watershed into Ballona Creek Wetlands. Invasive exotic vegetation listed on the California Noxious Weed list are given a WLA and LA of zero.

Since the current existing discharge of sediment load is not contributing to the listed impairments or otherwise causing a negative impact to Ballona Creek Wetlands, this TMDL establishes joint WLAs based on existing conditions. The allowable WLA is set at 58,354 yd³/yr (or 44,615 m³/yr). The joint wasteload allocation is as follows:

Responsible Jurisdiction	Input	Sediment Wasteload Allocation¹ (yd³/yr)	Existing Total Sediment Load (yd³/yr)
Los Angeles County MS4 , Co-Permittees & Department	Ballona Creek Watershed	58,354	58,354

Final Sediment WLA Specific to the Department

As stated above, there is no WLA specific to the Department. The joint point source WLA is 58,354 cubic yards of sediment per year, which is equivalent to the current estimated total sediment loading contributed by these sources.

Final Sediment Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department’s Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to anthropogenic sediment loading is not estimated or quantified in this TMDL. However, the joint WLAs are set to the current estimated sediment discharges, which the Department can meet through compliance with its NPDES municipal storm water permit.

Calleguas Creek and its Tributaries & Mugu Lagoon Metals (including Mercury) and Selenium TMDL, March 26, 2007

Final Mercury WLA

The Department shares group mass-based WLAs for mercury for Calleguas Creek and Revolon Slough with other Permitted Storm water Dischargers (PSDs). Final WLAs are mass-based and are dependent upon annual flow ranges.

Final Mass-based WLAs for Annual Flow Ranges, Mercury in Suspended Sediment

Flow Range, Millions of Gallons per Year	Calleguas Creek (lbs/yr)	Revolon Slough (lbs/yr)
0-15,000 MGY	0.4	0.1
15,000-25,000 MGY	1.6	0.7
Above 25,000 MGY	9.3	1.8

Final Mercury WLA Specific to the Department

There is no specific allocation for the Department.

Final Mercury Deadlines

The final WLAs must be achieved within 15 years after the effective date of the amendment, or March 26, 2022.

Department's Mercury Contribution (relative contribution to pollutant loading)

The Department's areal proportion of the watershed is not known.

The Los Angeles Area Lakes and Reservoir

TMDLs specific to the Department include targets for the following lakes:

- Echo Park Lake: nitrogen phosphorus, chlordane, dieldrin, PCBs, and trash
- Lake Sherwood: mercury
- Legg Lakes (North, Center and Legg): nitrogen and phosphorus
- Peck Road Park Lake: nitrogen and phosphorus
- Puddingstone Reservoir: nitrogen, phosphorus, chlordane, DDT, PCBs, Hg, and Dieldrin

Wasteload allocations were assigned to responsible jurisdictions based on existing loading of nitrogen and phosphorus to each lake. To allow flexibility in implementing the nutrient TMDLs, responsible jurisdictions receiving required reductions have the option to submit a request to the Regional Board for alternative concentration-based wasteload allocations. These jurisdictions can receive alternative concentration-based wasteload allocations not to exceed 1.0 and 0.1 milligrams per liter total nitrogen and total phosphorus, respectively.

During wet weather, runoff from industrial sites has the potential to contribute pollutant loadings. During dry weather, the potential contribution of pollutant loadings from industrial storm water is low because non-storm water discharges are prohibited or authorized by the

permit only under the following circumstances: when they do not contain significant quantities of pollutants, where Best Management Practices are in place to minimize contact with significant materials and reduce flow, and when they are in compliance with Regional Board and local agency requirements.

Los Angeles Area (Echo Park Lake) Total Nitrogen, Total Phosphorus, Chlordane, Dieldrin, PCBs, and Trash TMDLs, March 26, 2012)

Final Nutrient WLAs

	Total Phosphorus, (lbs/year)	Total Nitrogen, (lbs/year)
TOTAL	83.3	682

Final Nutrient WLAs Specific to the Department

Subwatershed	Total Phosphorus, (lbs/year)	Total Nitrogen, (lbs/year)
Northern	0.608	4.77
Southern	0.051	0.403

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contributions (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Northern	0.6 %	0.7 %
Southern	0.05 %	0.06 %

Los Angeles Area (North, Center & Legg Lakes) Nitrogen and Phosphorus, TMDLs, March 26, 2012

Final Nutrient WLA Nitrogen & Phosphorous TMDLs

	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
TOTAL	1,541	9,135

Final WLAs Specific to the Department

Subwatershed	Total Phosphorus, (lbs/year)	Total Nitrogen, (lbs/year)
Direct to Center Lake	4.6	15.5
Direct to Legg Lake	1.2	4.0
Direct to North Lake	19.1	64.1
Northwestern	9.4	29.3
Northeastern	10.9	34.0

Alternative concentration-based WLAs are available to the Department if it satisfies certain criteria as detailed in the TMDL. Those WLAs are:

Subwatershed	Maximum Allowable WLA for Total Phosphorus (mg/L)	Maximum Allowable WLA for Total Nitrogen (mg/L)
Direct to Center Lake	0.1	1.0
Direct to Legg Lake	0.1	1.0
Direct to North Lake	0.1	1.0
Northwestern	0.1	1.0
Northeastern	0.1	1.0

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Direct to Center Lake	0.2 %	0.2 %
Direct to Legg Lake	0.1 %	<0.1 %
Direct to North Lake	1.0 %	0.6 %
Northwestern	0.5 %	0.3 %
Northeastern	0.6 %	0.3 %

Los Angeles Area (Peck Road Park Lake) Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash TMDLs, March 26, 2012

Final Nutrient WLAs

	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
TOTAL	19,319	186,845

Final Nitrogen & Phosphorus WLA Specific to the Department

Subwatershed	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
Eastern	158	1,165
Western	34.2	251

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Eastern	0.8 %	0.6 %
Western	0.2 %	0.1 %

Los Angeles Area (Puddingstone Reservoir) Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, and Dieldrin TMDLs, March 26, 2012

Final Nutrient WLAs for Puddingstone Reservoir

Final Nitrogen and Phosphorus WLAs

	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
TOTAL	4,226	18,756

Final Nitrogen, Phosphorus WLAs Specific to the Department

Subwatershed	Total Phosphorus (lbs/year)	Total Nitrogen (lbs/year)
Northern	167	745
Southern	14.8	68.2

Alternative concentration-based WLAs are available to the Department if it satisfies certain criteria as detailed in the TMDL. Those WLAs are:

Subwatershed	Maximum Allowable WLA for Total Phosphorus (mg/L)	Maximum Allowable WLA for Total Nitrogen (mg/L)
Northern	0.1	1.0
Direct Southern	0.1	1.0

Final Nutrient Deadlines

There are no final deadlines specified for the Department.

Department's Nutrient Contribution (relative contribution to pollutant loading)

Subwatershed	Percentage of the Total Phosphorus Load	Percentage of the Total Nitrogen Load
Northern	3.6 %	3.4 %
Southern	0.3 %	0.3 %

Final Mercury WLA for Puddingstone Reservoir

Final Waste Load Allocations are assigned to the Department for sub-watersheds for Puddingstone Reservoir, and must be met at the Department's discharge points.

Final Mercury WLA for Puddingstone Reservoir Specific to the Department

Mercury WLAs for Puddingstone Reservoir

Subwatershed	Area (ac)	Existing Annual Hg Load (g/yr)	Percent of Load	Final Wasteload Allocation (g/yr)
Puddingstone-Northern	110	1.32	1.85	0.702
Puddingstone-Southern	11.6	0.0960	0.13	0.051

Fish Harbor is impaired for mercury in sediment. The Department is named as a responsible party for WLAs to Fish Harbor. The final concentration-based WLA for sediment in Fish Harbor is 0.15 mg per kilogram of dry sediment.

Final Mercury Deadlines for Puddingstone Reservoir

The Department is subject to the prescribed point source interim WLAs which are effective as of March 23, 2012. Compliance with all final WLAs is required by March 23, 2032.

Department's Mercury Contribution for Puddingstone Reservoir (relative contribution to pollutant loading)

Subwatershed	Annual Hg Load (g/yr)	Percent of Total Load
Northern	1.32	1.85
Southern	0.096	0.13
Total	1.42	1.99

Los Angeles Area (Lake Sherwood) Mercury TMDL, March 26, 2012

Final Mercury WLA

Final waste load allocations are assigned to the Department for one sub-watershed, Lake Sherwood, and must be met at the Department's discharge points.

Final Mercury WLA Specific to the Department

Mercury WLAs for Lake Sherwood

Subwatershed	Area (ac)	Existing Annual Hg Load (g/yr)	Percent of Load	Final Wasteload Allocation (g/yr)
Carlisle Canyon	2.75	0.049	0.12	0.014

Final Mercury Deadlines

There are no final deadlines specified for the Department.

Department's Mercury Contribution (relative contribution to pollutant loading)

Subwatershed	Annual Hg Load (g/yr)	Percent of Total Load
Carlisle Canyon	0.049	0.12
Entire Watershed	0.049	0.001

Machado Lake Eutrophic, Algae, Ammonia, and Odors (Nutrients), March 11, 2009

Final Nutrients WLA

Final concentration-based Waste Load Allocations are established for total phosphorus and total nitrogen (defined as the sum of the concentrations of Total Kjeldhal Nitrogen, Nitrate as N, and Nitrite as N). For most storm water permittees, the final WLA for total phosphorus is 0.1 mg/L. For total nitrogen, the final WLA is 1.0 mg/L.

Final Nutrients WLA Specific to the Department

For the Department, the final WLA for total phosphorus is 0.1 mg/L. For total nitrogen, the final WLA is 1.0 mg/L.

Final Nutrients Deadlines

The Department must achieve its final WLAs by September 11, 2018.

Department's Nutrients Contribution (relative contribution to pollutant loading)

The Department's contribution to the overall loading is not defined in the TMDL. The draft Machado Lake Nutrients TMDL Implementation Plan, submitted on March 11, 2011 by the Department states that the Department's roadways and facilities comprise approximately 1.2 percent of the Machado Lake Watershed.

Malibu Creek & Lagoon TMDL for Sedimentation and Nutrients, July 2, 2013

Sediment loading into Malibu Lagoon is much higher than naturally expected. The excess sediment accumulates in the Lagoon tidal channels and carries greater nutrient loads and cause algae blooms with likely adverse impacts on benthic macroinvertebrates.

Final Sedimentation WLA

Allocations for Sedimentation as listed in Table 10-2. (Based on SCAG 2008 land use and Jurisdictional maps provided by MS4 Co-permittees.)

Type of Allocation	Responsible Party	Impervious Area (total acres)	Pervious Area (acres)	Allocation Fraction	Sedimentation Allocation (tons/yr)
WLA	WLA Los Angeles Co. below	887	10,612	17.4%	1,012
WLA	Department below Malibou Lake	60	61	0.8%	44
LA	Unincorporated area draining to Las Virgenes Creek**	8	267	0.3%	16
LA	Protected land below Malibou Lake*	253	16,820	13.7	796
LA	Load Allocation at outlet of Malibou Lake	3,669	37,550	67.9%	3,950
Total		4,878	65,310	100.0 %	5,817

Final Sedimentation WLA Specific to the Department

See Table 10-2 above for the Department's below Malibou Lake.

Final Sedimentation Deadlines

U.S. EPA did not develop final deadlines for this TMDL.

Department's Sedimentation Contribution (relative contribution to pollutant loading)

See the Department's Nutrients Contribution below.

Final Nutrients WLA

There are no total final WLAs for Malibu Creek and Lagoon. Below are the concentration-based numeric targets as listed in Table 10-4 of this TMDL.

Season	Total Nitrogen (mg/l)	Total Phosphorus (mg/l)
Summer (Apr 15 – Nov 15)	0.65	0.1
Winter (Nov 16 - Apr 14)	1.0	0.2

Final Nutrients WLA Specific to the Department

Final WLAs are established Total Nitrogen (TN) and Total Phosphorus (TP) for summer and winter as listed in Table 10-4 of this TMDL.

Summer TN, mg/l (Apr 15 – Nov 15)	Winter TN, mg/l (Nov 16 – Apr 14)	Summer TP, mg/l (Apr 15 – Nov 15)	Winter TP, mg/l (Nov 16 – Apr 14)
1.0	4.0	0.1	0.2

Final Nutrients Deadlines

EPA did not develop final deadlines for this TMDL.

Department's Nutrients Contribution (relative contribution to pollutant loading)

The Department's total area within the watershed is 206 acres, of a total of 65,310 acres or 0.317% of the total watershed.

The Department's contribution to the nutrient loads is not specified in the TMDL, but it can be assumed that the contribution is nearly the same as the allocation fraction for sediment in Table 10-2, at 0.8%. Multiplying the monthly watershed loads for winter and summer from Tables 5-3 and 5-4, respectively, by the Department's allocation fraction provides an approximation of the Department's total contribution to the monthly load.

Source	Summer TN Load kg/mo (Apr 15 – Nov 15)	Winter TN Load kg/mo (Nov 16 – Apr 14)	Summer TP Load kg/mo (Apr 15 – Nov 15)	Winter TP Load kg/mo (Nov 16 – Apr 14)
Total Load	789	20,442	140	2,842
Department Runoff (estimate based on area)	6.31	164	1.12	22.7

Ventura River and its Tributaries Algae, Eutrophic Conditions, and Nutrients TMDL, June 28, 2013

This TMDL establishes dry-weather and wet-weather WLAs for nitrogen and a dry-weather TMDL for phosphorus.

Final Nutrients WLA

The final dry-weather Total Nitrogen and Total Phosphorus loads are not explicitly stated in the TMDL.

Final Nutrients WLA Specific to the Department

The final total dry-weather total nitrogen WLA for the Department is 1.1 pound/day. The final dry-weather total phosphorus WLA for the Department is 0.11 pound/day.

Wet-weather allocations for “nitrogen”, defined as the sum of Nitrate-N and Nitrite-N, are the same for all storm water dischargers and are site-specific to the reaches of the watershed:

Reach	Nitrate-N + Nitrite-N (mg/L)
Estuary	7.4
Reach 1	7.4
Reach 2	10
Cañada Larga	10
Reach 3	5
San Antonio Creek	5
Reach 4	5
Reach 5	5

Final Nutrients Deadlines

Wet-weather WLAs for the Department apply on the effective date of the TMDL. Dry-weather WLAs for the Department must be achieved by June 28, 2019.

Department’s Nutrients Contribution

The Department’s proportional contributions to the final WLAs are estimated to be approximately 1 percent each.

CENTRAL VALLEY REGION NUTRIENTS AND MERCURY TMDLS***Clear Lake Nutrients TMDL, September 21, 2007*****Final Nutrients WLA**

The final WLA for phosphorus for Clear Lake is 2100 kg per year.

Final Nutrients WLA Specific to the Department

The Department is given a final WLA for phosphorus of 100 kg per year.

Final Nutrients Deadlines

The Department shall achieve its WLAs by September 21, 2017.

Department’s Nutrients Contribution (relative contribution to pollutant loading)

The Department contributes 4.8 percent to the final phosphorus WLA.

**Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch Mercury TMDL,
February 7, 2011**

Final Methylmercury WLA

Implementation Summary Cache Creek and Bear Creek Methylmercury Allocations

Source	Acceptable Annual Load (g/yr)
Cache Creek (Clear Lake to North Fork Confluence)	11
North Fork Cache Creek	12.4
Harley Gulch	0.04
Davis Creek	0.7
Bear Creek @ Highway 20	3
In-channel production and un-gauged tributaries	32
Bear Creek @ Bear Valley Road	0.9
Sulphur Creek	0.8
In-channel production and un-gauged tributaries	1

Final Mercury WLA Specific to the Department

No specific WLA assigned to the Department.

Final Mercury Deadlines

None specified.

Department's Mercury Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pollutant loading is not known.

**Sacramento-San Joaquin River Delta Estuary Methylmercury TMDL,
October 20, 2011**

Final Methylmercury WLA

Delta Methylmercury Allocations

Permittee	NPDES Permit	Waste Load Allocation (g/yr)
Central Delta		
County of Contra Costa	CAS083313	0.75
City of Lodi	CAS000004	0.053
Port of Stockton MS4	CAS084077	0.39
County of San Joaquin	CAS000004	0.57
Stockton Area MS4	CAS083470	3.6
SUBTOTAL		5.4
Marsh Creek		
County of Contra Costa	CAS083313	0.30
SUBTOTAL		0.30
Mokelumne River		

Permittee	NPDES Permit	Waste Load Allocation (g/yr)
County of San Joaquin	CAS000004	0.016
<i>SUBTOTAL</i>		<i>0.016</i>
Sacramento River		
City of Rio Vista	CAS000004	0.0078
Sacramento Area MS4	CAS082597	1.0
County of San Joaquin	CAS000004	0.11
County of Solano	CAS000004	0.041
City of West Sacramento	CAS000004	0.36
County of Yolo	CAS000004	0.041
<i>SUBTOTAL</i>		<i>1.6</i>
San Joaquin River		
City of Lathrop	CAS000004	0.097
Port of Stockton MS4	CAS084077	0.0036
County of San Joaquin	CAS000004	0.79
Stockton Area MS4	CAS083470	0.18
City of Tracy	CAS000004	0.65
<i>SUBTOTAL</i>		<i>1.7</i>
West Delta		
County of Contra Costa	CAS083313	3.2
<i>SUBTOTAL</i>		<i>3.2</i>
Yolo Bypass		
County of Solano	CAS000004	0.021
City of West Sacramento	CAS000004	0.28
County of Yolo	CAS000004	0.083
<i>SUBTOTAL</i>		<i>0.38</i>
TOTAL		<i>12.596</i>

Final Methylmercury WLA Specific to the Department

There are no WLAs specific to the Department. However, allocations for each of the defined municipal entities in the above table include all current and future permitted dischargers within the geographic boundaries of these municipalities and unincorporated areas, including the Department.

Final Methylmercury Deadlines

The final WLAs for dischargers in the Delta and Yolo bypass shall be met as soon as possible, but no later than January 1st, 2030.

Department's Methylmercury Contribution (relative contribution to pollutant loading)

The Department's contribution to the methylmercury load is not known.

LAHONTAN REGION SEDIMENT/NUTRIENTS TMDLS

Lake Tahoe Sediment and Nutrients TMDL, August 16, 2011

Attachment IV incorporates TMDL-specific permit requirements for the sediments and nutrients TMDL for Lake Tahoe. The TMDL requires the Department to meet pollutant load reduction requirements and to develop and implement a comprehensive Pollutant Load Reduction Plan (PLRP).

Final Sediment WLA

The pollutant load reduction requires the Department to reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by ten percent, seven percent and eight percent respectively by September 30, 2016. The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reductions.

Final Sediment Deadlines

This plan is to be submitted no later than July 15, 2013. By July 15, 2014, the Department shall submit a Progress Report documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011. The Department shall also prepare and submit a Storm Water Monitoring Plan for review and approval by the Regional Board by July 15, 2013 and implement the approved plan.

Final deadlines for both nitrogen and phosphorus WLAs are for 65 years after the effective date of the TMDL (August 16, 2076).

Department's Sediment Contribution (relative contribution to pollutant loading)

Final Nutrient WLA

Constituent	Basin-Wide Load (MT/yr)	Urban Upland Load	Final Urban Upland Reduction %	Final WLA, (MT/yr)
Nitrogen	345	63	50	31.5
Phosphorus	38	18	46	8.28

Final Nutrient WLA Specific to the Department

The Department's specific contributions to the loads are not defined. The Department is part of a group of Urban Upland (storm water) dischargers. The Department was required to submit a 2004 baseline load estimate specific to its jurisdiction by August 16, 2013.

Final Nutrient Deadlines

Final deadlines for both nitrogen and phosphorus WLAs are for 65 years after the effective date of the TMDL (August 16, 2076).

Department's Nutrient Contribution (relative contribution to pollutant loading)
The Department's relative contribution to pollutant loading is not known.

Truckee River Sediment TMDL, September 16, 2009

TMDL attainment will be evaluated through the TMDL targets: these targets express desired conditions in the watershed, rather than sediment mass reductions. This was deemed to be appropriate because sediment mass reductions are not a practical indication of beneficial use protection due to the inherent natural variability of sediment delivery and the uncertainties associated with accurately measuring sediment loads and reductions.

Final Sediment WLA

For the most part, point source dischargers' compliance with their respective NPDES permits are deemed to be evidence of compliance with their respective responsibilities to help achieve desired watershed conditions, as described above.

Final Sediment WLA Specific to the Department

The Department's compliance with its storm water permit is deemed to be evidence of compliance with its responsibility to help achieve desired watershed conditions, as described above.

Final Sediment TMDL Deadlines

The Truckee River instream sediment targets are currently being met and will be further evaluated for TMDL attainment.

Department's Contribution (relative contribution to pollutant loading)

The Department's relative contribution to sediment pollutant loading is not known.

SANTA ANA REGION NUTRIENTS AND MERCURY TMDLS

Big Bear Lake Nutrients for Dry Hydrological Conditions TMDL, September 25, 2007

This TMDL contains waste load allocations for phosphorus loads under dry hydrological conditions, defined as an average tributary inflow to Big Bear Lake ranging from 0 to 3,049 acre-feet, average lake levels ranging from 6,671 to 6,735 feet and annual precipitation ranging from 0 to 23 inches.

Final Nutrients WLA

The total Waste Load Allocation is 475 pounds/year.

Final Nutrients WLA Specific to the Department

There is no WLA specific to the Department.

Final Nutrients Deadlines

The WLA must be achieved by December 31, 2015.

Department’s Nutrients Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to nutrient pollutant loading is not known.

Lake Elsinore and Canyon Lake Nutrients TMDL, September 30, 2005

The Department has already committed to cooperative implementation actions, monitoring actions, special studies and implementation actions jointly with other responsible agencies as an active paying member of the Lake Elsinore/Canyon Lake TMDL Task Force. If the Department doesn’t fulfill its Lake Elsinore/Canyon Lake Task Force obligations or if the Department chooses to opt out of the cooperative approach with the TMDL Task Force for implementation actions, monitoring actions, and/or special studies then the Department will have to implement the requirements listed in Table IV.2. of Attachment IV.

Final Nutrients WLA

Waterbody	Final Total Phosphorus Waste Load Allocation (kg/year)	Final Total Nitrogen Waste Load Allocation (kg/year)
Canyon Lake	487	6,248
Lake Elsinore	3,845	7,791

Final Nutrients WLA Specific to the Department

There are no WLAs specific to the Department.

Final Nutrients Deadlines

Final allocation compliance is to be achieved by December 31, 2020.

Department’s Nutrient Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the nutrient pollutant loading is not available.

Rhine Channel Area of Lower Newport Bay Chromium and Mercury, U.S. EPA Established on June 14, 2002

Mercury Final WLA

A WLA for mercury to Rhine Channel is 0.225 kilograms/year.

Mercury Final WLA Specific to the Department

The final mass-based Mercury WLA for the Department is 0.0027 kilograms/year.

Mercury Final Deadlines

The Santa Ana Regional Water Quality Control Board anticipated a Basin Plan Amendment addressing implementation of the above TMDLs in 2007; these amendments have not yet been completed

Department's Mercury Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the mercury loading is approximately three percent. This WLA was developed by taking the available load and dividing it roughly in proportion to the land areas associated with the remaining source categories (including the Department).

SAN DIEGO REGION SEDIMENT AND NUTRIENTS TMDLS

Historical loading of sediment to some coastal wetlands within Region 9 has resulted in impacts to natural wetland functions. The excess deposition and movement of sediment within remaining coastal wetlands has greatly altered the natural conditions. Urbanized development of the watershed and the channel straightening has modified both the sediment supply and the ability of flows to transport sediments. Additionally, channelization of streams has cut off the banks and floodplains of natural rivers within these watersheds. Sediments carried in flows are not stored within the banks but are rather transported to the outlet of coastal estuaries where they are deposited. Recurring dredging operations in coastal areas also affect sediment transport and deposition patterns in these watersheds. Wetland and estuarine habitats tend to be fragmented by existing roads, infrastructure, and surrounding urbanized development.

In some Region 9 watersheds, natural processes of erosion have been accelerated due to anthropogenic watershed disturbances, resulting in impairment of additional principally biological resources, but also recreational uses, including: RARE, MIGR, SPWN, WILD, EST, MAR, BIOL, REC1, REC2, NAV.

Rainbow Creek Total Nitrogen and Total Phosphorus TMDL, March 22, 2006

Final Nutrient WLA

The final WLA for nitrogen is 82 kilograms/year. The final WLA for phosphorus is eight kilograms/year.

Final Nutrient WLA Specific to the Department

The final WLA for nitrogen for the Department is 49 kilograms/year. The final WLA for phosphorus for the Department is five kilograms/year.

Final Nutrient Deadlines

The Department shall achieve the final WLA by December 31, 2021.

Department's Nutrient Contribution (relative contribution to pollutant loading)

The Department's contribution to the nitrogen and phosphorus WLAs is three percent of the total.

C. Metals/Toxics/Pesticides TMDL Pollutant Category**General Description of Pollutant Category**

Toxic pollutants, including but not limited to Pesticides, Polycyclic Aromatic Hydrocarbons (PAHs) and Polychlorinated Biphenyls (PCBs), cause several impairments to California's water quality.

Sources of Pollutant & How it Enters the Waterway

The main transport mechanism for these pollutants is through fine sediment. Once the contaminated fine sediments wash off the roadways and into storm drains or nearby receiving waters they re-suspend in the water column and become bioavailable.

Metals including copper, zinc, lead, cadmium, nickel and chromium are toxic to aquatic life and cause impairments to California's waterbodies. Toxic metals are present in water as both dissolved and total recoverable fractions. During times of high precipitation (storm events), the primary transport mechanism for metals, especially in the total recoverable fraction, is again the mobilization of fine sediment. Accumulated contaminated fine sediment washes off roadways and into storm drains or nearby receiving waters. Metals in the sediment become bioavailable while suspended in the water column. During times of low precipitation, flows that reach storm drains or discharge points are typically insufficient to mobilize fine sediment, but dissolved metal ions are still bioavailable and reach discharge points.

Mechanical components of automobiles, especially those that are subjected to frictional stresses are either known or supposed sources of these metals (i.e., copper from brake pads and zinc from synthetic rubber tires). Some toxic metals are also present in petroleum-based lubricants and in gasoline and diesel fuel (i.e. cadmium).

Watershed Contribution

The Department is identified in many TMDLs as a source of toxic pollutants because they own and operate the roadways which act as conveyance systems of fine sediments. However, in most cases the Department makes up a relatively minor load for toxic pollutants because the models used to develop TMDLs rely on the percentage of land use to determine WLAs.

The Department is named in the TMDLs below as a source of metals in storm water because it owns, operates and maintains roadways and facilities present in these watersheds. As with toxics, in most cases, the Department is assigned a relatively minor proportion of the entire storm water WLA for each metal because its roadways and facilities comprise a small proportion of the total watershed area.

Control Measures

The requirements in Part C of Attachment IV of this permit address both dissolved and sediment-bound sources of toxics and metals. Section C.1 addresses treatment of the fine sediment fraction of toxics and metals and requires that the Department implement structural controls/BMPs.

Dissolved fraction metal impairments require an inventory of outfalls/discharge points to waterbodies within each prioritized reach impaired by dissolved fraction metals and to propose and implement appropriate controls consistent with the report.

The Reach Prioritization and Implementation Requirements in Section I.A. and I.B. of Attachment IV place a priority on identifying and addressing the highest source generating areas. This strategy will control the largest sources of fine sediment for a minor pollutant source and allow for attainment of the applicable WLAs consistent with the Toxic Pollutants and Metals TMDLs identified in Table IV.2 of Attachment IV.

In Section III.C.1, the options for controlling sediment-bound toxics and metals are essentially the same. The types of BMPs expected to be implemented to address fine sediment discharges under C.1 are those expected to be implemented to address sediment discharges for the sediment TMDLs discussed above.

Section III.C.2 explains that Dissolved Fraction Metals levels in storm water are reduced when contaminated sediment is removed or mitigated, but additional structural and non-structural BMPs may still be necessary to achieve compliance. In some cases, this may require building or instituting BMPs in addition to those used for metals in fine sediments for the same discharge points. Structural BMPs might include Infiltration or detention basins/trenches, filtration using metal-absorbing media, etc.

Section III.C.3. Pesticides. The Department is to comply with the Vegetation Control provision that specifies practices for the safe handling and use of pesticides, including compliance with federal, state and local regulations, and label directions.

SAN FRANCISCO BAY REGION TOXIC TMDLS

San Francisco Bay PCBs TMDL, March 29, 2010

The TMDL identifies storm water runoff as a major source for PCB transport and includes the Department's roadways, non-roadway facilities, and rights-of-way.

Final PCBs WLA

The total WLA for all storm water runoff sources is two kilograms/year.

Final PCBs WLA Specific to the Department

All storm water runoff sources share a two kilograms/year WLA.

Final PCBs Deadlines

The WLA of two kilograms/year is broken up by county and is to be achieved within 20 years or March 29, 2030.

Department's PCBs Contribution (relative contribution to pollutant loading)

The TMDL also directs the storm water sources to implement this TMDL through the applicable NPDES permits.

San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity, May 16, 2007**Final Pesticide Toxicity WLA**

The TMDL states that most urban runoff flows through storm drains operated by all storm water entities including the Department. The WLA for each storm water entity is 1 TUC_a (TUC_a = 100/No Observed Adverse Effect Concentration) and one TUC_c (TUC_c = 100/No Observed Effect Concentration) in water and sediment.

Final Pesticide Toxicity WLA Specific to the Department

The Department's level of responsibility is not identified.

Final Pesticide Toxicity Deadlines

The TMDL specifies that all NPDES permits for runoff management agencies, including the Department, require implementation of best management practices and control measures that reduce pesticides in urban runoff to the maximum extent practicable. No final compliance date is specified, however, the Regional Water Board may require additional control measures if the Department fails to meet the TMDL targets.

Department's Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pesticide toxicity pollutant loading is not known.

LOS ANGELES REGION METALS AND TOXICITY TMDLS***Ballona Creek Metals & Selenium TMDL, December 22, 2005 and reaffirmed on December 29, 2008***

The TMDL identifies storm water as a significant contributor to loadings of copper, lead and zinc (and selenium) to Ballona Creek and Sepulveda Canyon Channel in both dry weather and wet weather.

Final Metals WLA

Storm water allocations are divided among the MS4 and general permits named in the TMDL based on an areal weighting approach.

Final Metals WLA Specific to the Department

The Department is assigned separate dry-weather and wet-weather Waste Load Allocations (WLAs). Dry-weather conditions apply to days when the maximum daily flow in Ballona Creek is less than 40 cubic feet per second (cfs), and wet-weather conditions apply to days when the maximum daily flow in Ballona Creek is equal to or greater than 40 cfs. Both dry-weather and wet-weather WLAs are mass-based, although alternate concentration-based dry-weather WLAs are allowed due to the expense of obtaining accurate flow measurements.

Dry-weather WLAs g/day, Total Recoverable Metal:

Waterbody	Copper	Lead	Zinc
Ballona Creek	11.2	6.0	143.1
Sepulveda Channel	5.1	2.7	64.7

Wet-weather WLAs, g/day, Total Recoverable Metal; V is daily flow volume in liters:

Waterbody	Copper	Lead	Zinc
All	$2.37 * V * 10^{-7}$	$7.78 * V * 10^{-7}$	$1.57 * V * 10^{-6}$

Alternate dry-weather WLAs, µg/L, Total Recoverable Metal:

Waterbody	Copper	Lead	Zinc
All	24	13	304

Final Metals Deadlines

The Department is responsible for meeting its assigned mass-based WLAs, but has the option to work with the other MS4 permittees. Each municipality and permittee is required to meet the storm water waste load allocation at designated TMDL effectiveness monitoring points. The MS4 permittees including the Department may use a combination of structural and non-structural BMPs to achieve compliance with the storm water WLAs. Total compliance is to be achieved by January 11, 2021.

Department's Metals Contribution (relative contribution to pollutant loading)

The Department's relative contribution to metals pollutant loading is not known.

Ballona Creek Estuary Toxic Pollutants TMDL, December 22, 2005

Final OC-Compounds & PAHs WLA

The storm water WLAs are apportioned between the MS4 permittees, the Department, the general construction, and the general industrial storm water permits based on an areal weighting approach.

Final WLA Specific to the Department

The Department is assigned the following WLAs based on the 1.3 percent land area associated with the Department:

Metals Storm Water WLAs Apportioned between Permits

Cadmium (kg/yr)	Copper (kg/yr)	Lead (kg/yr)	Silver (kg/yr)	Zinc (kg/yr)
0.11	3.2	4.4	0.09	14

Organics Storm Water WLAs Apportioned between Permits

Total Chlordane (g/yr)	Total DDTs (g/yr)	Total PCBs (g/yr)	Total PAHs (g/yr)
0.05	0.15	2	400

Final WLA Deadlines

The implementation schedule for the MS4 and the Department permittees consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed with total compliance to be achieved within 15 years of the TMDL effective date or December 22, 2020.

Department's WLA Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the pollutant loading is unknown.

Calleguas Creek OC Pesticides, PCBs, and Siltation TMDL, March 14, 2006

Final OC Pesticides & PCBs WLA

In accordance with current U.S. EPA practice, a group concentration-based WLA has been developed for MS4s, including the Department's MS4. The grouped allocation will apply to all NPDES-regulated municipal storm water discharges in the Calleguas Creek Watershed. Storm water WLAs will be incorporated into the NPDES permit as receiving water limits measured at the downstream points of each subwatershed and are expected to be achieved through the implementation of BMPs as outlined in the implementation plan.

Interim WLAs as an In-stream Annual Average (ng/g)

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total Chlordane	25.0	17.0	48.0	3.3	3.3	3.4
4,4-DDD	69.0	66.0	400.0	290.0	14.0	5.3
4,4-DDE	300.0	470.0	1,600.0	950.0	170.0	20.0
4,4-DDT	39.0	110.0	690.0	670.0	25.0	2.0
Dieldrin	19.0	3.0	5.7	1.1	1.1	3.0

Pollutant	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Total PCBs	180.0	3,800.0	7,600.0	25,700.0	25,700.0	3,800.0
Toxaphene	22,900.0	260.0	790.0	230.0	230.0	260.0

Final WLAs as an In-stream Annual Average

Pollutant	Mugu Lagoon (ng/g)	Calleguas Creek (ng/g)	Revolon Slough (ng/g)	Arroyo Las Posas (ng/g)	Arroyo Simi (ng/g)	Conejo Creek (ng/g)
Total Chlordane	3.3	3.3	0.9	3.3	3.3	3.3
4,4-DDD	2.0	2.0	2.0	2.0	2.0	2.0
4,4-DDE	2.2	1.4	1.4	1.4	1.4	1.4
4,4-DDT	0.3	0.3	0.3	0.3	0.3	0.3
Dieldrin	4.3	0.2	0.1	0.2	0.2	0.2
Total PCBs	180.0	120.0	130.0	120.0	120.0	120.0
Toxaphene	360.0	0.6	1.0	0.6	0.6	0.6

Final OC Pesticides & PCBs WLA Specific to the Department

See Tables above.

Final OC Pesticides & PCBs Deadlines

The above Final WLAs (ng/g) as an in-stream annual average are to be achieved by March 24, 2026, but the schedule and allocations can be altered based on the results of several special studies required in the TMDL implementation plan.

Department's OC Pesticides & PCBs Contribution (relative contribution to pollutant loading)

The Department's relative pesticide and PCB contribution is not known.

Calleguas Creek and its Tributaries & Mugu Lagoon Metals and Selenium TMDL, March 26, 2007

Final Metals WLAs

Urban storm water runoff was identified as a source for metals pollution in the TMDL. The Department shares group WLAs for nickel, copper and selenium with other Permitted Storm water Dischargers (PSDs). Concentration-based interim limits for nickel, copper and selenium are effective from the date of the TMDL for all PSDs. Final WLAs are mass-based.

There are final WLAs for both dry-weather and wet-weather conditions. The dry-weather WLAs apply to days when flows in the stream are less than the 86th percentile flow rate for each reach. The wet-weather WLAs apply to days when flows in the stream exceed the 86th percentile flow rate for each reach. Dry weather limits are based on chronic California Toxics Rule (CTR) criteria. Wet weather limits are based on acute CTR criteria.

Interim Concentration-based Wet and Dry Weather Limits

Metal	Calleguas and Conejo Creek			Revolon Slough		
	Dry CMC µg/L	Dry CCC µg/L	Wet CMC µg/L	Dry CMC µg/L	Dry CCC µg/L	Wet CMC µg/L
Copper	23	19	204	23	19	204
Nickel	15	13	*	15	13	*

* The current loads do not exceed the TMDL under wet conditions: interim limits not required

Final Mass-based Dry-weather WLAs, lbs/day, Total Recoverable Metal in Water Column

Metal	Calleguas and Conejo Creek			Revolon Slough		
	Low	Average	Elevated	Low	Average	Elevated
Copper (lbs/day)	0.04 * WER – 0.02	0.12 * WER – 0.02	0.18 * WER – 0.03	0.03 * WER – 0.01	0.06 * WER – 0.03	0.13 * WER – 0.02
Nickel (lbs/day)	0.100	0.120	0.440	0.050	0.069	0.116

Final Mass-based Wet-weather WLAs, lbs/day, total recoverable metal in water column

Metal	Calleguas Creek	Revolon Slough
Copper (lbs/day)	$(0.00054*Q^2 + 0.032*Q - 0.17)*WER - 0.06$	$(0.0002*Q^2 + 0.0005*Q)*WER$
Nickel (lbs/day)	$0.014*Q^2 + 0.82*Q$	$0.027*Q^2 + 0.47*Q$

A WER is applied to final numeric targets for copper for the Mugu Lagoon, Calleguas Creek 2, and Revolon/Beardsley reaches; the WER defaults to a value of one (1) unless a site-specific study is approved. The mass-based WLAs apply to the Permitted Storm water Dischargers as a group, and the Department has no specific proportional WLA.

Final Metals WLA Specific to the Department

The WLAs above apply to all permitted storm water dischargers, including the Department. The Department has no specific final WLAs.

Final Metals Deadlines

All PSDs have required interim reductions of 25 percent and 50 percent by March 26, 2012 and March 26, 2017, respectively. The final WLAs must be achieved within 15 years after the effective date of the amendment (March 26, 2022). Implementation shall be achieved through BMPs. The Department was originally tasked with submitting an Urban Water Quality Control Plan by March 26, 2012. Implementation is meant to be achieved using BMPs. The Department was required to conduct a source control study and submit an

Urban Water Quality Management Program for copper, nickel, selenium and mercury by March 26, 2009.

Department’s Metals Contribution (relative contribution to pollutant loading)
 The Department’s contribution to the metal loads is unknown.

Colorado Lagoon OC Pesticides, PCBs, Sediment Toxicity, PAHs and Metals TMDL, June 14, 2011

The TMDL identifies the point sources of OC pesticides, PCBs, PAHs, and metals discharged to Colorado Lagoon are urban runoff and storm water discharges from the MS4 and the Department. The Colorado Lagoon watershed is divided into five sub-basins that discharge storm water and urban dry weather runoff to Colorado Lagoon. Each of the sub-basins is served by a major storm sewer trunk line and supporting appurtenances that collect and transport storm water and urban dry weather runoff to Colorado Lagoon.

Final WLAS for OC Pesticides, PCBs, and PAHs

The Department and the City of Long Beach shall each be responsible for achieving the following final mass-based WLAs assigned to the Line I Storm Drain as it conveys storm water from both the Department’s facilities and the City of Long Beach:

Final Mass-based WLA for MS4 Discharges

Total Chlordane	Dieldrin (mg/yr)	Total PAHs (mg/yr)	Total PCBs (mg/yr)	Total DDTs (mg/yr)
3.65	0.15	29,321.50	165.49	11.52

In addition, concentration-based WLAs for sediment are assigned to MS4 permittees including the City of Long Beach, LACFCD, and the Department. Concentration-based WLAs for sediment are applied as average monthly limits. Compliance with the concentration-based WLAs for sediment shall be determined by pollutant concentrations in the sediment in the lagoon at points in the West Arm, North Arm, and Central Arm that represent the cumulative inputs from the MS4 drainage system to the lagoon. Concentration-based interim WLAs for sediment are set to allow time for removal of contaminated sediment through proposed implementation actions. Interim WLAs are based on the 95th percentile value of sediment data collected from 2000-2008. The following interim and final WLAs will be included in MS4 permits in accordance with NPDES guidance and requirements:

Concentration-based WLAs

Pollutants	Interim WLAs (µg/dry kg)	Final WLAs (µg/dry kg)
Total Chlordane	129.65	0.50
Dieldrin	26.20	0.02
Total PAHs	4,022	4,022
Total PCBs	89.90	22.7
Total DDTs	149.80	1.58

Final WLAs for Metals

The Department is jointly responsible with the City of Long Beach in attaining final mass-based WLAs for lead and zinc in sediment and storm water conveyed to Colorado Lagoon via the Line I Storm Drain. In addition, concentration-based interim limits are established for all storm water dischargers, including the Department.

Interim Concentration-based WLAs for Metals in Sediment

Metal	Average Monthly Sediment	
	Interim WLA (µg/kg)	Final WLA (µg/kg)
Lead	399,500	46,700
Zinc	565,000	150,000

Final Mass-based WLAs for Metals in Line I Storm Drain

Metal	mg/yr
Lead	340,455.99
Zinc	1,093,541.72

Proposed BMPs that may apply to the Line I Storm Drain include:
 Low-flow diversion, trash separation devices, vegetated bioswales, cleaning of existing culverts, or direct removal of accumulated sediment

Final OC Pesticides, PCBs & PAHs WLA Specific to the Department

See tables above.

Final OC Pesticides, PCBs & PAHs Deadlines

The Department is subject to the prescribed point source interim WLAs which are effective as of July 28, 2011. Compliance with all final WLAs is required by July 28, 2018.

The Department's OC Pesticides, PCBs & PAHs Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the OC Pesticides, PCBs, and PAHs pollutant loading is not known.

Dominguez Channel and Greater Los Angeles and Long Beach Harbor Toxic Pollutants TMDL, March 23, 2012

The toxic pollutants included in this TMDL include Copper, lead, zinc, DDT, PAHs, and PCBs.

Final WLAs for OC Pesticides PCBs, and PAHs

Interim and final WLA are assigned to storm water discharges including those from the Department’s MS4. Dominguez Channel freshwater allocations are set for wet weather only because exceedances have only been observed in wet weather. Mass-based allocations have been set where sufficient data was available to calculate mass-based allocations; otherwise, concentration-based allocations have been set. Interim and final WLAs shall be included in permits in accordance with state and federal regulations and guidance.

An interim freshwater toxicity allocation of two chronic toxicity units (TUc) applies to all point sources to Dominguez Channel during wet weather including the Department. A final freshwater toxicity allocation of one (1) TUc applies to all point sources to Dominguez Channel during wet weather including the Department.

Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to storm water discharges based on the 95th percentile of sediment data collected from 1998-2006. The final mass-based allocations for PAHs expressed as an annual loading (kilograms/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long beach Harbor Waters. The final mass-based allocations for Total DDT and Total PCBs, expressed annual loading (grams/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters.

OC Pesticides PCBs, and PAHs Interim and Final WLAs

Interim Concentration-Based Sediment Allocations			
	Total PAHs (mg/kg)	Total DDTs (mg/kg)	Total PCBs (mg/kg)
Dominguez Channel Estuary	31.60	1.727	1.490
Long Beach Inner Harbor	4.58	0.070	0.060
Los Angeles Inner Harbor	90.30	0.341	2.107
Long Beach Outer Harbor	4,022	0.075	0.248
Los Angeles Outer Harbor	4,022	0.097	0.310
Los Angeles River Estuary	4.36	0.254	0.683
San Pedro Bay	4,022	0.057	0.193
Cabrillo Marina	36.12	0.186	0.199
Consolidated Slop	386.00	1.724	1.920
Cabrillo Beach Area	4,022	0.145	0.033
Fish Harbor	2102.7	40.5	36.6

Final Mass-Based Sediment Allocations for the Department			
	Total PAHs (kg/yr)	Total DDTs (g/yr)	Total PCBs (g/yr)
Dominguez Channel Estuary	0.0023	0.004	0.004
Consolidated Slip	0.00009	0.00014	0.00006
Inner Harbor	0.0017	0.0010	0.0011
Outer Harbor	0.00021	0.000010	0.00004
Fish Harbor	0.000021	0.0000010	0.000006
Cabrillo Marina	0.0000016	0.00000028	0.00000024
San Pedro Bay	0.077	0.002	0.019
LA River Estuary	0.333	0.014	0.047

Final Concentration-based Sediment WLAs for Other Bioaccumulative Compounds (dry sediment)		
Total Chlordane (µg/kg)	Dieldrin (µg/kg)	Toxaphene (µg/kg)
0.5	0.02	0.10

Final OC Pesticides PCBs, and PAHs WLAs for Metals

Interim and final WLAs for copper, lead and zinc are assigned to storm water discharges including those from the Department's MS4. Freshwater allocations for Dominguez Channel are set for wet weather only because exceedances have only been observed in wet weather. Wet weather conditions in Dominguez Channel and all of its upstream tributaries apply to any day when the maximum daily flow is greater than 62.7 cfs at any point in Dominguez Channel. Mass-based allocations have been set where sufficient data were available to calculate mass-based allocations; otherwise, WLAs are concentration-based.

Interim allocations for Dominguez Channel and Torrance Lateral are assigned to storm water dischargers, including the Department, and are based on the 95th percentile of total metals data collected from January 2006 to January 2010 using a log-normal distribution. Interim sediment allocations for Dominguez Channel Estuary and greater Los Angeles and Long Beach Harbor waters are assigned to storm water discharges based on the 95th percentile of sediment data collected from 1998-2006.

Interim Concentration-Based WLAs for Dominguez Channel and Torrance Lateral

Total Copper (µg/L)	Total Lead (µg/L)	Total Zinc (µg/L)
207.51	122.88	898.87

Interim Concentration-Based Sediment Allocations (mg/kg sediment)

Waterbody	Copper (mg/kg)	Lead (mg/kg)	Zinc (mg/kg)
Dominguez Channel Estuary	220.0	510.0	789.0
Long Beach Inner Harbor	142.3	50.4	240.6
Los Angeles Inner Harbor	154.1	145.5	362.0
Long Beach Outer Harbor	67.3	46.7	150
Los Angeles Outer Harbor	104.1	46.7	150
Los Angeles River Estuary	53.0	46.7	183.5
San Pedro Bay	76.9	66.6	263.1
Cabrillo Marina	367.6	72.6	281.8
Consolidated Slip	1470.0	1100.0	1705.0
Cabrillo Beach Area	129.7	46.7	163.1
Fish Harbor	558.6	116.5	430.5

Wet-weather freshwater metals allocations are assigned to Dominguez Channel and all of its upstream reaches and tributaries above Vermont Avenue. Mass-based (grams/day) WLAs are divided between the Department and other MS4 permittees by subtracting the other storm water or NPDES WLAs, air deposition and margin of safety from the total loading capacity. Metals targets used to calculate these WLAs were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates for Dominguez Channel (62.7 cfs).

The Department's Final mass-based water WLAs for Dominguez Channel

Total Copper	Total Lead	Total Zinc
32.3 (g/day)	142.6 (g/day)	232.6 (g/day)

For the Torrance Lateral subwatershed, concentration-based freshwater WLAs for both water and sediment are assigned to all dischargers, including the Department. Metals targets used to calculate these WLAs were based on an assumed hardness of 50 mg/L and 90th percentile annual flow rates.

The Department's Final concentration-based WLAs for Torrance Lateral

Media (units)	Total Copper	Total Lead	Total Zinc
Water (µg/L, unfiltered)	9.7	42.7	69.7
Sediment (mg/kg, dry)	31.6	35.8	121

The final mass-based allocations for metals are expressed as an annual loading (kilograms/year) of pollutants in the sediment deposited to the Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters. The Interim and Final WLAs are:

Reach	Total Copper (kg/yr)	Total Lead (kg/yr)	Total Zinc (kg/yr)
Dominguez Channel Estuary	0.384	0.93	4.7
Consolidated Slip	0.043	0.058	0.5

Reach	Total Copper (kg/yr)	Total Lead (kg/yr)	Total Zinc (kg/yr)
Inner Harbor	0.032	0.641	2.18
Outer Harbor	0.0018	0.052	0.162
Fish Harbor	0.0000005	0.00175	0.0053
Cabrillo Marina	0.00019	0.0028	0.007
San Pedro Bay	0.88	2.39	9.29
LA River Estuary	5.1	9.5	34.8

In addition to the above, Fish Harbor is impaired for mercury in sediments, Consolidated Slip is impaired for mercury, cadmium and chromium in sediments and Dominguez Channel Estuary is impaired for cadmium in sediments. These waterbodies are assigned no interim WLAs but are assigned final concentration-based WLAs. The Department is NOT named as a responsible party for WLAs to Consolidated Slip.

Final concentration-based sediment WLAs for other metals, dry sediment

Reach	Cadmium mg/kg	Chromium mg/kg	Mercury mg/kg
Dominguez Channel Estuary	1.2	-	-
Fish Harbor	-	-	0.15

Note: The Department is NOT specifically named as a responsible party for implementation actions to Dominguez Channel proper in the 1st Phase of implementation to reduce the amount of sediment transport from point sources that directly or indirectly discharge to the Dominguez Channel and the Harbor waters, even though it has specific WLAs.

Final Toxic Pollutant WLA Specific to the Department

See tables above.

Final Toxic Pollutant Deadlines

The Department is subject to the prescribed point source interim WLAs which are effective as of March 23, 2012. Compliance with all final WLAs is required by March 23, 2032.

Department's Toxic Pollutant Contribution (relative contribution to pollutant *loading*)

The Department's relative contribution to the toxic pollutant loading is not known.

Los Angeles Area Lakes for Organochlorine Pesticides and PCBs

To assess compliance with the organochlorine (OC) compounds TMDLs, monitoring should include monitoring of fish tissue at least every three years as well as once yearly sediment and water column sampling. For the OC pesticides and PCBs TMDLs a demonstration that fish tissue targets have been met in any given year must at minimum include a composite sample of skin off fillets from at least five common carp each measuring at least 350mm in length. At a minimum, compliance monitoring should measure the following in-lake water quality parameters: total suspended sediments, total PCBs, total chlordane, dieldrin, and total DDTs; as well as the following in-lake sediment parameters: total organic carbon, total PCBs, total chlordane, dieldrin, and total DDTs. WLAs are assigned to storm water inputs.

These sources should be measured near the point where they enter the lakes once a year during a wet weather event. Sampling should be designed to collect sufficient volumes of suspended solids to allow for the analysis of at minimum: total organic carbon, total suspended solids, total PCBs, total chlordane, dieldrin, and total DDTs. Measurements of the temperature, dissolved oxygen, pH and electrical conductivity should also be taken.

U.S. EPA established TMDLs do not include implementation plans so all WLAs are considered in effect as of the approval date.

Los Angeles Area (Echo Park Lake) Nitrogen, Phosphorus, Chlordane, Dieldrin, and Trash TMDLs, U.S. EPA Established on March 26, 2012

The entire watershed of Echo Park Lake is contained in MS4 jurisdictions, and watershed loads are therefore assigned WLAs. The Department's areas and facilities that operate under a general industrial storm water permit also receive WLAs. There are TMDLs for PCBs, Chlordane, and Dieldrin, and each has specific WLAs for the Department which are detailed below. The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Final WLAs

PCBs WLA

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (µg/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.77	0.17
Southern	Department	State Highway Storm water	1.77	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	59.8	0.17
Southern	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	2.10	0.59
Southern	Department	State Highway Storm water	2.10	0.59

If Fish Tissue Targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.24	0.59
Southern	Department	State Highway Storm water	3.24	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.80	0.14
Southern	Department	State Highway Storm water	0.80	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.90	0.14
Southern	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department

See tables above.

Final OC Compounds Deadlines

U.S. EPA did not establish deadlines.

Department's OC Compounds Contribution (relative contribution to pollutant loading)
 The Department's relative contribution to the OC Pesticide pollutant loading is unknown.

Los Angeles Area (Peck Road Park Lake) Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash

Final OC Compounds WLA

The entire watershed of Peck Road Park Lake is contained in MS4 jurisdictions, and watershed loads are therefore assigned WLAs. The Department areas and facilities that operate under a general industrial storm water permit also receive WLAs. There are TMDLs for PCBs, Chlordane, DDTs, and Dieldrin and each has specific WLAs for the Department which are detailed below. The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Final OC Compounds WLA Specific to the Department

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.29	0.17
Western	Department	State Highway Storm water	1.29	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	59.8	0.17
Western	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.73	0.59
Western	Department	State Highway Storm water	1.73	0.59

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	3.24	0.59
Western	Department	State Highway Storm water	3.24	0.59

Total DDTs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	5.28	0.59
Western	Department	State Highway Storm water	5.28	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	0.43	0.14
Western	Department	State Highway Storm water	0.43	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Eastern	Department	State Highway Storm water	1.90	0.14
Western	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department

See tables above.

Final OC Compounds Deadlines

U.S. EPA did not establish deadlines.

Department's OC Compounds Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the OC Pesticides and PCBs pollutant loading is not known.

Los Angeles Area (Puddingstone Reservoir) Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Mercury, and Dieldrin TMDLs, U.S. EPA Established on March 26, 2012

Final OC Compounds WLA

In the Puddingstone Reservoir watershed, WLAs are required for all permittees in the northern subwatershed and the Department’s areas in the southern subwatershed. There are TMDLs for PCBs, Chlordane, DDTs, and Dieldrin and each has specific WLAs for the Department which are detailed below.

Final OC Compounds WLA Specific to the Department

The TMDLs have two sets of WLAs, one of which relies on meeting various fish tissue targets that would supersede the initial set of WLAs. Each WLA must be met at the point of discharge.

Total PCBs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.59	0.17
Southern	Department	State Highway Storm water	0.59	0.17

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	59.8	0.17
Southern	Department	State Highway Storm water	59.8	0.17

Total Chlordane TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.75	0.57
Southern	Department	State Highway Storm water	0.75	0.57

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.24	0.57
Southern	Department	State Highway Storm water	3.24	0.57

Total DDTs TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	3.94	0.59
Southern	Department	State Highway Storm water	3.94	0.59

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	5.28	0.59
Southern	Department	State Highway Storm water	5.28	0.59

Dieldrin TMDL

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	0.22	0.14
Southern	Department	State Highway Storm water	0.22	0.14

If the Fish Tissue targets are met:

Subwatershed	Responsible Jurisdiction	Input	Suspended Sediment WLAs (ug/kg dry weight)	Water Column WLAs (ng/L)
Northern	Department	State Highway Storm water	1.90	0.14
Southern	Department	State Highway Storm water	1.90	0.14

Final OC Compounds WLA Specific to the Department

See tables above.

Final OC Compounds Deadlines

U.S. EPA did not establish deadlines.

Department's OC Compounds *Contribution* (relative contribution to pollutant loading)

The Department's relative contribution to pollutant loading is not known.

Los Angeles River Watershed Metals TMDL, September 6, 2007

Final Metals WLA

This TMDL includes wet-weather and dry-weather WLAs for copper, lead, and zinc. Wet-weather conditions are when the maximum daily flow of the Los Angeles River is greater than or equal to 500 cfs. Dry-weather conditions are where maximum daily flow is less than 500 cfs; critical flows are also listed for each of the reaches in this TMDL.

Final Metals WLA Specific to the Department

For dry-weather conditions, the Department is assigned grouped WLAs with other MS4 permittees.

WERs are explicitly included in these WLAs, but default to a value of 1 (unit less) unless site-specific values are approved by the Regional Water Board. Concentration-based limits are also allowed for dry weather due to the expense of obtaining accurate flow measurements; in this case, the concentration-based limits are equal to dry-weather reach-specific dry-weather numeric targets.

Final Mass-based Dry-weather WLAs for Storm water and MS4s, Total Recoverable Metals

Waterbody	Critical Flow (CFS)	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
LAR 6	7.20	0.53 x WER	0.33 x WER	-
LAR 5	0.75	0.05 x WER	0.03 x WER	-
LAR 4	5.13	0.32 x WER	0.12 x WER	-

Waterbody	Critical Flow (CFS)	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
LAR 3	4.84	0.06 x WER	0.03 x WER	-
LAR 2	3.86	0.13 x WER	0.07 x WER	-
LAR 1	2.58	0.14 x WER	0.07 x WER	-
Bell Creek	0.79	0.06 x WER	0.04 x WER	-
Tujunga Wash	0.03	0.001x WER	0.0002xWER	-
Burbank Channel	3.3	0.15 x WER	0.07 x WER	-
Verdugo Wash	3.3	0.18 x WER	0.10 x WER	-
Arroyo Seco	0.25	0.01 x WER	0.01 x WER	-
Rio Hondo Reach 1	0.50	0.01 x WER	0.006 x WER	0.16 x WER
Compton Creek	0.90	0.04 x WER	0.02 x WER	-

Note: All WERs are equal to 1 (unit less)

Final Concentration-based reach-specific numeric targets, total recoverable metals

Waterbody	Copper (µg/L)	Lead (µg/L)	Zinc (µg/L)
LA River Reach 6	WER ¹ * 30	WER ¹ * 19	-
LA River Reach 5	WER ¹ * 30	WER ¹ * 19	-
LA River Reach 4	WER ² * 26	WER ¹ * 10	-
LA River Reach 3 above LA-Glendale WRP	WER ² * 23	WER ¹ * 12	-
LA River Reach 3 below LA-Glendale WRP	WER ² * 26	WER ¹ * 12	-
LA River Reach 2	WER ² * 22	WER ¹ * 11	-
LA River Reach 1	WER ² * 23	WER ¹ * 12	-
Bell Creek	WER ¹ * 30	WER ¹ * 19	-
Burbank Western Channel (above WRP)	WER ² * 26	WER ¹ * 14	-
Burbank Western Channel (below WRP)	WER ² * 19	WER ¹ * 9.1	-
Verdugo Wash	WER ² * 23	WER ¹ * 12	-
Compton Creek	WER ¹ * 19	WER ¹ * 8.9	-
Arroyo Seco	WER ² * 22	WER ¹ * 11	-
Rio Hondo Reach 1	WER ¹ * 13	WER ¹ * 5.0	WER ¹ * 131
Monrovia Canyon	-	WER ¹ * 8.2	-

Note:
¹ WER is equal to 1 (unit less)
² WER for this constituent in this reach is 3.96

Wet-weather allocations are apportioned among storm water permit holders based on percent area of the watershed served by storm drains.

Final Mass-based wet-weather WLAs, Total Recoverable Metals

Metal	Waste Load Allocation (kg/day) Total Recoverable
Cadmium	WER * $5.3 * 10^{-11}$ * daily volume (L) – 0.03
Copper	WER * $2.9 * 10^{-10}$ * daily volume (L) – 0.2
Lead	WER * $1.06 * 10^{-09}$ * daily volume (L) – 0.07
Zinc	WER * $2.7 * 10^{-09}$ * daily volume (L) – 1.6

Final Metals Deadlines

By January 11, 2024, the jurisdictional group shall demonstrate that 100 percent of the group’s total drainage area served by the storm drain system is effectively meeting the dry-weather WLAs and 50 percent of the group’s total drainage area served by the storm drain system is effectively meeting the wet-weather WLAs. By January 11, 2028, the jurisdictional group shall demonstrate that 100 percent of the group’s total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs. MS4s and the Department may meet the TMDL using a phased implementation approach using a combination of structural and non-structural BMPs.

Department’s Metals Contribution (relative contribution to pollutant loading)

Unknown

Los Cerritos Channel Metals TMDL, March 17, 2010

Final Metals WLA

This TMDL assigns the Department wet-weather WLAs for copper, lead and zinc and a dry-weather WLA for copper only. Wet weather is defined as where the maximum daily flow of Los Cerritos Channel is greater than 23 cfs, and dry weather is where the maximum daily flow of the Channel is less than 23 cfs. For dry-weather copper targets, a site-specific translator was used, defined as the median value of the ratio of direct measurements to CTR criteria. Only the Department and other MS4s have a mass-based WLA for copper for dry weather, and this is divided among permittees based on estimates of respective percentage of total watershed area.

Final mass-based wet-weather WLAs are divided among the Department, other MS4 permittees, General Construction permittees and General Industrial permittees based on an estimate of the percentage of land area covered under each permit. The Department’s estimated percent area of the watershed is 0.8 percent.

Final Metals WLA Specific to the Department

Copper Dry-weather WLA, Total Recoverable Metal	
Copper	1.0 g/day

Metals Wet-weather WLAs, Total Recoverable Metal (V is daily flow volume in liters)		
Copper g/day	Lead g/day	Zinc g/day
$0.070 * V * 10^{-6}$	$0.397 * V * 10^{-6}$	$0.680 * V * 10^{-6}$

Final Metals Deadlines

U.S. EPA did not include implementation measures for the TMDL, and as such implementation procedures are the responsibility of the Los Angeles Regional Water Board. Implementation measures for this TMDL are currently being developed by the Los Angeles Regional Water Board.

Department's Metals Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the metals pollutant loading is not known.

Machado Lake Pesticides and PCBs TMDL, March 20, 2012

The point sources of pesticides and PCBs into Machado Lake are storm water and urban runoff discharges including those from the Department's MS4. Storm water and urban runoff dischargers to Machado Lake occur through the following sub-drainage systems: Wilmington Drain, Project 77 and Project 510.

Final Pesticides and PCBs WLA

The following WLAs apply to all point sources:

Pollutants	WLAs (ug/kg dry weight)
Total PCBs	59.8
DDT (all congeners)	4.16
DDE (all congeners)	3.16
DDD (all congeners)	4.88
Total DDT	5.28
Total Chlordane	3.24
Dieldrin	1.9

Final Pesticides and PCBs WLA Specific to the Department

See table above.

Final Pesticides and PCBs Deadlines

The TMDL WLAs are applied with a three-year averaging period and shall be incorporated into MS4 permits, including the Department's MS4 permit, and general construction and industrial storm water NPDES permits and any other non-storm water NPDES permits.

Storm water dischargers may coordinate compliance with the TMDL. Permitted storm water dischargers can implement a variety of implementation strategies to meet the required WLAs, such as non-structural and structural BMPs, and/or diversion and treatment to reduce sediment transport from the watershed to the lake. Compliance with the TMDL may be based on a coordinated Monitoring and Reporting Program. The Department is subject to the prescribed point source WLAs with a final compliance date of September 30, 2019.

Department’s Pesticides and PCBs Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the OC Pesticides and PCBs pollutant loading is not known.

Marina Del Rey Harbor Toxics Pollutants TMDL, March 26, 2006

Final Toxic Pollutant WLAs

The Department is assigned mass-based WLAs for copper, lead and zinc along with other storm water permittees in the watershed. The Copper, Lead, and Zinc WLAs are apportioned between the permittees based on an estimate of the percentage of land area covered under each permit.

Total Mass-based Storm Water Metal WLAs:

Copper (kg/yr)	Lead (kg/yr)	Zinc (kg/year)
2.06	2.83	9.11

Total Mass-based Storm Water Organics WLAs:

Total Chlordane (g/yr)	Total PCBs (g/yr)
0.03	1.38

Final Toxic Pollutants WLAs Specific to the Department

Mass-based Metals WLAs for Caltrans

Copper (kg/yr)	Lead (kg/yr)	Zinc (kg/year)
0.022	0.03	0.096

Mass-based Organics WLAs for the Department:

Total Chlordane (g/yr)	Total PCBs (g/yr)
0.0003	0.015

Final Toxic Pollutant Deadlines

The implementation schedule for the MS4 permittees and the Department consists of a phased approach. A combination of non-structural and structural BMPs may be used to achieve compliance with the WLAs, with compliance to be achieved in prescribed percentages of the watershed. Total compliance is to be achieved within 10 years or March 22, 2016. However, the Regional Board may extend the implementation period up to 15 years or March 22, 2021, if an integrated water resources approach is employed.

Department Toxic Pollutant Contribution (relative contribution to pollutant loading)

The Department is assigned approximately one percent of the WLA for each pollutant, based on an estimate of area within the watershed.

San Gabriel River Metals & Selenium TMDL, U.S. EPA Established on March 26, 2007

Final Metals WLA

The Department is assigned WLAs for dry-weather and wet-weather for copper, lead and zinc (as well as selenium). For San Gabriel River Reach 2, the critical flow for wet weather is 260 cfs; for Coyote Creek, the critical flow is 156 cfs. The combined storm water WLA is allocated to individual permits based on percent area of the developed portion of the watershed.

For dry-weather copper, all MS4 storm water permittees, including the Department, are assigned concentration-based WLAs specific to San Gabriel River Reach 1, Coyote Creek, and the San Gabriel River Estuary.

Dry-weather Concentration-Based Copper WLAs for Storm water Permittees

Waterbody	Concentration-based WLA (µg/L)
Estuary	3.7
San Gabriel Reach 1	18
Coyote Creek	20

The TMDL establishes wet-weather WLAs to San Gabriel River Reach 2 for lead, and the Department is part of a grouped mass-based WLA. For Coyote Creek, mass-based WLAs are applied to copper, lead, and zinc. These WLAs are further divided among municipal storm water, industrial storm water, and construction storm water permits that are expressed as an area-based proportion of the total WLA. The Department and other MS4s share WLAs because there are not enough data on the relative reach-specific extent of these permittees' areas. The mass-based WLAs for the grouped Department's and MS4s are defined as the

daily storm volume times the numeric target of the metal for the waterbody times the estimated percentage of watershed covered by these permits.

WLAs for San Gabriel River Reach 2, Coyote Creek and to all of their respective Tributaries

Reach	Copper (kg/day)	Lead (kg/day)	Zinc (kg/day)
San Gabriel Reach 2	--	Daily storm vol * 166 µg/L * 49%	--
Coyote Creek	Daily storm vol * 27 µg/L * 91.5%	Daily storm vol * 106 µg/L * 91.5%	Daily storm vol * 158 µg/L * 91.5%

Final Metals WLA Specific to the Department

No specific WLAs.

Final Metals Deadlines

U.S. EPA did not include implementation measures for the TMDL, and implementation procedures are the responsibility of the Los Angeles Regional Water Board. Implementation measures or this TMDL are currently being developed by the Los Angeles Regional Water Board.

Department’s Metals Contribution (relative contribution to pollutant loading)

The Department’s contribution to the metals loads is not known.

Santa Monica Bay PCBs and DDTs TMDLs, U.S. EPA Established on March 26, 2012

Final PCBs and DDTs WLA

The grouped WLAs are apportioned to the Los Angeles County MS4 permit, the Department’s MS4 permit, and enrollees under the general construction and industrial storm water permits. Mass-based WLAs are to be partitioned among the four groups based on the percent area of each major group in the watersheds draining to Santa Monica Bay. Permittees covered under the general construction and storm water permittees are not expected to perform individual sampling; instead, monitoring should be conducted on a coordinated, watershed-wide basis consistent with the WLAs in the TMDL. The establishment of watershed efforts to identify and address sources of DDTs and PCBs within the watersheds and reporting of the total storm water loadings of DDT and PCB to Santa Monica Bay is encouraged.

The analysis of DDT and PCBs on suspended particle loadings from the mass emission stations will provide more robust measures of mass loadings. If additional data indicate that existing storm water loadings differ from the storm water WLAs defined in the TMDL, the Los Angeles Regional Water Board should consider re-opening the TMDL to better reflect actual loadings.

BMPs and pollutant removal are the most suitable courses of action to reduce DDT and PCBs in the Santa Monica Bay Watershed. Attention should be focused on those watersheds with the highest potential loadings to Santa Monica Bay, such as those that are more heavily urbanized. BMPs should also be targeted to reduce potential PCB loads from industrial and construction runoff as studies have shown that these may be a major source of PCBs. U.S. EPA also recommends implementation of a PCB Source Identification and Control program within storm water permits to evaluate and identify controllable sources of PCBs.

Final PCBs and DDT WLAs Specific to the Department

Final PCBs and DDTs WLAs

Total PCBs (g/yr)	Total DDTs (g/yr)
3.9	0.75

Final PCBs and DDTs Deadlines

U.S. EPA recommends that storm water WLAs be evaluated based on a three year averaging period. This will provide more robust assessment for compliance and should smooth out variability due to wet years. This is consistent with timeframes provided for the Los Angeles Harbor/Long Beach TMDL.

Department’s PCBs and DDTs Contribution (relative contribution to pollutant loading)

The footprint of the Department’s MS4 is 2.7 percent of the area within the Santa Monica Bay watersheds.

SANTA ANA REGION METALS/TOXICS/PESTICIDES TMDLS

Rhine Channel Area of Lower Newport Bay Chromium and Mercury, U.S. EPA Established on June 14, 2002

Final Chromium WLA

For Rhine Channel, the final Chromium WLA is 7.44 kg/yr in sediment.

Final Chromium WLA Specific to the Department

The final mass-based Chromium WLA for the Department is 0.89 kilograms/year in sediment.

Final Chromium Deadlines

The Santa Ana Regional Water Board anticipated a Basin Plan Amendment addressing implementation of the above TMDLs in 2007; these amendments have not yet been completed.

Department’s Chromium Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the Chromium loading is approximately three percent of the total, based on area.

San Diego Creek and Newport Bay, including Rhine Channel Metals (Copper and Zinc) TMDL, U.S. EPA Established on June 14, 2002

Final Metals WLA

WLAs are established for cadmium, copper, lead and zinc in the San Diego Creek watershed, for cadmium, copper, lead and zinc in Newport Bay, and for cadmium, copper, lead, zinc and chromium (and mercury) in Rhine Channel. San Diego Creek is a fresh water stream, while Newport Bay and Rhine Channel are saltwater.

Final Metals WLA Specific to the Department

For San Diego Creek, the Department is assigned concentration-based WLAs for cadmium, copper, lead, and zinc. There are no wet-weather or dry-weather WLAs, but there are four sets of WLAs for each metal for four different flow tiers. All flow tiers have an acute and chronic WLA, except for the highest flow tier, which only has an acute WLA.

Concentration-based WLAs for San Diego Creek Watershed by Flow Tiers, µg/L

Metal	< 20 cfs); H = 400 mg/L		21 – 181 cfs		182 - 815 cfs		> 815 cfs
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute
Cu	50	29.3	40	24.3	30.2	18.7	25.5
Pb	281	10.9	224	8.8	162	6.3	134
Zn	379	382	316	318	243	244	208

* Applies to Upper Newport Bay Only

For Newport Bay, mass-based WLAs for cadmium, copper, lead and zinc were assigned to the Department. These WLAs were developed on estimates made using Best Professional Judgment because insufficient data were available to accurately estimate relative contributions to existing loads. The Department's share of the estimated loads is based on the relative proportion of watershed land area among the Department and adjacent permit-holders.

Final mass-based WLAs in Newport Bay, Dissolved Metals

Metal	Cu	Pb	Zn
Total	423 lbs/yr	2,171 lbs/yr	22,866 lbs/yr

Additional concentration-based limits apply only to sources which discharge directly to the Bay, including storm water dischargers from storm drains direction to Bay segments.

Newport Bay Concentration-based Dissolved Metal TMDLs, WLAs/LAs

Metal	Dissolved saltwater Acute TMDLs and allocations (µg/L)	Dissolved saltwater chronic TMDLs and allocations (µg/L)
Cu	4.8	3.1
Pb	210	8.1
Zn	90	81

* Applies to Upper Newport Bay Only

Final Metals Deadlines

U.S. EPA did not include implementation measures for the TMDL.

Department’s Metals Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the metals pollutant loading is not known.

San Diego Creek and Upper Newport Bay Cadmium TMDL, U.S. EPA Established on June 14, 2002

Final Cadmium WLA

Concentration-based WLAs for San Diego Creek Watershed by Flow Tiers

Metal	< 20 cfs; H = 400 mg/L		21 – 181 cfs		182 - 815 cfs		> 815 cfs
	Acute	Chronic	Acute	Chronic	Acute	Chronic	Acute
Cd (µg/L)	19.1	6.2	15.1	5.3	10.8	4.2	8.9

* Applies to Upper Newport Bay Only

Newport Bay Concentration-based Dissolved Metal TMDLs, WLAs/LAs

Metal	Dissolved saltwater Acute TMDLs and allocations (µg/L)	Dissolved saltwater chronic TMDLs and allocations (µg/L)
Cd	42	9.3

* Applies to Upper Newport Bay Only

Final Cadmium WLA Specific to the Department

See Table above.

Final Cadmium Deadlines

U.S. EPA did not include implementation measures for the TMDL.

Department’s Cadmium Contribution

The Department’s relative contribution to the cadmium pollutant loading is not known.

San Diego Creek Watershed, Organochlorine Compounds and PCBs TMDLs, November 12, 2013

Final OC Compounds WLA

The Department is listed as a primary source of pollutant loads to the San Diego Creek watershed. The mass-based WLAs were expressed as both daily and annual values. Pollutants include Total DDT, Chlordane, Total PCBs and Toxaphene.

WLAs Expressed as a Daily Value (grams/day)					
Watershed	Input	Total DDT	Chlordane	Total PCBs	Toxaphene
San Diego Creek	Department (11%)	0.11	0.07	0.03	0.002
WLAs Expressed as a Annual Value (grams/year)					
Watershed	Input	Total DDT	Chlordane	Total PCBs	Toxaphene
San Diego Creek	Department (11%)	39.2	25.2	12.4	0.6

Final OC Compounds WLA Specific to the Department

See Tables above.

Final OC Compounds Deadlines

Compliance with the TMDLs and WLAs is to be achieved as soon as possible, but no later than December 31, 2020. The way that this deadline applies to a particular discharger differs depending on whether the discharger is participating in the Working Group. Ultimate compliance with permit limitations based on WLAs is expected to be based upon iterative implementation of effective BMPs to manage the discharge of fine sediments containing organochlorine compounds, along with monitoring to measure BMP effectiveness.

Department’s OC Compounds Contribution (relative contribution to pollutant loading)

Based upon the percentage of the total urban land use comprised by Urban-Roads, Department’s facilities and roadways make up 11 percent of the land area and are assigned a proportion of the overall WLAs accordingly.

Upper & Lower Newport Bay Organochlorine Compounds TMDL, November 12, 2013

Final OC Compounds WLA

Upper Newport Bay and Lower Newport Bay OC Compounds WLAs

WLAs Expressed as a Daily Value (grams/day)					
Watershed	Input	Total DDT	Chlordane	Total PCBs	Toxaphene
Upper Newport Bay	Department (11%)	0.04	0.03	0.02	-
Lower Newport Bay	Department (11%)	0.02	0.01	0.07	-

WLAs Expressed as a Annual Value (grams/year)					
Watershed	Input	Total DDT	Chlordane	Total PCBs	Toxaphene
Upper Newport Bay	Department (11%)	15.8	9.2	9.1	-
Lower Newport Bay	Department (11%)	5.8	3.4	23.9	-

Final OC Compounds WLA Specific to the Department

See Tables above.

Final OC Compounds Deadlines

Compliance with the TMDLs and WLAs is to be achieved as soon as possible, but no later than December 31, 2020. The way that this deadline applies to a particular discharger differs depending on whether the discharger is participating in the Working Group. Ultimate compliance with permit limitations based on WLAs is expected to be based upon iterative implementation of effective BMPs to manage the discharge of fine sediments containing organochlorine compounds, along with monitoring to measure BMP effectiveness.

Department's OC Compounds Contribution (relative contribution to pollutant loading)

Based upon the percentage of the total urban land use comprised by Urban-Roads, Department's facilities and roadways make up 11 percent of the land area and are assigned a proportion of the overall WLAs accordingly.

SAN DIEGO REGION METALS TMDL

Chollas Creek Dissolved Copper, Lead and Zinc TMDLs, December 18, 2008

Final Metals WLA

WLAs are concentration-based and set as the acute and chronic limits in the California Toxics Rule times 90 percent for all permitted dischargers, in units of µg/L, as dissolved metals. The final WLAs are based on statistical measures of hardness used in calculating permit requirements.

Final Concentration-based WLAs

Chollas Creek, Copper, Lead, and Zinc WLAs, Dissolved Metal

Metal	Numeric Target for Acute Conditions: Criteria Maximum Concentration, (µg/L)	Numeric Target for Chronic Conditions: Criteria Continuous Concentration, (µg/L)
Copper	$(1) * (0.96) * \{e^{[0.9422 * \ln(\text{hardness}) - 1.700]}\} * 0.9$	$(1) * (0.96) * \{e^{[0.8545 * \ln(\text{hardness}) - 1.702]}\} * 0.9$
Lead	$(1) * \{1.46203 - [0.145712 * \ln(\text{hardness})]\} * \{e^{[1.273 * \ln(\text{hardness}) - 1.460]}\} * 0.9$	$(1) * \{1.46203 - [0.145712 * \ln(\text{hardness})]\} * \{e^{[1.273 * \ln(\text{hardness}) - 4.705]}\} * 0.9$
Zinc	$(1) * (0.978) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9$	$(1) * (0.986) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9$

Final Metals WLA Specific to the Department

There are no WLAs specific to the Department.

Final Metals Deadlines

The Department along with other responsible parties must meet 100 percent of Chollas Creek Metals TMDL WLA reductions by December 18, 2028.

Department's Contribution *(relative contribution to pollutant loading)*

The Department's contribution to the metal loads is not known.

D. Trash TMDL Pollutant Category

General Description of Pollutant Category

As discussed under the ten individual TMDLs below, the TMDLs in the trash pollutant category establish that the Department varies in the significance of a source of trash and debris. The scale of the Department as a source depends on the magnitude and location of the impacted water body and corresponding land uses. For the individual TMDLs, the Department is not the sole responsible party for source of trash and debris. Other point source responsible parties include Los Angeles County MS4 permittees, Ventura County MS4 permittees, and industrial permittees.

Since trash generation rates are dependent on land use, the requirements for the Department in Attachment IV Section III.D.1 focus on significant trash generating areas. These areas include: highway on- and off-ramps in high density residential, commercial and industrial land uses, rest areas and park-and-rides, state highways in commercial and industrial land uses, and mainline highway segments to be identified by the Department through pilot studies and/or surveys. The requirements in Attachment IV are expected to address the highest source of trash from the Department by focusing management practices on the highest problem areas.

Attachment IV Section III.D.1 establishes a prohibition of discharge of trash to receiving waters. All of the individual TMDLs set a numeric target of zero trash, since the receiving water body lacks an assimilative capacity for any piece of the trash. Attaining the numeric target is difficult due to the transport mechanisms of the trash, specifically for the Department whose users are temporary and transitory. Attachment IV Section III.D.2 sets forth two compliance options to achieve the prohibition of discharge. The compliance options focus on implementation of management practices, treatment controls, and institutional controls in the significant trash generating areas and the coordination with neighboring municipalities to implement treatment and institutional controls in significant trash generating areas and priority land use areas (high density residential, industrial, commercial, mixed urban, and public transportation stations).

Sources of Pollutant & How it Enters the Waterway

Trash and debris are the man-made products that are improperly discarded and transported to surface water bodies. Trash is considered a 'gross pollutants' and excludes sediments, oil and grease, and vegetation. Trash can include cigarette butts, paper, fast food containers, plastic grocery bags, cans and bottles, used diapers, construction site debris, industrial plastic pellets, old tires and appliances. Trash and debris cause impairments to beneficial uses of surface water bodies, including rivers, lakes, enclosed bays and estuaries, and ocean waters.

Watershed Contribution

Trash impacts aquatic habitat and life. Mammals, turtles, birds, fish, and crustaceans are threatened following the ingestion or entanglement of trash. Ingestion and entanglement can be fatal for freshwater, estuarine, saline and marine aquatic life. Similarly, habitat alterations and degradations due to trash can make natural habitats unsuitable for spawning, migration, and preservation of aquatic life. These negative effects of trash to aquatic life can impact several beneficial uses. The aquatic life beneficial uses that can be impacted by negative effects of trash include: Warm Freshwater Habitat (WARM); Cold Freshwater habitat (COLD); Inland Saline Water Habitat (SAL); Estuarine Habitat (EST); Marine Habitat (MAR); Wildlife Habitat (WILD); Preservation of Biological Habitats (BIOL); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN); and Wetland Habitat (WET).

Trash impacts human activity by means of jeopardizing public health and safety and posing harm and hindrance in recreational, navigational, and commercial activities. The human

beneficial uses impacted by trash and debris include: Navigation (NAV); Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Commercial and Sport Fishing (COMM); Aquaculture (AQUA); Shellfish Harvesting (SHELL); and Industrial Service Supply (IND).

Trash and debris, which is intentionally or accidentally discarded in watershed drainage areas, enter a water body through a transport mechanism. Transport mechanisms include the following:

1. Storm drains: trash is deposited throughout the watershed and is carried to a water body during and after significant rainstorms through storm drains.
2. Wind/wave action: trash can also blow into the waterways directly.
3. Direct disposal: direct dumping of trash to water body.

The amount and type of trash and debris that is washed into the storm drain system is generally a function of the surrounding land use. It is generally accepted that commercial, industrial, high density residential land use contribute larger loads of gross pollutants per area compared to low residential and open space and park land use areas.

Control Measures

Full capture system is a type of treatment control that is a device or series of devices that traps all particles that are 5 mm or greater and has a design treatment capacity that is not less than the peak flow rate, Q, resulting from a one-year, one-hour, storm in the subdrainage area. For the Department, there are three types of full capture systems that fall under the category of Gross Solids Removal Devices (GSRDs). Gross Solids Removal Devices (GSRDs) were developed by the Department to be retrofitted into existing highway drainage systems or implemented in future highway drainage systems. GSRDs are structures that remove litter and solids five mm and larger from the storm water runoff using various screening technologies. Overflow devices are incorporated, and the usual design of the overflow release device is based upon the design storm for the roadway. Though designed to capture litter, the devices can also capture some of the vegetation debris. The devices shown below are generally limited to accept flows from pipes 30 inches in diameter and smaller.

The three types of potential GSRDs the Department could utilize are linear radial and two versions using an inclined screen. A linear radial device is relatively long and narrow, with flow entering one end and exiting the other end. It is suited for narrow and flat rights-of-way with limited space. It utilizes modular well screen casings with 5 mm louvers and is contained in a concrete vault, although it also could be attached to a headwall at a pipe outfall. While runoff flows enter into the screens, they pass radially through the louvers and trap litter in the casing. A smooth bottom to convey litter to the end of the screen sections is required, so a segment of the circumference of each screen is uncovered. The louvered sections have access doors for cleaning by vacuum truck or other equipment. Under most placement conditions the goal would be to capture within the casing one year's volume of

litter. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged.

Two Inclined Screen Devices have also been developed. Each device requires about 1-meter of hydraulic head and is better suited for fill sections. In the Type 1 device, the storm water runoff flows over the weir and falls through the inclined bar rack. The screen has five-mm maximum spacing between the bars. Flow passes through the screen and exits via the discharge pipe. The trough distributes influent over the inclined screen. Storm water pushes captured litter toward the litter storage area. The gross solids storage area is sloped to drain to prevent standing water. This device has been configured with an overflow/bypass for larger storm events and if the unit becomes plugged. It has a goal of litter capture and storage for one year. The Type 2 Inclined Screen only comes in a sloped sidewall version.

Full capture devices and treatment controls are highly effective to capture and retain trash when properly maintained. However, there are locations that might be infeasible to install treatment controls. The Department may elect to employ institutional controls, which are non-structural best management practices that may include street sweeping and anti-litter education and outreach programs. Street sweeping minimizes trash loading to the river by removing trash from streets and curbs. Maintaining a regular street sweeping schedule reduces the buildup of trash on streets and prevents trash from entering catch basins and the storm drain system. Street sweeping can also improve the appearance of roadways. There are at least three types of street sweepers the Department may employ: 1) mechanical, 2) vacuum filter, and 3) regenerative air sweepers. Public education can be an effective implementation alternative to reduce the amount of trash entering water bodies. The public is often unaware that trash littered on the street ends up in receiving waters, much less the cost of abating it. The Department may elect to continue to participate in educational programs like 'Adopt-A-Highway' and 'Don't Trash California'.

As specified in Attachment IV Section III.D.3, the Department shall submit an annual status report of the selected treatment and institutional control measures implemented to comply with the prohibition of discharge of trash. In addition to the annual status report, the Department should conduct a pilot survey to further determine highway characteristics and sections that should be included in the category of significant trash generating areas. The pilot study will further assure compliance with the prohibition of discharge and reduction of trash to receiving water bodies from high trash generation areas from the Department's jurisdiction.

LOS ANGELES REGION TRASH TMDLS

Ballona Creek Trash TMDL, August 1, 2002 and February 8, 2005

Final WLA

The numeric target for this TMDL is zero trash in the water. Storm drains were identified as a major source of trash. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final WLA Specific to the Department

The Department is assigned the following baseline WLAs of trash.

Weight (lbs/mile ²)	Volume (ft ³ /mile ²)
7479.36	892.64

Final Deadlines

The implementation schedule for the MS4 and the Department permittees consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within twelve years from the effective date of the TMDL (September 30, 2015).

Department's Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 13 percent.

Legg Lake Trash TMDL, February 27, 2008

Final WLA

The numeric target for this TMDL is zero trash in Legg Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash in Legg Lake. WLAs were assigned to the permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following baseline WLAs assuming a trash generation rate of 6677 (gallons of uncompressed litter per mile² per year).

Point Source Area (mile ²)	Baseline WLA (gal/yr)
0.09	586.92

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years from the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 7.9 percent.

Los Angeles Area (Echo Park Lake) Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, and Trash TMDL, March 26, 2012

Final Trash WLA

The numeric target for this TMDL is zero trash in Echo Park Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash. WLAs could be assigned to permittees of the Los Angeles County MS4 permit and the Department.

The Department is estimated to have the following baseline WLAs assuming a trash generation rate of 6,677 (gallons of uncompressed litter per mile² per year).

Point Source Area (mile ²)	Current Point Source Trash Load (gal/yr)
0.022	150

Final Trash WLA Specific to the Department

No WLAs were assigned to the Department.

Final Trash Deadlines

There is no compliance and implementation schedule for the Echo Park Lake Trash TMDL.

Department's Trash Contribution (relative contribution to pollutant loading)

As there is no assigned WLA, the Department's contribution to the estimated point source trash loads is 16.7 percent.

Los Angeles Area (Peck Road Park) Lake Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash TMDL, March 26, 2012

Final Trash WLA

The numeric target for this TMDL is zero trash in Peck Road Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash. WLAs could be assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

No WLAs were assigned to the Department.

Final Trash Deadlines

There is no compliance and implementation schedule for the Peck Road Park Lake Trash TMDL.

Department’s Trash Contribution (relative contribution to pollutant loading)

As there are no assigned WLAs, the Department’s contribution to the estimated point source trash loads is 3.9 percent or 950 gal/yr.

Los Angeles River Trash TMDL, December 24, 2008

Final Trash WLA

The numeric target for the Los Angeles River Watershed Trash TMDL is zero trash in the water. Storm drains were identified as a major source of trash in the Los Angeles River. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following baseline WLAs for trash.

WLA (gal)	WLA (lbs)
59421	66,566

Final Trash Deadlines

The implementation schedule for the MS4 and the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within seven years from the effective date of the TMDL (September 30, 2014).

Department’s Trash Contribution (relative contribution to pollutant loading)

The Department’s Baseline WLA relative to all other point sources (municipal permittees) is 11.8 percent.

Machado Lake Trash TMDL, February 27, 2008

Final Trash WLA

The numeric target for this TMDL is zero trash in Machado Lake and on the shoreline. Both point sources and nonpoint sources are identified as sources of trash in Machado Lake. WLAs were assigned to permittees of the Los Angeles County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following baseline WLA assuming a trash generation rate of 5,334 (gallons of uncompressed litter per mile² per year).

Point Source Area (mile ²)	Baseline WLA (gal/yr)
0.63	4,215.84

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 4.5 percent.

Malibu Creek Watershed Trash TMDL, June 26, 2009

Final Trash WLAs

The numeric target for the Malibu Creek Watershed Trash TMDL is zero trash in or on the water and on the shoreline. For point sources, zero means that no trash is discharged into the water body of concern, shoreline, and channels. Both point source and nonpoint sources of trash were identified in the water bodies in the Malibu Creek Watershed. For point sources, WLAs were assigned to permittees of the Los Angeles County MS4 permit and Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following WLAs assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile ²)	Baseline WLA (gal/yr)
0.32	10,813

Final Trash Deadlines

The implementation schedule for the MS4 and the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (July 7, 2017).

Department's Trash Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 65.5 percent.

Revolon Slough and Beardsley Wash Trash TMDL, August 1, 2002, February 8, 2005, and February 27, 2008

Final Trash WLA

The numeric target for the Revolon Slough and Beardsley Wash TMDL is zero trash within Revolon Slough, Beardsley Wash and their tributaries. Both point source and nonpoint sources of trash were identified in the Revolon Slough and Beardsley Wash. For point sources, WLAs were assigned to permittees of the Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Department is assigned the following WLA (gal/year) assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile²)	Baseline WLA (gal/yr)
1.68	11,215.45

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 6, 2016).

Department's Trash Contribution (relative contribution to pollutant loading)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 64.1 percent.

Santa Monica Bay Nearshore & Offshore Debris (trash and plastic pellets), March 20, 2012

Final Trash WLA

The numeric target for the Santa Monica Bay Debris TMDL is zero trash in Santa Monica Bay. For point sources, zero trash is defined as no trash discharged into water bodies within the Santa Monica Bay Watershed and into Santa Monica Bay or on the shoreline of Santa Monica Bay. For nonpoint sources, zero trash is defined as no trash on the shoreline or beaches, or in harbors adjacent to Santa Monica Bay. The numeric target for plastic pellets in the Santa Monica Bay Debris TMDL is zero plastic pellets in Santa Monica Bay. Both point source and nonpoint sources of trash were identified in Santa Monica Bay Nearshore and Offshore areas. For point sources, WLAs were assigned to permittees of the Los Angeles County MS4 permit and Ventura County MS4 permit and the Department.

Final Trash WLA Specific to the Department

The Baseline WLA for the Department was based on a trash generation rate of 33,452.8 gallons per mile² per year.

Point Source Area (mile ²)	Baseline WLA (gal/year)
1.08	36,129.0

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 12, 2020).

Department's Trash Contribution (relative contribution to pollutants)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 32.8 percent.

Ventura River Estuary Trash TMDL, February 27, 2008

Final Trash WLA

The numeric target for the Ventura River Estuary Trash TMDL is zero trash in or on the water and on the shoreline. Both point source and nonpoint sources of trash were identified in the Ventura River Estuary.

Final Trash WLA Specific to the Department

The Department is assigned the following WLAs assuming a trash generation rate of 640 (gallons of uncompressed litter).

Point Source Area (mile ²)	Baseline WLA (gal/yr)
0.31	2,049.86

Final Trash Deadlines

The implementation schedule for the Department consists of a phased approach with compliance to be achieved in prescribed percentages. Total compliance, 100 percent reduction of trash from the Baseline WLA, is to be achieved within eight years of the effective date of the TMDL (March 8, 2016).

Department's Trash Contribution (relative contribution to pollutants)

The Department's Baseline WLA relative to all other point sources (municipal permittees) is 34.8 percent.

E. Bacteria TMDL Pollutant Category

General Description of Pollutant Category

Receiving waters are often adversely affected by urban storm water runoff containing bacteria. Several reaches and tributaries have been impaired due to excessive amounts of coliform bacteria. There is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities. Fecal coliform bacteria may be introduced from a variety of sources including storm water runoff, dry-weather runoff, onsite wastewater and animal wastes. In addition, humans may be exposed to waterborne pathogens through recreation water use or by harvesting and consuming filter-feeding shellfish.

Attachment IV of this permit requires the Department to prioritize reaches, including those within watersheds under a bacteria TMDL, and then further to select each year the reaches for implementing control measures to address the highest priority reaches.

Sources of Pollutant & How it Enters the Waterway

Major contributors are flows and associated bacteria loading from storm water conveyance systems. The extent of bacteria loading from natural sources such as birds, waterfowl and other wildlife, however, are unknown as data does not exist to quantify the impact of wildlife on the waterbodies.

Watershed Contribution

The TMDLs in the Bacteria Pollutant Category show that the Department is a relatively minor source of pollutants.

Control Measures

This prioritization strategy will control the largest sources of bacteria first and allow for attainment of the applicable WLAs consistent with the bacteria TMDLs identified in Part E of Attachment IV. The Department must install structural and nonstructural controls utilizing BMPs to variously control dry weather discharges and wet weather discharges.

The Department has options that would be effective for controlling non-storm water runoff during dry weather. The Department is required to implement control measures to ensure that the effective prohibition of non-storm water discharges is implemented. This can be achieved through infiltration, diversion, or other methods. Generally, there should be no flow from areas during dry weather. Overwatering, broken sprinklers and irrigation pipes can be a source of dry weather flows. The Department can limit dry weather discharges by ensuring that broken sprinklers and irrigation pipes are fixed within 72 hours. To control overwatering and the resulting runoff, the Department could review watering schedules for irrigated areas on an annual basis.

To control runoff during wet weather, the Department should work with responsible agencies to jointly comply with the TMDL whenever possible. If the Department does not work with the other responsible agencies, non-structural and structural BMPs would be necessary.

Increasing infiltration through the slowing of runoff and improving soil structure and texture to encourage infiltration of storm water are non-structural ways to reduce runoff. In addition, structural BMPs like biofiltration strips, biofiltration swales and detention basins can work in concert with the non-structural BMPs to capture of the runoff.

Wet-weather flows for the most part impact water contact recreation beneficial uses (REC-1). The Department shall implement control measures to prevent or eliminate the discharge of bacteria from its ROW through a combination of source control and treatment BMPs. These treatment BMPs shall include retention/detention, infiltration, diversion of storm water or through preemptive activities such as sweeping, clean-up of illegal dumping, and public education on littering.

SAN FRANCISCO BAY BACTERIA TMDLS

Richardson Bay Pathogens TMDL, December 18, 2009

The TMDL identifies storm water runoff as a potential pathogen source, along with sanitary sewer systems and houseboats and vessel marinas. The Department is listed in the storm water runoff source category along with other implementing parties.

Final Pathogens WLA

The WLA for Fecal Coliform in the pollutant category of storm water runoff is a median of < 14 MPN/100 ml and a 90th percentile limit of <43 MPN/100 ml (no more than 10 percent of total samples during any 30-day period may exceed this number)

The implementation plan for storm water runoff has the following actions:

1. Implement applicable storm water management plan.
2. Update/amend storm water management plan, as appropriate, to include specific measures to reduce pathogen loading, including additional education and outreach efforts, and installation of additional pet waste receptacles.
3. Report progress on implementation of pathogen reduction measures to the Water Board.

For most pollutants, TMDLs are expressed on a mass-load basis (e.g., kilograms per year). For pathogen indicators such as fecal coliform, however, it is the number of organisms in a given volume of water (i.e., their density), and not their total number (or mass) that is significant with respect to public health risk and protection of beneficial uses. The density of fecal coliform organisms in a discharge and/or in the receiving waters is the technically relevant criteria for assessing the impact of discharges, water quality, and public-health risk. U.S. EPA guidance recommends establishing density-based TMDLs for pollutants that are not readily controllable on a mass basis. Therefore, we propose density-based TMDLs and pollutant load allocations, expressed in terms of fecal coliform concentrations.

Establishment of a density-based, rather than a mass-based, TMDL carries the advantage of eliminating the need to conduct a complex and potentially error-prone analysis to link loads and projected densities. A load-based pathogens TMDL would require calculation of acceptable loads based on acceptable bacterial densities and anticipated discharge volumes, and then back-calculation of expected densities under various load reduction scenarios. Since discharge volumes in Richardson Bay are highly variable and difficult to measure, such an analysis would inevitably involve a great deal of uncertainty with no increased water quality benefit.

Pathogen WLA Specific to the Department

As stated in the TMDL, the Department's wasteload allocations for discharges from municipal separate storm sewers are set by NPDES permits No. CAS000004 [Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)] and CAS000003 (National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit Waste Discharge Requirements (WDRs) for State Of California Department Of Transportation).

Final Pathogens Deadline

The completion date for these implementation actions is "as specified in approved storm water management plan and in applicable NPDES permit." Region 2 does not anticipate that the Department's storm water management plan will need to be revised because they believe that the source of bacteria in highway runoff is wildlife.

The TMDL also notes that in 2013, the Water Board will evaluate monitoring results and assess progress towards attaining TMDL targets and load allocations.

Department's Pathogens Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pathogen pollutant loading is not known.

San Pedro and Pacifica State Beach Bacteria TMDL, August 1, 2013

The San Pedro and Pacifica State Beach Bacteria TMDL was developed by the San Francisco Bay Regional Water Quality Control Board and approved by U.S. EPA on August 1, 2013. The TMDL identifies sanitary sewer systems, horse facilities and municipal storm water runoff and dry weather flows as sources that have the potential to discharge bacteria, if not properly managed, to San Pedro Creek and Pacifica State Beach.

Final Bacteria WLA

The TMDL established a desired, or target condition for the water contact recreation use in San Pedro Creek and at Pacifica State Beach based on the water quality objectives for indicator bacteria. The wasteload allocations are based on the water quality objectives shown in the table below:

Bacteriological Water Quality Objectives for San Pedro Creek and Pacifica State Beach		
Indicator Type	Pacifica State Beach (Marine REC-1) MPN/100 mL	San Pedro Creek (Freshwater REC-1) MPN/100 mL¹
	Single Sample Maximum	90th Percentile/No Sample Greater Than
E. coli	NA	235
Fecal Coliform	400	400
Enterococcus	104	NA
Total Coliform	10,000 ²	10,000
	Geometric Mean³	Geometric Mean/Log Mean/Median
E. coli	NA	
Fecal Coliform	200	126
Enterococcus	35	200
Total Coliform	1,000	NA 240
Notes:		
1. Based on a minimum of five consecutive samples equally spaced over a 30-day period.		
2. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.		
3. Calculated based on the five most recent samples from each site during a 30-day period.		
NA: not applicable.		

For this TMDL, a reference system and antidegradation approach has been incorporated the wasteload allocations as an allowable number of times that the water quality objectives can be exceeded. The following table lists the allowable exceedances:

Numeric Targets, TMDLs and Allocations Based on Allowable Exceedances of Single-Sample Objective for San Pedro Creek and Pacifica State Beach					
	San Pedro Creek		Pacifica State Beach		
	Dry Weather	Wet Weather⁵	Summer Dry Weather (Apr. 1 - Oct. 31)	Winter Dry Weather (Nov. 1 - Mar. 31)	Wet Weather⁵
Allowable Exceedances of Single- Sample Objectives (assuming daily sampling is conducted) ^{1,2,3}	4	26	0	2	30
Allowable Exceedances of Single- Sample	1	4	0	1	5

Numeric Targets, TMDLs and Allocations Based on Allowable Exceedances of Single-Sample Objective for San Pedro Creek and Pacifica State Beach					
	San Pedro Creek		Pacifica State Beach		
	Dry Weather	Wet Weather⁵	Summer Dry Weather (Apr. 1 - Oct. 31)	Winter Dry Weather (Nov. 1 - Mar. 31)	Wet Weather⁵
Objectives (assuming weekly sampling is conducted)⁴					
Notes: 1. Allowable exceedances are calculated by multiplying exceedance rates observed in the reference system(s) by the number of days during each respective period in the reference year (1994). 2. To end up with whole numbers, where the fractional remainder for the calculated allowable exceedance days exceeds 0.1, then the number of days is rounded up. 3. The calculated number of exceedance days assumes that daily sampling is conducted. 4. To determine the allowable number of exceedance events given a weekly sampling regime, as practiced for monitoring San Pedro Creek and Pacifica State Beach, the number of exceedance days was adjusted by solving for "X" in the following equation: $X = (\text{exceedance days} \times 52 \text{ weeks}) / 365 \text{ days}$. 5. Wet weather is defined as any day with 0.1 inches of rain or more and the following three days.					

Final Bacteria Deadlines

The TMDLs, load allocations and wasteload allocations for Pacifica State Beach shall be attained within eight years of the effective date of the TMDL (August 1, 2021). The TMDLs, load allocations and wasteload allocations to San Pedro Creek shall be attained within 15 years of the effective Date of the TMDL (August 1, 2028).

Storm water discharges from the Department's stretch of Highway 1 crossing the northwestern edge of the San Pedro Creek watershed are not a significant source of indicator bacteria because that section of the highway does not include any typical bacteria-generating sources such as homeless encampments, restroom facilities, garbage bins, etc. The Department's existing BMPs and storm water NPDES permit requirements, as of the effective date of the TMDL (August 1, 2013), are sufficient to attain and maintain its portion of the wasteload allocation.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's relative contribution to bacteria pollutant loading is not known.

LOS ANGELES REGION BACTERIA TMDLS

Ballona Creek, Ballona Estuary, and Sepulveda Channel Bacteria TMDL, March 26, 2007

Final Bacteria WLA

The Department is noted as a source of storm water runoff. The Department and municipal storm water permittees and co-permittees are assigned waste load allocations (WLAs) expressed as the number of daily or weekly sample days that may exceed the single sample targets equal to the TMDLs established for the impaired reaches and WLA assigned to waters tributary to impaired reaches. The County of Los Angeles, the Department, and the Cities of Los Angeles, Culver City, Beverly Hills, Inglewood, West Hollywood, and Santa Monica are the responsible jurisdictions and responsible agencies for the Ballona Creek Watershed.

For the single sample objectives of the impaired REC-1 and LREC-1 reaches, the proposed WLA for summer dry-weather is zero (0) days of allowable exceedances, and those for winter dry-weather and wet-weather are three (3) days and seventeen (17) days of exceedance, respectively. In the instances where more than one single sample objective applies, exceedance of any one of the limits constitutes an exceedance day. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.

For the single sample objectives of the impaired REC-2 reach, the proposed WLA for all periods is a 10 percent exceedance frequency of the REC-2 single sample water quality objectives. The proposed waste load allocation for the rolling 30-day geometric mean for the responsible agencies and jurisdictions is zero (0) days of allowable exceedances.

In addition to assigning TMDLs for the impaired reaches, Waste Load Allocations and Load Allocations are assigned to the tributaries to these impaired reaches. These WLAs and LAs are to be met at the confluence of each tributary and its downstream reach (see Table 7.21.2b of Attachment A to Resolution No. 2006-011). See Chapter 3 of Region 4's Basin Plan for bacteriological objectives for Water Contact Recreation for Marine and Fresh Waters, for Limited Water Contact Recreation and for Non-contact Water Recreation.

Final Bacteria WLA Specific to the Department

There is no specific WLA assigned to the Department. The responsible jurisdictions and responsible agencies within the watershed are jointly responsible for complying with the waste load allocation in each reach.

Final Bacteria Deadlines

See Final WLA above.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's jurisdiction within the cities and unincorporated areas in the Ballona Creek Watershed totals 1206 acres. This equals 1.5 percent of the watershed.

Long Beach City Beaches Indicator Bacteria TMDL, March 26, 2012

The TMDL identifies storm water runoff from the Department's properties such as the highway system, park and ride facilities, and maintenance yards as a potential source of bacteria. The Department has jurisdiction of some areas in the Los Angeles River (LAR) Estuary direct drainage, but not in the Long Beach City beaches direct drainage.

Final Bacteria WLA

To implement the single sample bacteria water quality objectives (total coliform, fecal coliform, enterococcus, and fecal-to-total coliform ratio) for waters designated REC-1, an allowable number of exceedance days for three seasons (summer dry, winter dry and winter wet) is set for marine waters using a reference system/anti-degradation approach. This approach ensures that bacteriological water quality is at least as good as that of a reference system and that no degradation of the existing bacteriological water quality is permitted where the existing condition is better than that of the selected reference system(s). The exceedance days are used to set load allocations (LA) and waste load allocations (WLAs) in these TMDLs.

Storm water systems covered under the City of Long Beach, Los Angeles County and the Department's MS4 permits are assigned WLAs in the form of exceedance days. During summer dry conditions, reductions in exceedance days are estimated to be 13-120 days during a 120 day period (11 percent to 100 percent of the time), depending on the location of the monitoring site. During winter wet conditions, reductions in exceedance days are estimated to be 11-45 days during a 75-day period (15 percent to 60 percent of the time) depending on the location of the monitoring site. During winter dry conditions, reductions in exceedance days are estimated to be 0-11 days during an 80 day period (zero (0) percent to 14 percent of the time) depending on the location of the monitoring site.

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Bacteria Deadlines

As this TMDL was established by U.S. EPA, U.S. EPA only described recommendations to the Regional Board that could be used. No timelines were noted.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The loading of bacteria specifically from the Department's properties has not been determined in the LAR Estuary direct drainage. However a conservative estimate of 128 acres or approximately two percent of the LAR Estuary drainage area is noted in the TMDL.

Los Angeles River Watershed Bacteria, March 23, 2012

Final Bacteria WLA

The Los Angeles River Watershed Bacteria TMDL was developed by the Los Angeles Regional Water Quality Control Board and approved by U.S. EPA. The TMDL identifies storm water from the MS4 Permittees (the Department along with the County of Los Angeles and the Incorporated Cities therein and the City of Long Beach) as the principal source of bacteria in both dry weather and wet weather.

Final Bacteria WLA Specific to the Department

This TMDL uses a “reference system/anti-degradation approach” to implement the water quality objectives per the implementation provisions in Chapter 3 of the Basin Plan. On the basis of the historical exceedance frequency at Southern California reference reaches, a certain number of daily exceedances of the single sample bacteria objectives are permitted. The allowable number of exceedance days is set such that (1) bacteriological water quality at any site is at least as good as at the reference site(s) and (2) there is no degradation of existing bacteriological water quality. This approach recognizes that there are natural sources of bacteria that may cause or contribute to exceedances of the single sample objectives and that it is not the intent of the Regional Board to require treatment or diversion of natural coastal creeks or to require treatment of natural sources of bacteria from undeveloped areas.

For MS4 dischargers, the final dry-weather WLAs and wet-weather WLA for the single sample targets are listed below:

Allowable Number of Exceedance Days	Daily Sampling	Weekly Sampling
Dry Weather	5	1
Non-High Flow Suspension (HFS) Waterbodies Wet Weather	15	2
HFS Waterbodies Wet Weather	10 (not including HFS days)	2 (not including HFS days)

The final WLAs for the geometric mean target during any time at any river segment and tributary in the Los Angeles River Watershed is zero (0) days of allowable exceedances.

Final Bacteria Deadlines

The Department has from 8.5 to 25 years (September 23, 2020 to March 23, 2037) to achieve final WLAs depending on the segment of the waterbody. Table 7-39.3 in Attachment A to Resolution No. R10-007 lists other interim implementation compliance dates.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's MS4 permit covers approximately 6,950 acres, which is equivalent to around one percent of the urban watershed.

Malibu Creek and Lagoon Bacteria TMDL, June 7, 2012

The TMDL identifies on-site wastewater treatment plants, storm water runoff, dry weather runoff and wildlife (birds) as possible sources of bacterial contamination.

Final WLA

Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location

Compliance Deadline		January 24, 2012		July 15, 2021	
Station ID	Location Name	Dry Weather ^		Wet Weather ^	
		Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling
LA RWQCB	Triunfo Creek	5	1	15	2
LA RWQCB	Lower Las Virgenes Creek	5	1	15	2
LA RWQCB	Lower Medea Creek	5	1	15	2
LVMWD (R-9)	Upper Malibu Creek, above Las Virgenes Creek	5	1	15	2
LVMWD (R-2)	Middle Malibu Creek, below Tapia discharge 001	5	1	15	2
LVMWD (R-3)	Lower Malibu Creek, 3 mi below Tapia	5	1	15	2
LVMWD (R-4)	Malibu Lagoon, above PCH	5	1	15	2
LVMWD (R-11)	Malibu Lagoon, below PCH	9*	2*	17	3
	Other sampling stations as identified in the Compliance Monitoring Plan as approved by the Executive Officer including at least one sampling station in each subwatershed, and areas where frequent REC-1 use is known to occur.	5	1	15	2

Compliance Deadline		January 24, 2012		July 15, 2021	
Station ID	Location Name	Dry Weather ^		Wet Weather ^	
		Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
Notes: The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data. The allowable number of exceedance days is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station. ^ A dry day is defined as a non-wet day. A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event. * The number of allowable exceedance days is for the winter dry-weather period. No exceedance days are allowed for the summer dry-weather period.					

Final Bacteria WLA Specific to the Department

No exceedances are allowed for the geometric mean limits. The allowable days of exceedance for the single sample limits differ depending on season, dry weather or wet weather, and by sampling locations as described in the Table above (Malibu Creek and Lagoon Bacteria TMDL: Final Annual Allowable Exceedance Days for Single Sample Limits by Sampling Location)

Final Bacteria Deadlines

This TMDL will be implemented in two phases as outlined in the TMDL. By January 24, 2012, compliance with the allowable number of dry-weather exceedance days must be achieved. By July 15, 2021, compliance with the allowable number of wet-weather exceedance days and the geometric mean targets must be achieved.

Department's Bacteria Contribution (relative contribution to pollutant loading)

The Department's relative contribution to bacteria pollutant loading is not known.

Marina del Rey Harbor (MdRH) Mother's Beach and Back Basin Bacteria TMDL, March 18, 2004, revised November 7, 2013

The TMDL identifies dry-weather urban runoff and storm water conveyed by storm drains as the primary sources of elevated bacterial indicator densities to MdRH Mothers' Beach and back basins during dry and wet weather. Potential sources of bacterial contaminations at Mothers' Beach and the back basins of MdRH include marina activities such as waste disposal from boats, boat deck and slip washing, swimmer "wash-off," restaurant washouts and natural sources from birds, waterfowl and other wildlife.

Final Bacteria WLA

Implementation of the bacteria objectives and the associated TMDL numeric targets is achieved using a "reference system/anti-degradation approach" as set forth in Chapter 3 of

the Basin Plan. As required by the Clean Water Act and California Water Code, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, and load allocations are the vehicles for implementation of the Region’s standards.

The geometric mean targets may not be exceeded at any time. For purposes of this TMDL, the geometric means shall be calculated weekly as a rolling geometric mean using five or more samples, for six week periods starting all calculation weeks on Sunday. For the single sample targets, each existing monitoring site is assigned an allowable number of exceedance days for three time periods: (1) summer dry-weather (April 1 to October 31), (2) winter dry-weather (November 1 to March 31), and (3) wet-weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event).

The County of Los Angeles, Los Angeles County Flood Control District, City of Los Angeles, and Culver City are the Los Angeles County MS4 permittees identified as the responsible jurisdictions and responsible agencies for the Marina del Rey Watershed. All proposed WLAs for summer dry weather are zero (0) days of allowable exceedances.²⁴ The proposed WLAs for winter dry weather and wet weather vary by monitoring location as identified in the following table:

Marina del Rey Harbor Mothers’ Beach and Back Basins Bacteria TMDL: Final Allowable Exceedance Days by Sampling Location

Compliance Deadline		March 18, 2007		March 18, 2007		July 15, 2021	
		Summer Dry Weather ^		Winter Dry Weather ^		Wet Weather ^	
		Apr 1 – Oct 31		Nov 1 – Mar 31		Nov 1 – Oct 31	
Station ID	Location Name	Daily sampling (No. days)	Weekly sampling (No. Days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
MdRH-1	Mothers’ (Marina) Beach, at playground area	0	0	9	2	17	3

²⁴ In order to fully protect public health, no exceedances are permitted at any monitoring location during summer dry-weather (April 1 to October 31). In addition to being consistent with the two criteria, waste load allocations of zero (0) days of allowable exceedances are further supported by the fact that the California Department of Public Health has established minimum protective bacteriological standards – the same as the numeric targets in this TMDL – which, when exceeded during the period April 1 to October 31, result in posting a beach with a health hazard warning (California Code of Regulations, Title 17, Section 7958).

Compliance Deadline		March 18, 2007		March 18, 2007		July 15, 2021	
		Summer Dry Weather ^		Winter Dry Weather ^		Wet Weather ^	
		Apr 1 – Oct 31		Nov 1 – Mar 31		Nov 1 – Oct 31	
MdRH-2	Mothers' (Marina) Beach, at lifeguard tower	0	0	9	2	17	3
MdRH-3	Mothers' (Marina) Beach, between lifeguard tower and boat dock	0	0	9	2	17	3
MdRH-4	Basin D, near first slips outside swim area	0	0	9	2	17	3
MdRH-5	Basin E, in front of tide-gate from Oxford Basin	0	0	9	2	17	3
MdRH-6	Basin E, center of basin	0	0	9	2	17	3
MdRH-7	Basin E, in front of Boone-Olive Pump Outlet	0	0	9	2	17	3
MdRH-8	Back of Main Channel	0	0	9	2	17	3
MdRH-9	Basin F, center of basin	0	0	9	2	8	1

Compliance Deadline	March 18, 2007	March 18, 2007	July 15, 2021
	Summer Dry Weather ^	Winter Dry Weather ^	Wet Weather ^
	Apr 1 – Oct 31	Nov 1 – Mar 31	Nov 1 – Oct 31

Notes:

The number of allowable exceedances is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical monitoring data.

The allowable number of exceedance days during winter dry-weather is calculated based on the 10th percentile storm year in terms of dry days at the LAX meteorological station.

The allowable number of exceedance days during wet-weather is calculated based on the 90th percentile storm year in terms of wet days at the LAX meteorological station.

^ A dry day is defined as a non-wet day.

A wet day is defined as a day with a 0.1 inch or more of rain and the three days following the rain event.

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Bacteria Deadlines

This TMDL will be implemented over an 18-year period. By March 18, 2007, there shall be no allowable exceedances of the single sample limits at any location during summer dry weather (April 1 to October 31) or winter dry weather (November 1 to March 31). By July 15, 2021, compliance with the allowable number of wet weather exceedance days and the geometric mean targets must be achieved.

Department’s Bacteria Contribution (relative contribution to pollutant loading)

The Department’s jurisdiction covers one percent of the watershed.

Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL, January 13, 2012

The TMDL identifies dry- and wet-weather urban runoff discharges from the storm water conveyance systems as significant contributors of bacteria loading to the Santa Clara River and Estuary. Mass emission data collected by MS4 Permittees show elevated levels of bacteria in the river. Data from natural landscapes in the region indicate that open space loading is not a significant source of bacteria.

Final Bacteria WLA

The Statewide Storm Water Permit for Department Activities (CAS000003) are assigned WLAs of zero (0) allowable exceedance days of the single sample targets for both dry and wet weather and no exceedances of the geometric mean targets because they are not expected to be significant source of indicator bacteria. Compliance with an effluent limit based on the bacteria water quality objectives will be used to demonstrate compliance with the WLA.

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Deadlines

The TMDL states that WLAs assigned to the Department's permit must be attained on the effective date of the TMDL.

Department's Contribution (relative contribution to pollutant loading)

The Department's relative contribution to pollutant loading is unknown.

Santa Monica Bay Beaches Bacteria TMDL June 19, 2003, Revised November 7, 2013

Final WLA

With the exception of isolated sewage spills, dry weather urban runoff and storm water runoff conveyed by storm drains and creeks is the primary source of elevated bacterial indicator densities to Santa Monica Beaches (SMB). Limited natural runoff and groundwater may also potentially contribute to elevated bacterial indicator densities during winter dry weather. Because the bacterial indicators used as targets in the TMDL are not specific to human sewage, storm water runoff from undeveloped areas may also be a source of elevated bacterial indicator densities. For example, storm water runoff from natural areas may convey fecal matter from wildlife and birds or bacteria from soil. This is supported by the finding that, at the reference beach, the probability of exceedance of the single sample targets during wet weather is 0.22.

Implementation of the bacteria objectives in Chapter 3 of the Basin Plan and the associated TMDL numeric targets is achieved using a "reference system/anti-degradation approach" rather than the alternative "natural sources exclusion approach" or strict application of the single sample objectives. As required by the Clean Water Act and Porter-Cologne Water Quality Control Act, Basin Plans include beneficial uses of waters, water quality objectives to protect those uses, an anti-degradation policy, collectively referred to as water quality standards, and other plans and policies necessary to implement water quality standards. This TMDL and its associated waste load allocations, which shall be incorporated into relevant permits, and load allocations are the vehicles for implementation of the Region's standards.

The geometric mean targets may not be exceeded at any time. For the single sample targets, each existing shoreline monitoring site is assigned an allowable number of exceedance days during three time periods as defined in the table below (summer dry weather, winter dry weather, and wet weather [defined as days with 0.1 inch of rain or greater and the three days following the rain event]). The allowable exceedance days for each associated shoreline monitoring site are identified in the following table:

Allowable Number of Days that may Exceed any Single Sample Bacterial Indicator Target for Existing Shoreline Monitoring Stations

Compliance Deadline			15-Jul-06		1-Nov-09		15-Jul-21	
Station ID	Location Name	Subwatershed	Summer Dry Weather ^A		Winter Dry Weather ^A		Wet Weather Year-round	
			Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
SMB 1-1	Leo Carillo Beach (REFERENCE)	Arroyo Sequit	0	0	9	2	17	3
SMB 1-2	El Pescador State Beach	Los Alisos	0	0	1	1	5	1
SMB 1-3	El Matador State Beach	Encinal Canyon	0	0	1	1	3	1
SMB 1-4	Trancas Creek	Trancas Canyon	0	0	9	2	17	3
SMB 1-5	Zuma Creek	Zuma Canyon	0	0	9	2	17	3
SMB 1-6	Walnut Creek	Ramirez Canyon	0	0	9	2	17	3
SMB O-1#	Paradise Cove	Ramirez Canyon	0	0	9	2	15	3
SMB 1-7	Ramirez Creek	Ramirez Canyon	0	0	9	2	17	3
SMB 1-8	Escondido Creek	Escondido Canyon	0	0	9	2	17	3
SMB 1-9	Latigo Canyon Creek	Latigo Canyon	0	0	9	2	17	3
SMB 1-10	Solstice Creek	Solstice Canyon	0	0	5	1	17	3
SMB O-2#	Puerco Canyon storm drain	Corral Canyon	0	0	0	0	6	1
SMB 1-11	Wave wash of unnamed creek on Puerco Beach	Corral Canyon	0	0	9	2	17	3
SMB 1-12	Marie Canyon Storm Drain on	Corral Canyon	0	0	9	2	17	3
SMB 1-13	Sweetwater Creek on Carbon	Carbon Canyon	0	0	9	2	17	3
SMB 1-14	Las Flores Creek	Las Flores	0	0	6	1	17	3
SMB 1-15	Big Rock Beach at 19948 Pacific	Piedra Gorda	0	0	9	2	17	3
SMB 1-16	Pena Creek	Pena Canyon	0	0	3	1	14	2
SMB 1-17	Tuna Canyon Creek	Tuna Canyon	0	0	7	1	12	2
SMB 1-18	Topanga Creek	Topanga Canyon	0	0	9	2	17	3
SMB 4-1	San Nicholas Canyon Creek	Nicholas Canyon	0	0	4	1	14	2
SMB 2-1	Castlerock (Parker Mesa) Storm	Castlerock	0	0	9	2	17	3
SMB 2-2	Santa Ynez Storm Drain	Santa Ynez	0	0	9	2	17	3
SMB 2-3	Will Rogers State Beach at 17200	Santa Ynez	0	0	9	2	17	3
SMB 2-4	Pulga Canyon storm drain	Pulga Canyon	0	0	9	2	17	3
SMB 2-5	Temescal Storm Drain	Pulga Canyon	0	0	9	2	17	3
SMB 2-6	Bay Club Storm Drain	Santa Ynez	0	0	9	2	17	3
SMB 2-7	Santa Monica Canyon, Will	Santa Monica	0	0	9	2	17	3
SMB 2-8	Venice Pier, Venice	Ballona	0	0	9	2	17	3
SMB 2-9	Topsail Street extended	Ballona	0	0	9	2	17	3
SMB 2-10	Dockweiler State Beach at Culver	Dockweiler	0	0	9	2	17	3
SMB 2-11	North Westchester Storm Drain	Dockweiler	0	0	0	0	17	3
SMB 2-12	World Way extended	Dockweiler	0	0	9	2	17	3
SMB 2-13	Imperial Highway storm drain	Dockweiler	0	0	4	1	17	3
SMB 2-14	Opposite Hyperion Plant, 1 mile	Dockweiler	0	0	9	2	17	3
SMB 2-15	Grand Avenue Storm Drain	Dockweiler	0	0	9	2	17	3

Compliance Deadline			15-Jul-06		1-Nov-09		15-Jul-21	
Station ID	Location Name	Subwatershed	Summer Dry Weather [^]		Winter Dry Weather [^]		Wet Weather Year-round	
			Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)	Daily sampling (No. days)	Weekly sampling (No. days)
SMB 3-1	Montana Ave. Storm Drain	Santa Monica	0	0	9	2	17	3
SMB 3-2	Wilshire Blvd., Santa Monica	Santa Monica	0	0	9	2	17	3
SMB 3-3	Santa Monica Municipal Pier at	Santa Monica	0	0	9	2	17	3
SMB 3-4	Santa Monica Beach at	Santa Monica	0	0	9	2	17	3
SMB 3-5	Ashland Av. storm drain (Venice)	Santa Monica	0	0	9	2	17	3
SMB 3-6	Rose Ave. Storm Drain on	Santa Monica	0	0	6	1	17	3
SMB 3-7	Venice City Beach at Brooks	Ballona	0	0	9	2	17	3
SMB 3-8	Venice Pavilion at projection of	Ballona	0	0	9	2	17	3
SMB 3-9	Strand Street extended	Santa Monica	0	0	9	2	17	3
SMB 5-1	Manhattan State Beach at 40th	Hermosa	0	0	1	1	4	1
SMB 5-2	Terminus of 28th Street Drain in	Hermosa	0	0	9	2	17	3
SMB 5-3	Manhattan Beach Pier	Hermosa	0	0	3	1	6	1
SMB 5-4	Near 26th Street on Hermosa	Hermosa	0	0	3	1	12	2
SMB 5-5	Hermosa Beach Pier	Hermosa	0	0	2	1	8	2
SMB 6-1	Herondo Storm Drain	Redondo	0	0	9	2	17	3
SMB 6-2	Redondo Municipal Pier - 100	Redondo	0	0	3	1	14	2
SMB 6-3	4' x 4' outlet at projection of	Redondo	0	0	5	1	17	3
SMB 6-4	120' north of Topaz groin	Redondo	0	0	9	2	17	3
SMB 6-5	Storm Drain at Projection of	Redondo	0	0	4	1	11	2
SMB 6-6	Malaga Cove, Palos Verdes	Redondo	0	0	1	1	3	1
SMB 7-1	Malaga Cove	Palos Verdes	0	0	1	1	14	2
SMB 7-2	Bluff Cove	Palos Verdes	0	0	1	1	0	0
SMB 7-3	Long Point	Palos Verdes	0	0	1	1	5	1
SMB 7-4	Abalone Cove	Palos Verdes	0	0	0	0	1	1
SMB 7-5	Portuguese Bend Cove	Palos Verdes	0	0	1	1	2	1
SMB 7-6	Royal Palms	Palos Verdes	0	0	1	1	6	1
SMB 7-8	Wilder Annex	Palos Verdes	0	0	1	1	2	1
SMB 7-9	Outer Cabrillo Beach	Palos Verdes	0	0	1	1	3	1
SMB MC-1	Malibu Point, Malibu Colony Dr.	Malibu Canyon	0	0	9	2	17	3
SMB MC-2	Surfrider Beach (breach point of	Malibu Canyon	0	0	9	2	17	3
SMB MC-3	Malibu Pier on Carbon Beach	Malibu Canyon	0	0	9	2	17	3

Notes: The allowable number of exceedance days during winter dry weather is calculated based on the 10th percentile year in terms of non-wet days at the LAX meteorological station.
The number of allowable exceedances during winter dry weather is based on the lesser of (1) the reference system or (2) existing levels of exceedance based on historical shoreline data.
[^]Dry weather days are defined as those with <0.1 inch of rain and those days not less than 3 days after a rain day. Rain days are defined as those with >=0.1 inch of rain.
Detailed descriptions of the sampling locations are provided in the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan.
#Monitoring began in 2010 and data was examined from April 2010 to November 2011

Final Bacteria WLA Specific to the Department

See Final WLA above.

Final Bacteria Deadlines

The final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach location no later than July 15, 2021.

Department’s Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to bacteria pollutant loading is not known.

COLORADO RIVER REGION BACTERIA TMDL

Coachella Valley Storm Water Channel (CVSC) Bacterial Indicators TMDL, April 27, 2012

The TMDL identifies flows from urban MS4s as violating applicable water quality objectives for REC I and REC II. Birds and other animals are possible sources of bacteria in the CVSC.

Final Bacterial Indicator WLA

Wasteload allocations (WLAs) for bacteria indicator dischargers into CVSC are described below:

Allocation Type	Discharger	E. Coli Allocations
Point Source (WLAs)	Department	A log mean (Geomean) of the MPN of ≤126/100ml (based on a minimum of not less than five samples during a 30-day period), or 400 MPN/100ml for a single sample.

Final Bacterial Indicator WLA Specific to the Department

See Final WLA above.

Final Bacterial Indicator Deadlines

The final implementation targets in terms of allowable wet-weather exceedance days must be achieved at each individual beach location no later than July 15, 2021.

Department’s Bacterial Indicator Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to bacteria pollutant loading is not known.

SAN DIEGO REGION BACTERIA TMDL

Project I – Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) TMDL, June 22, 2011

The TMDL identifies dry and wet weather runoff as the source of bacterial loading.

Final Indicator Bacteria WLA

In general, controllable point and nonpoint sources generating less than five percent of the total loads (e.g., The Department and/or Agriculture) were assigned WLAs and LAs equal to their existing loads, resulting in no load reduction requirements.

The dry weather mass-load based TMDLs were assigned entirely to discharges from MS4 land uses because the runoff that transports bacteria to surface waters during dry weather is expected to occur in urban areas. The allocation of the dry weather mass-based TMDL assumes that no surface runoff discharge to receiving waters occurs from the Department, Agriculture, or Open Space land use categories (i.e., $WLA_{Caltrans} = 0$, $LA_{Agriculture} = 0$, and $LA_{OpenSpace} = 0$), meaning the entire dry weather mass-based TMDL (i.e., allowable mass load) is allocated to Municipal MS4 land use categories (i.e., $WLA_{MS4} = TMDL$).

For the wet weather TMDLs, discharges of surface runoff are expected from all land use types, thus allocations were assigned to each land use category (i.e., Municipal MS4s, the Department, Agriculture, and Open Space). The Department's wet weather WLAs were set equal to existing loads, since the Department's discharges were found to account for less than 1 percent of the wet weather load. Allocations were assigned based on discharges of "existing" bacteria loads predicted with a wet weather watershed model. In general, the Department WLAs, Agriculture LAs (in all but four of the modeled watersheds), and Open Space LAs were set equal to the "existing" bacteria loads predicted by the wet weather watershed model. The remainder of allowable bacteria load that can be discharged to the receiving waters as part of the TMDL was assigned as the Municipal MS4s WLAs (or proportionally divided between the Municipal MS4s and Agriculture land use categories in four of the modeled watersheds).

Final Indicator Bacteria WLA Specific to Department

See Final WLA above.

Final Indicator Bacteria Deadlines

TMDL Compliance Schedule: Full implementation of the TMDLs for indicator bacteria shall be completed within 10 to 20 years (April 4, 2021 to April 4, 2031) from the effective date of the Basin Plan amendment. The compliance schedule for implementing the load and wasteload reductions required to achieve the wet weather and dry weather TMDLs is phased in over time.

The dry weather TMDLs must be achieved in the receiving waters as soon as possible, but no later than 10 years (April 4, 2021) from the effective date of the Basin Plan amendment

that establishes the TMDLs. For dischargers that undertake wet weather load reduction programs only for bacteria, the wet weather TMDLs must be achieved in the receiving waters as soon as possible, but no later than 10 years (April 4, 2021) from the effective date.

For dischargers in watersheds that undertake concurrent wet weather load reduction programs for other pollutant constituents (e.g. metals, pesticides, trash, nutrients, sediment, etc.) together with the bacteria load reduction requirements in these TMDLs, an alternative compliance schedule may be proposed and incorporated by the San Diego Water Board into the implementing orders. The wet weather TMDL compliance schedules may be extended, but no more than a total of 20 years (April 4, 2031) from the effective date of the Basin Plan amendment. The dry weather TMDL compliance schedule cannot be extended to be more than 10 years (April 4, 2021) from the effective date of the Basin Plan amendment.

Department's Indicator Bacteria Contribution (relative contribution to pollutant loading)

The Department's relative contribution to bacteria pollutant loading is unknown.

F. Diazinon TMDL Pollutant Category

General Description of Pollutant Category

Diazinon is an organophosphate insecticide has been banned for residential use; it is still used in agriculture.

Sources of Pollutant & How it Enters the Waterway

It is a broad spectrum contact insecticide. Residential use was for general-purpose gardening use and indoor pest control of ants, fleas, cockroaches, silverfish, mosquitos and spiders in residential, non-food buildings.

Watershed Contribution

The Department does not use Diazinon. The Department is identified as a source of Diazinon because they own and operate storm water conveyance systems in association with roadways and facilities. In some areas the Department's storm water systems are connected to municipal storm water systems.

Control Measures

Attachment IV, Section III.F, prohibits the discharge of Diazinon. This prohibition is consistent with the TMDLs for Diazinon which generally limit the discharge of this pesticide to non-toxic levels. Since the Department does not use Diazinon it is in compliance with the prohibition of discharge. Attachment IV, Part F does not require additional monitoring beyond what is specified in the permit.

SAN FRANCISCO BAY REGION DIAZINON TMDL

San Francisco Bay Urban Creeks Diazinon and Pesticide Toxicity May 16, 2007

The TMDL states that most urban runoff flows through storm drains operated by all storm water entities including the Department. The use of diazinon is prohibited in the Department's NPDES permit, and no additional measures are required.

Final Diazinon WLA

The WLA for each storm water entity is 100 ng/L as a one-hour average.

Final Diazinon WLA Specific to the Department

The Department's level of responsibility is not identified.

Final Diazinon Deadlines

The TMDL does not specify any interim or final compliance dates but states that the requirements included in the permits are inadequate to meet the targets the San Francisco Bay Water Board will require additional control measures or additional actions by others.

Department's Diazinon Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the diazinon pollutant loading is not known.

SAN DIEGO REGION DIAZINON TMDL

Chollas Creek Diazinon TMDL, November 3, 2003

Final Diazinon WLA

The below concentration-based waste load allocations are applied equally to all diazinon discharge sources in the Chollas Creek watershed:

Waterbody	Diazinon (ng/L)	
	Acute (1 hour ave)	Chronic (4 day ave)
Chollas Creek	72	45

Final Diazinon WLA Specific to the Department

The final WLA for the Department is noted above.

Final Diazinon Deadlines

The TMDL states that the phased compliance schedule will apply only to attainment of numeric limitations for diazinon and all other requirements of this TMDL will be immediately effective upon incorporation into applicable NPDES permits.

Department Diazinon Contribution

In the supporting technical documentation, the San Diego Regional Water Board stated that the Department is responsible for the major freeways and roadways making up approximately four percent of the land in the watershed; that the Department reports diazinon is not used; and that the Department has an integrated pest management plan. Since the Department does not use Diazinon it is in compliance with the prohibition of discharge.

G. Selenium TMDL Pollutant Category

General Description of Pollutant Category

Sources of Pollutant & How it Enters the Waterway

Selenium is naturally occurring in geologic formations, soils and aquatic sediments. Storm water runoff, dewatering, ground water seepage, irrigation of high selenium content soils, and oil refineries are identified as sources of selenium to surface waters in southern California. Generally, atmospheric deposition was determined to be a not significant source. Selenium bioaccumulates to levels that cause severe impacts on invertebrates, fish, birds that prey on fish, and humans.

Watershed Contribution

Selenium in soil may be a contributing source, and naturally occurring selenium in groundwater may be a significant source.

Control Measures

As discussed under the individual TMDLs below, the TMDLs in this pollutant category generally establish that the Department is a relatively minor source of selenium since the sources of selenium are not transportation related. The Department is expected to continue its current pollutant control activities in order to remain in compliance with the TMDLs.

LOS ANGELES REGION SELENIUM TMDL

Ballona Creek Metals and Selenium TMDL, December 22, 2005 and reaffirmed on October 29, 2008.

This TMDL addresses dry- and wet-weather discharges of metals and selenium in Ballona Creek and Sepulveda Canyon Channel. There are significant differences in the sources of metals and selenium loadings during dry and wet weather because hardness values and flow conditions in Ballona Creek and Sepulveda Canyon Channel vary between dry and wet weather. A grouped mass-based waste load allocation is developed for the storm water permittees that includes the Department.

Final Selenium WLA

The Department and MS4 storm water NPDES permittees will be found to be effectively meeting the dry-weather WLAs if the instream pollutant concentrations or load at the first downstream monitoring location is equal to or less than the corresponding concentration- or load based WLA.

Selenium Dry-weather Storm Water WLAs Apportioned between Storm Water Permits (grams total recoverable metals/day)

Permittee	Waste Load Allocation (grams/day)
Ballona Creek	
MS4 Permittees	169
Department	2
Sepulveda Channel	
MS4 Permittees	76
General Industrial	1

Selenium Wet-weather Storm Water WLAs Apportioned between Storm Water Permits (total recoverable metals)

Permittee	Waste Load Allocation (grams/day)
MS4 Permittees	4.73E-06 x Daily storm volume (L)
Department	6.59E-08 x Daily Storm Volume (L)
General Construction	1.37E-07 x Daily storm volume (L)
General Industrial	3.44E-08 x Daily storm volume (L)

The Department and MS4 NPDES permittees will be found to be effectively meeting the wet-weather WLAs if the loading at the most downstream monitoring location is equal to or less than the wet-weather WLA.

Final Selenium WLA Specific to the Department

See Tables above for specific Department WLAs.

Final Deadlines

The implementation schedule for the MS4 permittees and the Department consists of a phased approach, with compliance to be achieved in prescribed percentages of the watershed, with total compliance to be achieved within 15 years. The Department shall demonstrate that 100 percent of the total drainage area served by the MS4 system is effectively meeting the dry-weather and wet-weather WLAs.

Whereas the Department is responsible for meeting their mass-based waste load allocations they may choose to work with the MS4 Permittees.

Department’s Selenium Contribution (relative contribution to pollutant loading)

The Department’s relative contribution to the selenium loading is not known.

Calleguas Creek, its Tributaries and Mugu Lagoon Metals and Selenium TMDL, March 26, 2007

Significant sources were identified as urban runoff, agricultural runoff, groundwater seepage and POTW effluent. The Department is a participant in the watershed-wide water monitoring program.

Final Selenium WLA

Dry-weather is defined as days when flows in the stream are less than the 86th percentile flow rate for each reach; wet weather is defined as flows greater than 86th percentile. The daily maximum interim limit is set equal to the 99th percentile of available discharge data, the monthly average interim limit is set equal to the 95th percentile. The interim WLAs for dry-weather in Revolon Slough are 14 µg/L criteria maximum concentration (CMC), and 13 µg/L criteria continuous concentration (CCC) for wet-weather. There is no interim wet-weather WLA because current loads do not exceed the TMDL. In this TMDL interim limits and WLAs are applied to receiving waters.

Final Selenium WLA Specific to the Department

Final WLAs for selenium in Revolon Slough are:

Dry weather: In lbs/day are 0.004 low flow, 0.003 average flow, 0.004 elevated flow.

Wet weather: In lbs/day is $0.027*Q^2+0.47*Q$, where Q equals the daily storm volume.

Current loads do not exceed the loading capacity during wet weather, therefore no additional action by the Department is needed during wet weather.

Final Deadlines

The TMDL states that storm water dischargers are expected to achieve compliance through implementation of BMPs. A group watershed monitoring plan was required and receiving water monitoring compliance points are specified for all dischargers subject to the TMDL. A 25 percent reduction was required by March 2012, and a 50 percent reduction is required by March 2017. Final compliance is required by March 2022. The TMDL states that achievement of required reductions will be evaluated based on progress towards BMP implementation as outlined in the UWQMPs and in consideration of background loading information. The requirements of Attachment IV, Section III.G are consistent with the requirements of the TMDL.

Department's Selenium Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the selenium pollutant loading is not known.

San Gabriel River and Impaired Tributaries Metals and Selenium TMDL, March 26, 2007

The San Gabriel River and impaired tributaries metals and selenium TMDL was established by U.S. EPA (and therefore there are no milestones, compliance schedule, or monitoring requirements) and includes a dry-weather TMDL for selenium in San Jose Creek Reach 1.

The TMDL notes that selenium is present in local marine sedimentary rocks and presumes that much of the selenium in San Jose Creek results from natural soils, and that this assumption is corroborated by the fact that many of the impairments in San Jose Creek occur after the channel becomes soft-bottomed. Other potential sources were identified as mobilization of groundwater, such as by dewatering, irrigation of soils naturally high in selenium, and discharges from petroleum-related activities.

The requirements of Attachment IV, Section III.G are consistent with the requirements of the TMDL.

Final WLA for Selenium

The TMDL sets a dry-weather selenium WLA of five (5) µg/L for all storm water discharges to San Jose Creek. The TMDL states that a review of the storm water permits indicates that the Department discharges entirely to municipal storm water systems.

Final Selenium WLA Specific to the Department

No specific selenium WLAs are assigned to the Department. The dry-weather WLAs for the storm water permittees are shared by the MS4 permittees and the Department because there is not enough data on the relative extent of MS4 and the Department's areas.

Final Deadlines for Selenium

The MS4 permittees and the Department shall demonstrate that 100 percent of the total drainage area served by the storm drain system is effectively meeting both the dry-weather and wet-weather WLAs and attaining water quality standards for metals and selenium.

Department's Selenium Contribution (relative contribution to pollutant loading)

The Department's relative contribution to selenium pollutant loading is not known.

H. Temperature TMDL Pollutant Category

General Description of Pollutant Category

The North Coast Region Basin Plan defines the water quality objective for temperature as follows:

- (1) For estuaries, the Basin Plan incorporates by reference the statewide plan entitled "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California."
- (2) The following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature of any COLD water be increased by more than five degrees Fahrenheit

above natural receiving water temperature. At no time or place shall the temperature of WARM intrastate waters be increased more than five degrees Fahrenheit above natural receiving water temperature.

The designated beneficial uses affected by thermal pollution of receiving waters include: cold freshwater habitat (COLD); rare, threatened, and endangered species (RARE); migration of aquatic organisms (MIGR); and spawning, reproduction, and/or early development of fish (SPWN); commercial and sport fishing (COMM); and contact and non-contact water recreation (REC-1 and REC-2).

Sources of Pollutant & How it Enters the Waterway

Anthropogenic processes that influence water temperature include changes to stream shade, stream flow via changes in groundwater accretion, streamflow via surface water use, changes to local microclimates, and channel geometry. Road construction and maintenance can, for example, involve the removal of some riparian vegetation, thus increasing ambient water temperature along the affected segment of a surface water body unless this impact is minimized via re-planting and/or by reducing the amount of vegetation removed.

Natural sources of sediment which can increase receiving water temperatures include geologically unstable areas that are subject to landslides, as well as smaller sediment sources such as gullies and stream-bank failures. Anthropogenic sources include road-related stream crossing failures, gullies, fill failures, and landslides precipitated by road-related surface erosion and cut bank failures. Road-related activities which can increase sediment discharge to a waterway include the construction and maintenance of paved and unpaved roadways, watercourse crossing construction, reconstruction, maintenance, use, and obliteration, and many activities conducted on unstable slopes. Unstable areas are areas with a naturally high risk of erosion and areas or sites that will not reasonably respond to efforts to prevent, restore or mitigate sediment discharges. Unstable areas are characterized by slide areas, gullies, eroding stream banks, or unstable soils that are capable of delivering sediment to a watercourse. Slide areas include shallow and deep seated landslides, debris flows, debris slides, debris torrents, earthflows, headwall swales, inner gorges and hummocky ground. Unstable soils include unconsolidated, non-cohesive soils and colluvial debris.

Watershed Contribution

The Department is a relatively minor source of pollutants and small percentage of the watershed. The Department will address the highest problem areas soonest and therefore address the problem at the appropriate level for the temperature and sediment TMDLs.

Control Measures

Dischargers responsible for vegetation removal are encouraged (and sometimes required) to preserve and restore such vegetation where possible. This may include planting riparian trees, minimizing the removal of vegetation that provides shade to a water body, and minimizing activities that might suppress the growth of new or existing vegetation. Reductions in sediment loads are expected to increase the number and depth of pools in

streams and rivers, and to reduce wetted channel width/depth ratios. These changes would tend to result in lower stream temperatures overall and in more lower-temperature pool habitat.

The Department is required to implement control measures to prevent erosion and sediment discharge. The measures that control the discharge of sediment can be effective in reducing thermal pollution in receiving waters. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and avoidance of alterations of natural runoff flow patterns.

The sediment control requirements in Attachment IV are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonids fishery are often the most sensitive to sediment discharges.

The Sediment TMDL Implementation Policy also directs staff to develop: (1) the Work Plan, which describes how and when permitting and enforcement tools are to be used; (2) the Guidance Document on Sediment Waste Discharge Control; (3) the Sediment TMDL Implementation Monitoring Strategy; and (4) the Desired Conditions Report. Of these items, the Guidance Document on Sediment Waste Discharge Control and the Sediment TMDL Implementation Monitoring Strategy are still under development by the North Coast Region. At present, the requirements in Attachment IV are generally sufficient to address the sediment/temperature TMDLs in the North Coast Region that originate from a comparatively minor pollutant source, and this is accomplished by focusing on the most problematic areas and activities within this relatively low-volume subset of anthropogenic discharges for this pollutant category.

Attachment IV requires continuation of existing monitoring plans, or monitoring consistent with the TMDLs' requirements as approved by the Regional Water Board Executive Officer. A primary focus of the monitoring required by Attachment IV is management practice effectiveness monitoring and "Adaptive Management" for BMP implementation requirements ensures compliance with the sediment/temperature TMDLs.

The North Coast Regional Water Board is also in the process of amending its basin plan for the control of thermal pollution. These revisions will add a policy for implementing the water quality objective for temperature. The amendment will also add additional action plans to implement total maximum daily loads for temperature in the Navarro, and Eel, and Mattole watersheds.

The proposed revisions to the Basin Plan include changes to Chapter 4 –Implementation Plans. The Regional Water Board directed staff to prepare an amendment incorporating a temperature implementation policy into the Basin Plan by adoption of resolution R1-2012-0013. The proposed Basin Plan amendment will describe the approach to implementing the interstate water quality objective for temperature in one cohesive policy. It will identify the

regulatory mechanisms staff will employ to ensure achievement of the water quality objective for temperature, it will describe the significance of stream shade as a factor determining stream temperatures, and it will direct staff to address temperature concerns through existing authorities and processes.

The proposed Basin Plan amendment will also establish implementation plans for the Navarro, Mattole, Upper Main Eel, Middle Main Eel, Lower Eel, Middle Fork Eel, North Fork Eel, and South Fork Eel River temperature TMDLs.

NORTH COAST REGION TEMPERATURE TMDLS

Eel River (Lower HA) Temperature and Sediment TMDL, U.S. EPA Established on December 18, 2007

Final Temperature WLA

For the diffuse permitted sources, such as municipal and industrial storm water discharges, the Department's facilities, construction sites, and municipalities, as well as for discharges that are subject to NPDES permits but are not currently permitted, the waste load allocation (WLA) is expressed as follows: zero net increase in receiving water temperature.

Final Temperature WLA Specific to the Department

As stated above, U.S. EPA's wasteload allocation for the temperature TMDL assigned to the Department and other point source dischargers is zero net increase in receiving water temperature.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Contribution (relative contribution to pollutant loading)

U.S. EPA states that although nonpoint sources are responsible for most heat loading in the watershed, point sources may also discharge some heat in the watershed.

Eel River (Middle-Fork) Eden Valley, and Round Valley HSAs Temperature and Sediment TMDL, U.S. EPA Established on December 2003

Final Temperature WLA

Although U.S. EPA states that because appropriate heat loads, water temperatures and tree heights cannot be generalized on a basin-wide scale, this reduction is best achieved by allowing trees to grow so as to provide the equivalent amount of shade that would be provided under natural conditions. In addition, measures to reduce sediment discharge and promote establishment or protection of additional refugia pool areas will facilitate attainment of water quality standards. In this sense, the temperature and sediment TMDLs overlap to some degree.

Final Temperature WLA Specific to the Department

Please see above discussion of the temperature WLA.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Temperature Contribution (relative contribution to pollutant loading)

U.S. EPA states that although nonpoint sources are responsible for most heat loading in the watershed, point sources may also discharge some heat in the watershed.

Eel River (South Fork) HA Temperature and Sediment TMDL, U.S. EPA Established on December 16, 1999

U.S. EPA's source analysis indicates that the sediment loading due to nonpoint erosion from roads and other anthropogenic activities accounts for a substantial portion of the total sediment loading in this watershed.

The waste load allocation for point sources are for sediment only, i.e., they are not directly related to the temperature portion of the TMDL, nor does U.S. EPA set a waste load allocation for point sources under the temperature portion of the TMDL. However, U.S. EPA also states that any improvements in stream temperature from reduced sedimentation contribute to the cumulative benefits of both sediment and temperature load reductions, and this assumption is accommodated in U.S. EPA's calculations for the margin of safety in this TMDL.

Final Temperature WLAs

As stated above, there is no wasteload allocation for point sources.

Final Temperature WLA Specific to the Department

As stated above, there is no specific wasteload allocation for the Department.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation.

Department's Temperature Contribution to Thermal Loading (relative contribution to pollutant loading)

U.S. EPA attributes most sediment and thermal pollutant loading in the TMDL to nonpoint sources, and considers the Department's and other point source contributions to be comparatively minor.

Eel River (Upper Main HA) Temperature and Sediment TMDL, U.S. EPA Established on December 29, 2004

Final Temperature WLA

U.S. EPA states that there are no point source discharges included in the temperature TMDL for purposes of attaining temperature reductions via “shade allocation,” so the waste load allocation is set to zero. U.S. EPA states that permitted sources of increased water temperatures and sediment loading, if they occur in the future, will be attributable only to construction-related storm water discharges.

Final Temperature WLA Specific to the Department

As stated above, U.S. EPA stated that there are no point source discharges for thermal pollution, so the wasteload allocation for all point source discharges (including the Department) is set to zero.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation.

Department’s Temperature Contribution (relative contribution to pollutant loading)

U.S. EPA considers all point sources of temperature pollution to be insignificant for purposes of this TMDL.

Klamath River in California Temperature, Dissolved Oxygen, Nutrients, and Microcystin TMDL, December 28, 2010

Final Temperature WLA

The Iron Gate Fish Hatchery was identified as the only point-source heat load in the Klamath River watershed: The interstate water quality objective for temperature prohibits the discharge of thermal waste to the Klamath River, and therefore the waste load allocation for Iron Gate Hatchery is set to zero, as monthly average temperatures. The TMDL addresses elevated temperatures from natural and non-point anthropogenic sources. The non-point sources include: (1) excess solar radiation, expressed as its inverse, shade; (2) heat loads associated with increased sediment loads; (3) heat loading from impoundments; and (4) heat loads from Oregon. The assigned load allocations for temperature are expressed as follows (as adapted from Table 4-15 in the basin plan):

Source	Allocation
Excess Solar Radiation (expressed as effective shade)	The shade provided by topography and full potential vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations.
Impoundment Discharges	Zero temperature increase above natural temperatures ¹
Excess Solar Radiation	The shade provided by topography and full potential

Source	Allocation
(expressed as effective shade)	vegetation conditions at a site, with an allowance for natural disturbances such as floods, wind throw, disease, landslides, and fire.
Increased Sediment Loads	Zero temperature increase caused by substantial human-caused sediment-related channel alterations. ²
Impoundment Discharges	Zero temperature increase above natural temperatures

1. Natural temperatures are those water temperatures that exist in the absence of anthropogenic influences, and are equal to natural background.
2. Substantial human-caused sediment-related channel alteration: “A human-caused alteration of stream channel dimensions that increases channel width, decreases depth, or removes riparian vegetation to a degree that alters stream temperature dynamics and is caused by increased sediment loading.”

Final Temperature WLA Specific to the Department

The Department was not assigned a waste load allocation for temperature.

Final Deadlines

No deadlines were specified.

Department’s Pollutant Contribution (relative contribution to pollutant loading)

The Department is listed as a source of thermal pollution: however, the relative magnitude of the Department’s contribution to thermal pollution was not specified or estimated.

Navarro River Sediment and Temperature TMDL, U.S. EPA Established on December 27, 2000

Final Temperature WLA

U.S. EPA states that there are no known point sources of heat to the Navarro or its tributaries. The source analysis therefore focused on non-point sources. The wasteload allocation any for point sources which might be present is thus presumed to set to zero.

The Navarro River TMDLs for temperature and sediment are based on separate analyses. Reduced sediment loads could be expected to lead to increased frequency and depth of pools and to reduced wetted channel width/depth ratios. These changes would tend to result in lower stream temperatures overall and in more lower-temperature pool habitat.

Improvements in stream temperature that may result from reduced sedimentation were not considered in the analysis.

Final Temperature WLA Specific to the Department

The Department is not specifically mentioned as a source of pollutant loading for temperature, therefore the wasteload allocation for the Department is presumed to be set to zero.

Final Temperature Deadlines

U.S. EPA did not specify deadlines for implementation of this TMDL.

Department's Temperature Contribution (relative contribution to pollutant loading)

As mentioned above, neither the Department nor other point sources are identified as sources of pollutant loading for temperature or sediment, so U.S. EPA has determined that these potential sources are insignificant in this TMDL.

Scott River Sediment and Temperature TMDL, August 11, 2006**Final Temperature WLA**

U.S. EPA states that there are no point sources for temperature related discharges within the area encompassed by this TMDL, so the waste load allocation is set to zero.

Final Temperature WLA Specific to the Department

U.S. EPA directed Regional Water Board staff shall evaluate the effects of the Department's state-wide NPDES permit, storm water permit, and waste discharge requirements (collectively known as the Department's Storm Water Program) by September 8, 2008. The evaluation shall determine the adequacy and effectiveness of the Department's Storm Water Program in preventing, reducing, and controlling sediment waste discharges and elevated water temperatures in the North Coast Region, including the Scott River watershed.

Final Temperature Deadlines

U.S. EPA did not establish specific wasteload allocations for point sources, so the wasteload allocations are set to zero.

Department's Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the temperature pollutant loading is not known.

Shasta River Dissolved Oxygen and Temperature TMDL, U.S. EPA Established on December 26, 2007**Final Temperature WLA**

There are no point source heat loads in the Shasta River watershed, and therefore no waste load allocations apply.

Final Temperature WLA Specific to the Department

The Department was not assigned a waste load allocation for temperature: as stated above, there are no point sources of heat loads in the Shasta River watershed.

Final Deadlines

No deadlines were specified.

Department's Pollutant Contribution

The Department's relative contribution to the temperature pollutant loading in Shasta River Watershed is not known.

I. Chloride Pollutant Category

General Description of Pollutant Category

The Department is named as a responsible party in the Santa Clara River watershed chloride TMDL.

Sources of Pollutant & How it Enters the Waterway

Chloride in the Santa Clara River watershed is principally due to increased salt loadings from imported water and the use of self-regenerating water softeners.

Watershed Contribution

The Department does not import water and does not use self-generating water softeners.

Control Measures

The Department is expected to be in compliance with the chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

LOS ANGELES REGION CHLORIDE TMDLS

Santa Clara River Reach 3 Chloride TMDL, U.S. EPA Established on June 18, 2003

There are two major sources that discharge into Reach 3, the Santa Paula and Fillmore WRPs, that comprise approximately 80 percent of the total estimated load under flow conditions.

The Department is one of five minor point sources that discharge to Reach 3. Although the Department is a minor source, the minor discharges to the Santa Clara River are typically related to dewatering and construction projects that are covered by other NPDES permits.

Final Chloride WLA

Estimated Chloride Loads to Reach 3 Under Low Flow Conditions

Point Sources	Waste Load Allocation (mg/L)
Fillmore WRP	80
Santa Paula WRP	80
MS4 Stormwater	80

Point Sources	Waste Load Allocation (mg/L)
Construction General Permit	80
Department	80
Other Minor Permits	80
NonPoint Sources	Load Allocation (mg/L)
Other Tributaries to Reach 3*	80
Sespe Creek	40
Santa Clara Reach 4	100
Total	80
* Although other tributaries to Reach 3 were not included in the linkage analysis above, their contributions to Reach 3 chloride loads and flows are believed to be insignificant.	

Final Chloride WLA Specific to the Department

Specific WLA for the Department is 80 mg/L.

Final Chloride Deadlines

U.S. EPA established this TMDL and it became effective on June 18, 2003. The Department is expected to be in compliance with the Chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

Department's Chloride Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the chloride pollutant loading in the Santa Clara River Reach 3 is not known.

Upper Santa Clara River Chloride TMDL, April 6, 2010

The principal source of chloride in the Upper Santa Clara River is discharges from the Saugus WRP and Valencia WRP, which are estimated to contribute 70 percent. These sources of chloride accumulate and degrade groundwater in the lower area east of Piru Creek in the basin.

Final Chloride WLA

Other minor NPDES discharges receive conditional WLAs shown below.

Reach	Concentration-based Conditional WLA for Chloride (mg/L)
6	150 (12-month Average)
	230 (Daily Maximum)
5	150 (12-month Average)
	230 (Daily Maximum)
4B	117 (3-month Average)
	230 (Daily Maximum)

Final Chloride WLA Specific to the Department

The Department is assigned the above concentration based WLAs.

Final Chloride Deadlines

The interim and final WLAs for TDS and sulfate contained in the Basin Plan Amendment are essentially established for the principal sources. The Department does not import water and does not use self-generating water softeners. The Department is expected to be in compliance with the Chloride WLA without any additional control actions as long as the Department is in compliance with this Order.

Department's Chloride Contribution (relative contribution to pollutant loading)

The Department's relative contribution to the chloride pollutant loading in the Upper Santa Clara River is not known.

Region Specific Requirements

The Regional Water Boards have identified specific areas within their Regions requiring special conditions (Attachment V). These special conditions are needed to account for the unique value of the resource(s) within the Region, special pollutant or pollution control issues within the Region, or storm water management and compliance issues applicable to the Region. These special requirements need not be applied statewide but are applicable only to Department discharges within the Regions as specified in Attachment V. Region specific requirements are included for the North Coast, San Francisco Bay, and Lahontan Regional Water Boards.

North Coast Region

1. Sediment. Region specific requirements addressing sediment discharges in sediment-impaired watersheds in the North Coast Region are based on the "Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region," as included in the Basin Plan and Resolution No. R1-2004-0087. The Policy requires the use of NPDES permits and waste discharge requirements to achieve compliance with sediment-related water quality standards. The requirements in Attachment V to systematically inventory, prioritize, control, monitor, and adapt, as well as to include a time schedule in the annual District Workplan, are consistent with region-wide excess sediment control regulations.

The sediment requirements are intended to reduce the adverse impacts of excessive sediment discharges to sediment-impaired waters, including impacts to the cold water salmonid fishery and the COLD, COMM, RARE, SPWN, and MIGR beneficial uses. The beneficial uses associated with the cold water salmonid fishery are often the most sensitive to sediment discharges. Risks to salmonids from excessive sediment are well documented in scientific literature and include:

- the filling of pools and subsequent reduction in available in-stream salmonid habitat;
- burial of spawning gravels;
- gill abrasion and death due to extremely high turbidity levels;
- reduction in macroinvertebrate populations available as food for salmonids; and

- alterations in channel geometry to a wider, shallower channel which is subject to increases in solar heating.
2. Riparian Vegetation Requirements. Region specific requirements to protect and restore riparian vegetation are based on the Water Quality Objective for temperature. The temperature objective states, in part, that the natural receiving water temperature shall not be altered unless it can be demonstrated that such alteration does not adversely affect beneficial uses. Removal of riparian vegetation associated with Department activities has the potential to decrease shade, increase solar radiation, and raise water temperatures, and may therefore cause an exceedance of the temperature objective.

The requirements in Attachment V direct the Department to protect and restore riparian vegetation to the greatest extent feasible. In many cases, activities involving the removal of riparian vegetation will require a 401 water quality certification, which will contain more specific conditions regarding the removal and/or establishment of vegetation.

These requirements are intended to prevent alterations to natural receiving water temperature from Department activities. The primary mechanism in which riparian vegetation influences water temperature is through the shade. Loss of riparian vegetation and the shade that it provides can lead to increased solar radiation, hotter water temperatures, and adverse impacts to beneficial uses. The beneficial uses most sensitive to increases in water temperature are often those associated with the cold water salmonid fishery. Risks to salmonids are well documented in scientific literature and include:

- reduced feeding rates and growth rates;
- impaired development of embryos and alevins;
- changes in the timing of life history events, such as upstream migration, spawning, and seaward migration;
- increased disease infection rates and disease mortality; and
- direct mortality.

San Francisco Bay Region

The Urban Runoff Management, Comprehensive Control Program section of the Basin Plan (Chapter 4.14) requires municipalities and local agencies, including the Department, to address existing water quality problems and prevent new problems associated with urban runoff through the development and implementation of a comprehensive control program focused on reducing current levels of pollutant loading to storm drains to the maximum extent practicable.

The Highway Runoff Control Program section of the Basin Plan (Chapter 4.14.2) requires the Department to manage and monitor pollutant sources from its ROW through development and implementation of a highway runoff management plan.

The Basin Plan comprehensive and highway runoff program requirements are designed to be consistent with federal regulations (40 C.F.R., §§ 122-124) and are implemented through issuance of NPDES permits to owners and operators of MS4s. A summary of the regulatory provisions is contained in Title 23 of the California Code of Regulations at section 3912. The Basin Plan identifies beneficial uses and establishes water quality objectives for surface waters in the Region, as well as effluent limitations and discharge prohibitions intended to protect those uses. The region-specific requirements in Attachment V of this Order implement the plans, policies, and provisions of the Regional Water Board's Basin Plan.

1. Trash Load Reduction.

a. Legal Authority. The following legal authorities apply to the trash load reduction requirements specified in Attachment V:

- Clean Water Act sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 Code of Federal Regulations sections 122.26(d)(2)(i)(B, C, D, E, and F) and 40 Code of Federal Regulations section 122.26(d)(2)(iv).
- Federal NPDES regulations 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B) requires, "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."
- Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(2) requires, "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."
- Federal NPDES regulation 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(3) requires, "a description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."
- Federal NPDES regulations 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(4) requires, "a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer."
- San Francisco Bay Basin Plan, Chapter 4 – Implementation, Table 4-1 Prohibitions, Prohibition 7, which is consistent with the State Water Board's Enclosed Bays and Estuaries Policy, Resolution 95-84, prohibits the discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. This prohibition was adopted by the Regional Water Board in the 1975 Basin Plan, primarily to protect recreational uses such as boating.

- b. Extent, Impacts, and Conclusions. Trash²⁵ and litter are a pervasive problem near and in creeks and in San Francisco Bay having major impacts on the environment, including aquatic life and habitat in those waters. Ubiquitous, unacceptable levels of trash in waters of the San Francisco Bay Region warrant a comprehensive and progressive program of education, warning, and enforcement, and certain areas warrant consideration of structural controls and treatment. Trash in urban waterways of coastal areas can become *marine debris*, known to harm fish and wildlife and cause adverse economic impacts.²⁶ It accumulates in streams, rivers, bays, and ocean beaches throughout the San Francisco Bay Region, particularly in urban areas.

Trash adversely affects numerous beneficial uses of waters, particularly recreation and aquatic habitat. Not all litter and debris delivered to streams are of equal concern with regard to water quality. Besides the obvious negative aesthetic effects, most of the harm of trash in surface waters is to wildlife in the form of entanglement or ingestion.^{27,28} Some elements of trash exhibit significant threats to human health, such as discarded medical waste, human or pet waste, and broken glass.²⁹ Also, some household and industrial wastes can contain toxic batteries, pesticide containers, and fluorescent light bulbs containing mercury. Large trash items such as discarded appliances can present physical barriers to natural stream flow, causing physical impacts such as bank erosion. From a management perspective, the persistent accumulation of trash in a waterbody is of particular concern, and signifies a priority for prevention of trash discharges. Also of concern are trash *hotspots* where illegal dumping, littering, and/or accumulation of trash occur.

The narrative water quality objectives applicable to trash are Floating Material (Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses), Settleable Material (Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses), and Suspended Material (Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses).

²⁵ For the purposes of this provision, trash is defined to consist of litter and particles of litter. Man-made litter is defined in California Government Code section 68055.1 (g): *Litter* means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.

²⁶ Moore, S.L., and M.J. Allen. 2000. Distribution of anthropogenic and natural debris on the mainland shelf of the Southern California Bight. *Mar. Poll. Bull.* 40:83-88.

²⁷ Laist, D. W. and M. Liffmann. 2000. *Impacts of marine debris: research and management needs*. Issue papers of the International Marine Debris Conference, Aug. 6-11, 2000. Honolulu, HI, pp. 16–29.

²⁸ McCauley, S.J. and K.A. Bjorndahl. 1998. Conservation implications of dietary dilution from debris ingestion: sublethal effects in post-hatchling loggerhead sea turtles. *Conserv. Biol.* 13(4):925-929.

²⁹ Sheavly, S.B. 2004. *Marine Debris: an Overview of a Critical Issue for our Oceans*. 2004 International Coastal Cleanup Conference, San Juan, Puerto Rico. The Ocean Conservancy.

The Regional Water Board, at its February 11, 2009 hearing, adopted a resolution proposing that 26 waterbodies be added to the 303(d) list for trash. The adopted Resolution and supporting documents are contained in Attachment 10.1 – 303(d) Trash Resolution and Staff Report, February 2009.

Data collected by Regional Water Board staff using the SWAMP Rapid Trash Assessment (RTA) Protocol,³⁰ over the 2003–2005 period,³¹ suggest that the current approach to managing trash in waterbodies is not reducing the adverse impact on beneficial uses. The levels of trash in the waters of the San Francisco Bay Region are high, even with the Basin Plan prohibitions and potentially large fines. During dry weather conditions, a significant quantity of trash, particularly plastic, is making its way into storm drains and being transported downstream to San Francisco Bay and the Pacific Ocean. On the basis of 85 surveys conducted at 26 sites throughout the Bay Area, staff have found an average of 2.93 pieces of trash for every foot of stream, and all the trash was removed when it was surveyed, indicating high return rates of trash over the 2003–2005 study period.

A number of key conclusions can be made from the RTA study:

- Lower watershed sites have higher densities of trash.
 - All watersheds studied in the San Francisco Bay Region have high levels of trash.
 - There are trash source hotspots, usually associated with parks, schools, or poorly kept commercial facilities.
 - Dry season deposition of trash, associated with wind and dry season runoff, contributes measurable levels of trash to downstream locations.
 - The majority of trash is plastic at lower watershed sites where trash accumulates in the wet season. This suggests that urban runoff is a major source of floatable plastic found in the ocean and on beaches as marine debris.
 - Parks that have more evident management of trash by city staff and local volunteers, including cleanup within the creek channel, have measurably less trash and higher RTA scores.
- c. Trash Reduction measures shall demonstrate compliance through timely implementation of controls in all high trash generating areas for the prohibition of discharge of trash and include the following:
- Implementation of full capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchment that service the significant trash generating areas.
 - Coordinate with neighboring MS4 permittees to construct, operate and maintain those controls listed above.

³⁰ SWAMP Rapid Trash Assessment Protocol, Version 8

³¹ SWAMP S.F. Bay Region Trash Report, January 23, 2007

- Assess for the effectiveness of enhanced maintenance controls implemented in high generating trash areas, as well as coordination with local municipalities.
 - Abate trash from construction and reconstruction projects.
 - Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.
 - Report in each Annual Report, as part of the TMDL STATUS REVIEW REPORT a per District summary of trash reduction controls and their effectiveness.
- d. Costs of Trash Control. Costs for either enhanced trash management measure implementation or installation and maintenance of trash capture devices are significant, but when spread over several years, and when viewed on a per-capita basis, are reasonable. To meet Basin Plan and local MS4 requirements, trash capture devices have already been installed by other municipalities in the Bay Area.

Cost information on various trash capture devices is included in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) BMP Trash Toolbox (July 2007). The Toolbox contains cost information for both trash capture devices and enhanced trash management measure implementation, covers a broad range of options, and also discusses operation and maintenance costs.

2. Storm Water Pump Stations. In late 2005, Regional Water Board staff investigated an occurrence of low salinity and dissolved oxygen conditions in Old Alameda Creek (Alameda County) and Alviso Slough (Santa Clara County). In the case of Old Alameda Creek, discharge of black-colored water from the Alvarado pump station to the slough was observed at the time of the data collection on September 7, 2005, confirming dry weather urban runoff as the source of the violations of the five (5) mg/L dissolved oxygen water quality objective. Such conditions were measured again on September 21, 2005.

On October 17, 2005, waters in Alviso Slough were much less saline than the salt ponds and had the lowest documented dissolved oxygen of the summer, suggesting a dry weather urban runoff source. The dissolved oxygen sag was detected surface to bottom at 2.3 mg/L at a salinity of less than one part per thousand (ppt), mid-day, when oxygen levels should be high at the surface. The sloughs have a typical depth of six feet.

Board staff's investigations of these incidents, documented in a memorandum,³² found that "storm water pump stations, universally operated by automatic float triggers, have been confirmed as the cause in at least one instance, and may represent an overlooked source of controllable pollution to the San Francisco Bay Estuary and its tidal sloughs... [that] discharges of dry weather urban runoff from these pump stations are not being managed to protect water quality, and [that] surveillance monitoring has detected measurable negative water quality consequences of this current state of pump station management."

³² Internal Water Board Memo dated December 2, 2005: "Dry Weather Urban Weather Urban Runoff Causing or Contributing to Water Quality Violations: Low Dissolved Oxygen (DO) in Old Alameda Creek and Alviso Slough."

Pump station discharges of dry weather urban runoff can cause violations of water quality objectives. These discharges are controllable point sources of pollution that are virtually unregulated. The Regional Water Board has determined that the measures included in Attachment V are necessary to address these discharges and water quality problems.

Lahontan Region

1. The Lahontan Basin Plan encourages the infiltration of storm water runoff to treat pollutants in discharges and mitigate the effects of increased runoff to surface waters from the addition of impervious surfaces. The 20-year, one-hour design storm has been historically applied and accepted as an effective requirement to mitigate discharges of storm water to surface waters in the sensitive high mountain watersheds of the Lahontan Region. Water Board staff has estimated that facilities designed to treat or infiltrate the 20-year, one-hour storm event effectively capture approximately 85 percent of the average annual runoff volume in the Lake Tahoe Basin. However, it is recognized that the natural environment provides adequate infiltration and/or treatment in areas where there is little or no connectivity to surface waters. Therefore the Lahontan Water Board encourages the Department to focus implementation of storm water treatment facilities in those areas that discharge directly to surface waters to maximize water quality benefits. This requirement is applicable to existing highways and facilities in the Mammoth Lakes Area Hydrologic Unit.
2. The Natural Environment as Treatment (NEAT) study has helped identify the priority areas within the Lake Tahoe Hydrologic Unit where storm water treatment and control measure implementation has the most benefit for water quality protection. Similarly, the NEAT study has helped identify those areas where there may be limited water quality benefits associated with implementing structural treatment and control measures. The NEAT approach is also applicable in other areas. This provision is needed to focus available resources on the areas where the most water quality benefit can be achieved.
3. The October 15 to May 1 grading prohibition is necessary to reduce erosion and sedimentation from disturbed areas within the sensitive high elevation areas within the Lahontan Region. These are areas where snow fall restricts the ability to control storm water pollution through the winter months. This requirement mitigates winter erosion issues by requiring disturbed soil areas to be winterized prior to the onset of snow, and allows for exceptions where there is a compelling need.

Regional Water Board Authorities

Regional Water Boards and their staff will oversee implementation and compliance with this Order. As appropriate, they will review reports, conduct inspections, and take enforcement actions on violations of this Order.

Cost of Compliance and Other MEP Considerations

General Cost Considerations in Storm Water Regulation and Management

The Department will incur incremental costs in implementing this Order, such as the cost of complying with the Order's storm water treatment BMP, post-construction, hydromodification, Low Impact Development, and monitoring and reporting requirements. The Department will also incur additional costs in following the iterative process as required by the Order. The cost of complying with TMDL waste load allocations is not considered since TMDLs are not subject to the MEP standard.

In adopting Order WQ 2000-11, the State Water Board found that cost is a relevant factor, among others such as feasibility and public acceptance that should be considered in determining MEP. The State Water Board considered the costs in preparing this Order and has determined that the costs reflect the MEP standard. The State Water Board further found in adopting Order WQ 2000-11 that in considering the cost of compliance, it is also important to consider the costs of impairment; that is, the negative impact of pollution on the economy and the positive impact of improved water quality. So, while it is appropriate and necessary to consider the cost of compliance, it is also important to consider the larger economic impacts of implementation of the storm water management program.

Many studies have been undertaken to assess the cost of compliance with storm water permits. Most studies have focused on municipal programs as opposed to "linear MS4s" or Departments of Transportation. A study by the Los Angeles Regional Water Board reported wide variability in the cost of compliance among municipal permit holders which was not easily explained (LARWQCB, 2003).

In 1999, U.S. EPA reported on multiple studies it conducted to determine the cost of urban runoff management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be \$9.16 per household. U.S. EPA also studied 35 Phase I municipalities, finding costs to be similar to those anticipated for Phase II municipalities, at \$9.08 per household annually (U.S. EPA, 1999a).

A program cost study was also conducted by the Los Angeles Regional Water Board, where program costs reported in the municipalities' annual reports were assessed. The Water Board estimated the average per household cost to implement the MS4 program in Los Angeles County was \$12.50.

The State Water Board also commissioned a study by California State University, Sacramento to assess costs of the Phase I MS4 program. This study is current and includes an assessment of costs incurred by the City of Encinitas in implementing its program. Annual cost per household ranged from \$18-46, with the City of Encinitas representing the upper end of the range (SWRCB, 2005). The cost of the City of Encinitas' program is understandable, given the city's coastal location, reliance on tourism, and additional costs resulting from a consent decree with environmental groups regarding its program. For these reasons, as well as the general recognition the city receives for implementing a superior program, the city's program cost can be considered as the high end of the spectrum for municipal storm water management program costs.

The California Department of Finance (Finance, 2003) conducted a comprehensive review of the Department's storm water program. Finance noted widely divergent compliance cost estimates produced by regulators and environmental organizations versus consultant's estimates. Finance also had difficulty identifying compliance costs because of the way storm water activities are integrated with other functions and allocated among the different divisions within the Department, and because they are funded from different sources. Finance made three findings related to cost:

- The projected costs of compliance are escalating.
- Storm water compliance costs are integrated into many of the Department's business processes and are not accurately tracked.
- As storm water compliance costs increase, the amount of funding available for highway projects decreases, which reduces the number of projects that can be constructed.

The review concluded that balancing costs and benefits is a difficult policy decision and there should be a recognition of the trade-offs associated with resource allocation decisions given the Department's limited resources.

It is important to note that storm water program costs are not all attributable to compliance with MS4 permits. Many program components and their associated costs existed before any MS4 permits were issued. For example, for the Department, storm drain maintenance, street sweeping and trash/litter collection costs cannot be solely or even principally attributable to MS4 permit compliance since these practices have long been implemented before the MS4 permit was issued. Even many structural BMPs (erosion protection, energy dissipation devices, detention basins etc.) are standard engineering practice for many projects and are not implemented solely to comply with permit provisions. Therefore, the true cost resulting from MS4 permit requirements is some fraction of the cost to operate and maintain the highway system.

The California State University, Sacramento study found that only 38 percent of program costs are new costs fully attributable to MS4 permits. The remainder of program costs was either pre-existing or resulted from enhancement of pre-existing programs (SWRCB, 2005). The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement its Drainage Area Management Plan is less than 20 percent of the total budget. The remaining 80 percent is attributable to pre-existing programs (County of Orange, 2007). Any increase in cost to the Department by the requirements of this Order will be incremental in nature.

Storm water management programs cannot be considered solely in terms of their costs. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by U.S. EPA to be \$158-210 per household (U.S. EPA, 1999a). This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates U.S. EPA's estimates, reporting annual

household willingness to pay for statewide clean water to be \$180 (SWRCB, 2005). Though these costs may be assessed differently at the state level (for the Department) than at the municipal level, the results indicate that there is public support for storm water management programs and that costs incurred by the Department to implement its storm water management program remain reasonable.

It is also important to consider the cost of not implementing a storm water management program. Urban runoff in southern California has been found to cause illness in people bathing near storm drains (Haile et al., 1996). A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8 percent among bathers at those beaches resulted in about \$3 million annually in health-related expenses (Lin, 2005). Extrapolation of such numbers to the beaches and other water contact recreation areas in the state would increase these numbers significantly.

Storm water runoff and its impact on receiving waters also impacts the tourism industry. The California Travel and Tourism Commission (2009) estimated that in 2008 direct travel spending in California was \$97.6 billion directly supporting 924,000 jobs, with earnings of \$30.6 billion. Travel spending in 2008 generated \$1.6 billion in local taxes and \$2.8 billion in state taxes. Impacts on tourism from storm water runoff (e.g. beach closures) can have a significant impact on the economy. The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately eight miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

Cost Considerations Relative to the Department

In written comments and before the Board, the Department has stated that the requirements of the first public drafts would impose prohibitive costs on the Department at a time of economic difficulty and limited resources. State Water Board staff has carefully considered the Department's comments and revised the draft Tentative Order to continue to address critical water quality problems in consideration of the cost of compliance.

State Water Board staff completed a Draft Tentative Order and submitted it to the Department, U.S. EPA, and the Natural Resources Defense Council for informal stakeholder review in the fall of 2010. Further review was provided by the Regional Water Boards. Staff revised the Draft Tentative Order to address the informal comments received and released it for public review on January 7, 2011 (Draft Tentative Order). Approximately 330 comments from 16 commenters were received on the Draft Tentative Order, and a public hearing was held on July 19, 2011. Staff further revised the Draft Tentative Order and released a Revised Draft Tentative Order on August 18, 2011 (Revised Draft Tentative Order). Approximately 220 comments from 33 commenters were received on the Revised Draft Tentative Order, and a State Water Board workshop was held on September 21, 2011. In each set of comments and before the Board, the Department expressed significant concerns with the cost of compliance with the Tentative Orders.

On October 6, 2011, the California Senate Select Committee on California Job Creation and Retention held a hearing on the economic impacts of the State Water Board's three general or statewide storm water permits that were under renewal: the Phase II Small MS4 permit, the Industrial General Permit, and the Department's MS4 permit. The Executive Director of the State Water Board testified at the hearing that the comments regarding cost of compliance with the permits were being considered carefully and that the three permits required substantial revision to address the comments. State Water Board staff held bi-weekly meetings with the Department in October through December 2011 to discuss their concerns. Revisions resulting from these meetings are contained in the Second Revised Draft Tentative Order which was released for public review on April 27, 2012 (Second Revised Draft Tentative Order).

This section is a general discussion of the cost of compliance with the Second Revised Draft Tentative Order and of current expenditures by the Department to comply with the existing permit (Order 99-06-DWQ) (Existing Permit). It also discusses the more significant changes between the Revised Draft and Second Revised Draft Tentative Orders.

It is very difficult to precisely determine the true cost of implementation of the Department's storm water management program as affected by this Order. Due to the extensive, distributed nature of the Department's MS4, permit requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined, and the difficulty in isolating program costs attributable to permit compliance, only general conclusions can be drawn from this information.

The Department has made a number of estimates of the cost of complying with the Draft and Revised Draft Tentative Orders. Generally, the Department's estimates are based on worst-case scenarios or the most restrictive interpretation of the Tentative Orders. In a presentation to a meeting of the American Association of State Highway and Transportation Officials (AASHTO) on June 22, 2011,³³ the Department's Chief Environmental Engineer, Scott McGowen estimated the annual cost of compliance at \$281million. This estimate was based on the January 7, 2011 Draft Tentative Order. At the July 19, 2011 public hearing, the Department estimated the annual compliance cost at approximately \$450 million, based on the same January 7, 2011 Draft Tentative Order. At the September 21, 2011 State Water Board workshop, the Department estimated an annual compliance cost of \$904 million, based on the requirements of the August 18, 2011 Revised Draft Tentative Order. It should be noted that the August 18 draft removed or modified a number of provisions that were expected to reduce the cost of compliance.

Annual expenditures for the Department's storm water management program under the Existing Permit (DWQ 99-06) are provided in the Department's annual reports. For fiscal years 2007-08 through 2010-11, the Department reported annual personal services and

³³ Caltrans NPDES Tentative Order, Natural Systems and Ecological Communities Subcommittee at the National Planning and Environmental Practitioners Meeting. AASHTO, June 22, 2011.

operating expenses of \$93.8 million, \$93.6 million, \$75.2 million, and \$89.2 million. These figures do not include the cost of capital improvements needed to comply with the permit.

State Water Board staff estimated the capital expenditures for the Existing Permit in two ways. First, the Department provided the number of post-construction storm water treatment BMPs installed in 2009-10 and 2010-11 along with typical unit costs for each BMP. In 2007-08, the Department spent approximately \$74.7 million for 396 treatment BMPs, \$104.5 million in 2009-10 for 667 treatment BMPs, and \$75.7 million in 2010-11 for 506 treatment BMPs. The Department indicated that anomalies in the data for 2008-09 make them unreliable and they are therefore not included. The Department also indicated that the unit cost factors do not include costs for design, ROW and other related elements. The estimates therefore can be considered on the low side.

Second, capital expenditures were estimated from budget appropriations from the Department's State Highway Operation and Protection Program (SHOPP) as reported in the 2008-09 annual report. The SHOPP account is the primary source of funding for storm water-related capital expenses. Storm water compliance costs are not consistently reported in the annual reports; however, the 2008-09 annual report contains sufficient information to make an estimate. The capital value of the SHOPP "storm water mitigation element" for fiscal years 2009-10 through 2012-13 is \$640 million, including capital outlay support, or about \$160 million per year.

Using average personal services and operating expenses for the last four years (\$88 million) and average annual programmed SHOPP funding, the Department's expenditures to comply with the Existing Permit amount to approximately \$248 million.

As stated above, the Department has estimated cost of compliance with the Draft Tentative and Revised Draft Tentative Orders variously at \$281 to \$904 million. These estimates are based on "worst case scenarios" and on the most restrictive interpretations of the Orders' requirements. In preparing the Second Revised Tentative Order, staff worked to provide greater clarity and certainty to the Department on the scope of permit obligations and to eliminate compliance costs that were not expected to yield significant water quality benefits. With the exception of a lowering of the post-construction treatment threshold for non-highway facility projects from 10,000 square feet of new impervious surface to 5,000 square feet³⁴, no requirements have been added to the Second Revised Draft Tentative Order that would materially increase the cost of compliance over the Revised Draft Tentative Order. In contrast, a number of substantive requirements have been removed, replaced or modified from the Revised Draft Tentative Order with the goal of focusing the Department's limited resources on the most significant water quality issues. These changes are expected to result in a lower cost of compliance with the Second Revised Draft Tentative Order as compared to the Revised Tentative Order. These include:

³⁴ The threshold was lowered for consistency with the draft statewide Phase II Small MS4 General Permit and with regional MS4 permits.

1. Water quality monitoring program.
 - a. Replaced random compliance-driven monitoring approach with a tiered approach focusing on ASBS and TMDL watersheds, and deferring to the monitoring requirements specified in the ASBS Special Protections and TMDLs.
 - b. Deleted sampling pool, water quality action levels, and response process flow chart.
 - c. Removed 29 constituents from the monitoring constituent list.
 - d. Limited the monitoring for new constituents to TMDL watersheds.
 - e. For sites with existing monitoring data, limited BMP retrofits to 15 percent of the highest priority sites.
 - f. Deleted the long-term monitoring program.
 - g. Deleted maintenance facility compliance monitoring.
2. Project Planning and Design.
 - a. Raised the treatment threshold for highway projects from 5,000 square feet of new impervious surface to one acre.
 - b. Deleted the requirement for pilot Low Impact Development retrofits and effectiveness evaluations.
3. Hydromodification.
 - a. Removed requirement for programmatic stream stability assessments and a retrofit implementation schedule.
 - b. Raised the risk assessment threshold for non-highway facility projects from 10,000 square feet of new impervious surface to one acre.
4. Region Specific Requirements – removed, modified or scaled back requirements for the San Francisco Bay, Los Angeles, Central Valley, Lahontan, and San Diego Regional Water Boards with the goal of maximizing statewide consistency of requirements for the Department.
5. Construction Program – replaced requirement to inspect contractor operations outside the ROW with a requirement to include compliance language in its construction contracts.
6. TMDLs – Revised Attachment IV to more precisely identify the TMDLs applicable to the Department and shifted responsibility to prepare TMDL implementation plans from the Department to the Regional Water Boards.
7. ASBS – Added Attachment III to identify priority Department ASBS outfalls for installation of controls.
8. Maintenance Program.
 - a. Deleted the requirement to report the amount of waste and debris removed from drainage inlets.
 - b. Replaced the site-by-site characterization of waste management sites with a programmatic characterization.
 - c. Deleted the requirement to prepare and implement a storm drain system survey plan.

- d. Replaced quantitative measurements of trash and litter removal with estimated annual volumes.

9. Non-Storm Water.

- a. Deleted surveillance monitoring of agricultural return flows.
- b. Deleted characterization monitoring of slope lateral drains.

Though no firm conclusions or precise estimates can be drawn from this analysis, it is expected that the revisions to the Revised Draft Tentative Order will significantly reduce the cost of compliance.

ATTACHMENT I

Incident Report Form

Type of incident: <input type="checkbox"/> Field <input type="checkbox"/> Administrative	
Name of person completing this form: _____	Person's agency name and address:
	Person's phone and e-mail:

For Field incidents complete Sections 1 and 3. For Administrative incidents complete Section 2. See Non-Compliance Notification Schedule on Page 2.

SECTION 1: Field incidents

Date(s) and time(s) of incident:	1. Start date / time:
	2. End date / time:
Location of Incident: County: _____	3. Nearest city / town:
	4. Street address / nearest cross street:
	5. Latitude / Longitude:
	6. Additional location detail:
Materials involved in the incident: (use Comments Section below if necessary):	6. Name(s) of material(s) discharged:
	7. Approximate quantity discharged (specify units):
	8. Approximate concentration of material:
Discharge to surface water? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, answer questions 9-11	9. Name of waterbody:
	10. Apparent effects (if any) on waterbody:
	11. Estimated extent of impacts to waterbody:
Was CalEMA notified? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, answer questions 12-14	12. Date and time of notification:
	13. Name of person making the notification:
	14. Phone number of person making the notification:
Was the Regional Water Board (RWB) notified? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, answer questions 15-17	15. Name of RWB contact:
	16. RWB contact's phone / e-mail:
	17. Name of person making the notification:
Were downgradient communities / people notified? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, answer questions 18 - 20	18. Date and time of notification:
	19. Name of person making the notification:
	20. Phone number of person making the notification:
	21. Name of downgradient community/ person:

Field Non-Compliance (check all that apply)

	Lack of BMP(s), ineffective implementation of BMP(s), or failure of BMP(s) resulted in a discharge of pollutants to surface water.
	Monitoring data indicates an exceedance of a defined standard. Defined standards include TMDL Waste Load Allocations, and water quality standards in the Water Quality Control Plans and promulgated policies and regulations of the State and Regional Water Boards, including California Ocean Plan limitations and prohibitions.
	Discharge of prohibited non-storm water.
	Failure to comply with Facility Pollution Prevention Plan (FPPP) requirements.
	Failure to comply with inspection, monitoring, and reporting requirements and protocols.
	Other (describe - use Comments Section below if needed):

SECTION 2: Administrative Non-Compliance (check all that apply)

	Failure to submit reports or documents required by the Permit and/or SWMP, failure of timely submittal, and/or failure to submit required information.
	Failure to develop and/or maintain a site-specific FPPP or to implement any other procedural requirement of the Permit.
	Other (describe - use Comments Section below if needed):

SECTION 3: Description of Incident

Activities in the area prior to the incident (If any):
Initial assessment of any impact caused by the discharge (If any):
Samples collected and analyses requested (If any):
Steps taken to mitigate damage and prevent reoccurrence (If any):
Current Status:
Schedule for proposed mitigation/abatement (If any):
Other Comments:

Non-Compliance Notification Schedule

Type of Incident	Within 5 Working Days (Verbal)	Within 10 Working Days (Written)	Within 30 Calendar Days (Written)	In Annual Report
Emergency Incidents ¹	—	—	—	Chronological summary and status of all incidents
Field ²	Notify RWB Executive Officer	To RWB Executive Officer and copies to Dept. HQ	—	Chronological summary and status of all incidents
Administrative ³	Notify RWB Executive Officer or SWB Contact ³	—	To RWB Executive Officer, SWB Executive Director, and copies to Dept. HQ.	Chronological summary and status of all incidents

¹ Sudden, unexpected, unpreventable incidents that threaten public health, public safety, property, or the environment that pose a clear and imminent danger requiring immediate action to prevent or mitigate the damage or threat, and that result in a discharge or potential discharge.

² Failure to meet any non-administrative requirement of the SWMP or Permit or to meet any applicable water quality standard. This includes failure to install required BMPs or conduct required monitoring or maintenance. It also includes discharges or prohibited non-storm water that do not meet the definition of emergency incidents. It does not include determinations by the Department or a Regional Water Board Executive Officer that a discharge is causing or contributing to an exceedance of an applicable WQS. See provision E.2.c.6)c).

³ Failure to meet any administrative or procedural requirement of the SWMP or Permit including submission of required reports, notifications and certifications. The report of non-compliance shall be submitted to the same organization (State or Regional Water Board) to which the required report was originally due.

<i>Certification – I certify that under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>			
Signature of Contractor (if applicable)	Title	Telephone	Date:
Signature of Department Representative	Title	Telephone	Date:

ATTACHMENT II

Monitoring Constituent List

(Not Applicable to ASBS Discharges)

Constituent	Analytical Method	Reporting Limit ³⁵	Units
<i>WATER COLUMN CHEMISTRY</i>			
Conventional Pollutants			
Hardness as CaCO ₃	SM 2340 B or C	5	mg/L
pH	Calibrated Field Instrument		pH Units
Temperature	Calibrated Field Instrument		C +/-
Flow Rate	Calibrated Field Instrument		ft ³ /s
Total Dissolved Solids	EPA 160.1	1	mg/L
Total Suspended Solids	EPA 160.2	1	mg/L
Hydrocarbons			
Oil & Grease	EPA 1664B	1.4	mg/L
Polycyclic Aromatic Hydrocarbons (Total)	EPA 8310	0.05	µg/L
Nutrients			
Total Kjeldahl Nitrogen (TKN)	EPA 351.3	100	µg/L
Nitrate as Nitrogen (NO ₃ -N)	EPA 300.0	100	µg/L
Phosphorous (Total)	EPA 365.2	30	µg/L
Metals			
Aluminum (Total)	EPA 200.8	25	µg/L
Chromium (Total)	EPA 200.8	1	µg/L
Copper (Total)	EPA 200.8	1	µg/L
Iron (Total)	EPA 200.8	1	µg/L
Lead (Total)	EPA 200.8	1	µg/L
Zinc (Total)	EPA 200.8	5	µg/L
Microbiological			
Fecal Coliform	SM 9221 C E	2	MPN/100 mL
Enterococcus ³⁶	EPA 1600	2	CFU/100 mL
<i>WATER COLUMN TOXICITY</i>			
Chronic ³⁷	EPA 821-R-02-013	Pass/Fail	

³⁵ Reporting limits should be sufficient enough to detect the presence of a constituent based on the applicable Regional Water Board Basin Plan. If no limit is specified in the Basin Plan, the reporting limit specified in this table will be used. If no limit is specified in this table, then the Regional Boards shall be consulted.

³⁶ Only applicable for direct discharges to marine waters. See definition of direct discharges and indirect discharges in Attachment VIII (glossary).

³⁷ To calculate either a Pass or Fail of the effluent concentration chronic toxicity test at the IWC, the instructions in Appendix A in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA/833-R-10-003) shall be used.

ATTACHMENT II

ASBS Monitoring

TABLE A
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Grease and Oil	mg/L
Suspended Solids	mg/L
Settleable Solids	mL/L
Turbidity	NTU
PH	

TABLE B
Monitoring Constituent List
(excerpted from California Ocean Plan dated 2009)

Constituent	Units
Arsenic	µg/L
Cadmium	µg/L
Chromium	µg/L
Copper	µg/L
Lead	µg/L
Mercury	µg/L
Nickel	µg/L
Selenium	µg/L
Silver	µg/L
Zinc	µg/L
Cyanide	µg/L
Total Chlorine Residual	µg/L
Ammonia (as N)	µg/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	µg/L
Chlorinated Phenolics	µg/L
Endosulfan	µg/L
Endrin	µg/L
HCH	µg/L

Analytical Chemistry Methods: All constituents shall be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, shall be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

ATTACHMENT III

ASBS PRIORITY DISCHARGE LOCATIONS

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
SAU020A	1	Saunders Reef	-123.65273	38.85916
SAU019A	1	Saunders Reef	-123.6528	38.86067
SAU016A	1	Saunders Reef	-123.65237	38.85849
SAU015	1	Saunders Reef	-123.65178	38.85612
SAU013A	1	Saunders Reef	-123.6514	38.85451
SAU014	1	Saunders Reef	-123.6517	38.8551
SAU011A	1	Saunders Reef	-123.64853	38.8527
SAU008	1	Saunders Reef	-123.6478	38.8521
SAU006A	1	Saunders Reef	-123.64777	38.85186
SAU009A	1	Saunders Reef	-123.64809	38.85254
RED023	1	Redwoods National Park	-124.1017	41.60527
RED027	1	Redwoods National Park	-124.10126	41.59657
RED028	1	Redwoods National Park	-124.10101	41.59729
RED018A	1	Redwoods National Park	-124.1061	41.613
RED015	1	Redwoods National Park	-124.11257	41.62928
RED014	1	Redwoods National Park	-124.11296	41.63059
RED017A	1	Redwoods National Park	-124.10571	41.61195
FIT012	2	James V. Fitzgerald	-122.516861	37.531406
ANO030	3	Ano Nuevo	-122.30121	37.11334
ANO033	3	Ano Nuevo	-122.29881	37.11202
ANO001	3	Ano Nuevo	-122.306364	37.121672
ANO002	3	Ano Nuevo	-122.30534	37.11987
ANO035	3	Ano Nuevo	-122.29297	37.10714
ALT004	4	Laguna Point to Latigo Point	-119.059097	34.08609
MUG005	4	Laguna Point to Latigo Point	-119.03821	34.083896
ALT005	4	Laguna Point to Latigo Point	-119.054291	34.085415
ALT006	4	Laguna Point to Latigo Point	-119.048653	34.085361
MUG008	4	Laguna Point to Latigo Point	-119.036389	34.083644
MUG010	4	Laguna Point to Latigo Point	-119.014826	34.070804
MUG013	4	Laguna Point to Latigo Point	-118.993551	34.065445
MUG016	4	Laguna Point to Latigo Point	-118.987069	34.062852
ALT008	4	Laguna Point to Latigo Point	-118.985931	34.062325

ATTACHMENT III

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
MUG028	4	Laguna Point to Latigo Point	-118.974165	34.058928
ALT009	4	Laguna Point to Latigo Point	-118.975975	34.059978
MUG031	4	Laguna Point to Latigo Point	-118.968706	34.056265
MUG041	4	Laguna Point to Latigo Point	-118.964271	34.053461
MUG046	4	Laguna Point to Latigo Point	-118.960862	34.052112
MUG048	4	Laguna Point to Latigo Point	-118.9594833	34.05172
MUG049	4	Laguna Point to Latigo Point	-118.9594333	34.05165
MUG051	4	Laguna Point to Latigo Point	-118.957316	34.050937
ALT011	4	Laguna Point to Latigo Point	-118.939404	34.045355
MUG053	4	Laguna Point to Latigo Point	-118.95539	34.050248
MUG059	4	Laguna Point to Latigo Point	-118.9515	34.048835
MUG058	4	Laguna Point to Latigo Point	-118.95042	34.048355
ALT010	4	Laguna Point to Latigo Point	-118.948184	34.047873
MUG061	4	Laguna Point to Latigo Point	-118.94834	34.047675
MUG077	4	Laguna Point to Latigo Point	-118.9345833	34.04513
MUG078	4	Laguna Point to Latigo Point	-118.934358	34.045431
MUG070	4	Laguna Point to Latigo Point	-118.9320000	34.04600
MUG066	4	Laguna Point to Latigo Point	-118.924654	34.04714
MUG073	4	Laguna Point to Latigo Point	-118.922723	34.046418
MUG135	4	Laguna Point to Latigo Point	-118.897426	34.041983
MUG147	4	Laguna Point to Latigo Point	-118.894154	34.041553
MUG150	4	Laguna Point to Latigo Point	-118.889212	34.040872
MUG187	4	Laguna Point to Latigo Point	-118.869505	34.039285
SAD0950	4	Laguna Point to Latigo Point	-118.8385500	34.02699
SAD0960	4	Laguna Point to Latigo Point	-118.8375000	34.02619
SAD0970	4	Laguna Point to Latigo Point	-118.8364600	34.02535
SAD0980	4	Laguna Point to Latigo Point	-118.8348600	34.02435
MUG318	4	Laguna Point to Latigo Point	-118.834316	34.023879
SAD0990	4	Laguna Point to Latigo Point	-118.8326600	34.02302
SAD1000	4	Laguna Point to Latigo Point	-118.8303400	34.02123
MUG355	4	Laguna Point to Latigo Point	-118.829258	34.02122

ATTACHMENT III

Sample ID	Regional Board	ASBS Name	Longitude	Latitude
SAD1030	4	Laguna Point to Latigo Point	-118.827049	34.018711
SAD1040	4	Laguna Point to Latigo Point	-118.8256600	34.01748
SAD1050	4	Laguna Point to Latigo Point	-118.8249200	34.01700
SAD1060	4	Laguna Point to Latigo Point	-118.8225400	34.01559
ALT017	4	Laguna Point to Latigo Point	-118.777059	34.025805
MUG346	4	Laguna Point to Latigo Point	-118.783588	34.02508
MUG283	4	Laguna Point to Latigo Point	-118.765915	34.02589
IRV020	8	Irvine Coast	-117.840190	33.576001
IRV009	8	Irvine Coast	-117.830393	33.566251
IRV007	8	Irvine Coast	-117.828078	33.565343
IRV001	8	Irvine Coast	-117.81858	33.558
IRV002	8	Irvine Coast	-117.821484	33.560705
CAR007B	3	Carmel Bay	-121.923798	36.52499
CAR006	3	Carmel Bay	-121.92457	36.52469

ATTACHMENT IV

Total Maximum Daily Load Requirements

Attachment IV prescribes the implementation requirements for the Total Maximum Daily Loads (TMDLs) in which the Department of Transportation (Department) has been identified as a responsible party. The TMDLs in this attachment have been (1) adopted by the Regional Water Quality Control Boards (Regional Water Boards) and approved by the State Water Resources Control Board (State Water Board) and the Office of Administrative Law or the United States Environmental Protection Agency (U.S. EPA), or (2) established by U.S. EPA.

Section I of this attachment provides directions and general guidance on development of a prioritized list of reaches for implementation actions. Section II identifies the applicable TMDLs and implementation requirements. Section II also contains TMDL-specific permit requirements for the Lake Tahoe Sediment/Nutrients TMDL, Napa River Sediment TMDL, Sonoma Creek Sediment TMDL, and the Lake Elsinore and Canyon Lake Nutrients TMDL. Section III prescribes the general implementation requirements applicable to all TMDLs, and the specific requirements applicable to each pollutant category.

The TMDLs addressed in this attachment were developed by numerous parties over many years, and vary widely in their implementation requirements. As explained in further detail in the Fact Sheet for this Order, Attachment IV establishes consistent implementation requirements among the TMDLs by separating them into one of eight categories by pollutant type, based upon the common treatment and control actions associated with each pollutant type. Each impaired waterbody will be prioritized for implementation by reach, with a fixed number of “compliance units” that must be achieved each year so that all TMDLs are addressed in 20 years. Effectiveness monitoring of the treatment and control actions is required to inform an adaptive management process.

The following eight TMDL pollutant categories have been established for TMDL implementation³⁸:

1. Sediment/Nutrients/Mercury/Siltation/Turbidity
2. Metals/Toxics/Pesticides
3. Trash
4. Bacteria
5. Diazinon
6. Selenium
7. Temperature
8. Chloride

The Department shall comply with the requirements of Attachment IV. These requirements are directly enforceable through Order 2012-0011-DWQ (Order).

³⁸ Some TMDLs containing multiple pollutants have been separated according to the categories that best address the individual pollutants.

ATTACHMENT IV

Section I. TMDL Prioritization and Implementation

A. Reach Prioritization for Pollutant Categories

The Department shall prioritize all TMDLs for implementation of source control measures and best management practices (BMPs). Prioritization shall be consistent with the final TMDL deadlines to the extent feasible. Prioritization shall be conducted separately for each pollutant category and shall be based on an evaluation of each reach of applicable receiving waters within the watershed with a TMDL. The Department shall conduct the prioritization using the following five steps:

1. Complete an inventory of reaches. If reaches are defined in a TMDL, the Department may use that delineation for developing the inventory. If no reaches are specified in the TMDL, the Department shall delineate the receiving water into reaches.
2. Segregate the inventory of reaches according to the pollutant categories listed below in Section III, B through I (Categorical Inventories of Reaches). Individual reaches may be present in multiple pollutant categories.
3. Rank the reaches in each TMDL category in accordance with a procedure similar to that presented in Table IV.1. below.
4. Submit the prioritized Categorical Inventories of Reaches to the State Water Board **by October 1, 2014**, for Regional Water Board and State Water Board consideration. The State Water Board will provide public notice of the submission and the submission will be subject to a 30-day public comment period.
5. The Department shall collaborate with the State Water Board and Regional Water Boards on a final prioritization for each of the Categorical Inventories of Reaches. Factors that may be considered in the final prioritization will include, but not be limited to:
 - a. Opportunities for synergistic benefits with existing or anticipated projects or activities within the reach, e.g., cooperative efforts with other dischargers or projects within an ASBS,
 - b. Multiple TMDLs that can be addressed by a single BMP or a suite of BMPs within a reach,
 - c. TMDL deadlines specified in a Basin Plan,
 - d. Regional Water Board and State Water Board priorities,
 - e. Accessibility for construction and/or maintenance (e.g., safety considerations), and
 - f. Multi-benefit projects that provide benefits in addition to water quality improvement, such as groundwater recharge or habitat enhancement.

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B. Implementation

Following completion of the process described in Section I.A, the State Water Board Executive Director will approve, with any changes, the final prioritized Categorical Inventories of Reaches. The Department shall then select and begin implementation actions, as specified in Sections II and III, within the highest priority reaches to achieve at least the minimum number of compliance units as described below.

1. The Department shall include the following information regarding implementation of control measures in the selected reaches for the upcoming reporting period in the **TMDL STATUS REVIEW REPORT**, as required in Section E.4.b. of the Order:
 - a. Name of the waterbody,
 - b. Associated TMDL(s),
 - c. Proposed control measures,
 - d. Proposed number of compliance units per control measure, and
 - e. Projected schedule for installation of control measures with anticipated beginning and ending dates.

2. The Department shall also include in the **TMDL STATUS REVIEW REPORT**³⁹ a discussion of previous years' activities including:
 - a. The status of implementation activities,
 - b. The location of the control measures,
 - c. The size and type of BMPs that were installed,
 - d. The effectiveness of the BMPs installed, including any pertinent monitoring data (e.g., influent vs. effluent data),
 - e. A summary update of any cooperative implementation agreements (see Attachment IV, section II.B.1), including those that are solely for each TMDL,
 - f. A summary update of activities and/or actions that have been completed for any cooperative implementation agreement for each TMDL,
 - g. A summary update of projects initiated under the cooperative implementation grant program (see Attachment IV, section II.B.2),
 - h. A summary update of activities and/or actions that have been completed for any projects under the cooperative implementation grant program,
 - i. A summary of institutional control measures implemented to comply with Attachment IV,
 - j. A summary of TMDLs adopted during the past year where the Department is assigned a WLA or the Department is identified as a responsible party in the implementation plan,
 - k. A discussion, supported by data and analysis, of whether the Department considers work in the reach complete because it has met WLAs and other TMDL performance criteria, and

³⁹ Per section III.A.3.a of this attachment, by January 1, 2015, the Department shall submit the required information regarding planned implementation of control measures for the first upcoming reporting period (after permit amendment per Order WQ 2014-0077-DWQ) of January 1, 2015 – October 1, 2015.

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- I. Any other information requested by the State Water Board Executive Director or designee.

Control measures and implementation schedules proposed for the upcoming year are subject to the approval of the Executive Director of the State Water Board or designee.

3. Each year the Department shall select and begin implementation activities within the highest priority reaches to achieve a minimum of 1650 compliance units. A compliance unit is defined as one acre of the Department's Right-of-Way (ROW) from which the runoff is retained, treated, and/or otherwise controlled prior to discharge to the relevant reach. Compliance units may be credited to the Department for the following actions:
 - stand-alone BMP retrofits,
 - cooperative implementation,
 - monitoring program-related retrofits,
 - post-construction treatment beyond permit requirements, and
 - other pollution reduction practices necessary to comply with the TMDL.

Compliance units, unless specifically stated below, are credited only when the Department begins implementation of an action listed above.⁴⁰ Once compliance units have been credited for a site, the Department may not receive credit for additional compliance units at that location for additional activities or corrective measures needed to bring the site into compliance. See Section III.A.2. Credit may be received, however, for new activities within the same reach that do not treat the runoff from a site that has already received treatment.

4. The Department may receive credit for compliance units by contributing funds to Cooperative Implementation Agreements and/or the Cooperative Implementation Grant Program (see Section II.B. below). The Department may receive credit for one compliance unit for each \$88,000 that it contributes. For Cooperative Implementation Agreements, the credit will be received when the Department transfers the funds to a responsible party. For the Cooperative Implementation Grant Program, the credit will be received when the Department transfers the funds to the State Water Board.
5. No credit will be given to post-construction BMPs that only meet the minimum requirements of this Order (Section E.2.d.2)a)). Other projects within a TMDL watershed where treatment is provided above and beyond the post-construction requirements in this Order, may receive compliance units according to the following formula:

⁴⁰ For purposes of Section I.B of this attachment, implementation means that a project has entered the Project Initiation Document (PID) phase, the process used by the Department to explain the scope, funding commitment, and approval of a transportation project (<http://www.dot.ca.gov/hq/oppd/pdpm/other/PDPM-Chapters.pdf>).

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$$[(V_t - V_o) / p_{85}] * 12 = \text{acres treated (compliance units calculated to the nearest 0.1)}$$

Where, V_t = Planned volume of runoff to be treated (acre-ft.),

V_o = Volume of runoff from 85th percentile, 24-hour storm event (acre-ft.),

p_{85} = depth of the 85th percentile, 24-hour storm event (inches).

Table IV.1 – Reach Prioritization Scoring Matrix

The rating factors in this table are intended as guidance. Each pollutant category will be ranked separately.

Rating Factor	Criteria		
	<u>High</u>	<u>Medium</u>	<u>Low</u>
Impairment Status: Percent reduction needed	Over 75%	25% - 75%	Below 25%
Department's Drainage Area Contributing to the Reach	Over 5% of drainage area	Between 1% and 5% of drainage area	Less than 1% of drainage area
Proximity to Receiving Waters	Over 75% of ROW within 0.25 miles of reach	Between 25% and 75% of ROW within 0.25 miles of reach	Less than 25% of ROW within 0.25 miles of reach
Community Environmental Health Impact	Top 3 categories	Middle 4 categories	Lower 3 categories

Impairment Status

The degree of impairment of the waterbody, measured by the percent pollution reduction needed to achieve the WLA. Reaches with higher degrees of impairment will be given higher priority. Consider all sources of impairment when making this determination.

Department's Contributing Drainage Area

The contributing drainage area from the Department's ROW is relative to the watershed draining to the reach.

Proximity to Receiving Waters

This rating factor measures the relative proximity of the Department's ROW to the reach of the water that receives runoff from the Department's ROW. Sites discharging through conveyances within 0.25 miles of the pertinent reach are considered to have greater potential to contribute pollutants and receive a higher rating.

Community Environmental Health Impact

This rating factor requires use of the California Office of Health Hazard Assessment (OEHHA) evaluation tool "Enviroscreen" which can be found at <http://oehha.ca.gov/ej/ces11.html>. This tool should be used to assess environmental justice issues. Outcomes are segregated into 10 categories ranging from low to high environmental justice scores. Higher scores indicate that there is a higher potential for environmental justice issues to be present at a site.

ATTACHMENT IV

Section II. Applicable TMDLs and Implementation Requirements

A. For each reach for which the Department has committed to begin implementation actions in accordance with Section I of this attachment, the Department shall do one of the following:

1. Implement the requirements in Table IV.2 applicable to that reach ensuring that all BMPs installed meet the minimum requirements specified in the following permit sections:
 - E.2.d.1) (Design Pollution Prevention Best Management Practices),
 - E.2.d.2)b) (Numeric Sizing Criteria for Storm Water Treatment Control BMPs),
 - E.2.e.1) (BMP Development and Implementation, Vector Control),
 - E.2.e.2) (BMP Development and Implementation , Storm Water Treatment BMPs),
 - E.2.e.3) (BMP Development and Implementation, Wildlife), and
 - E.2.e.4) (BMP Development and Implementation, Biodegradable Materials) of this Order.

In addition, the Department shall ensure that all BMPs installed do not cause a decrease in lateral (bank) or vertical (channel bed) stability in receiving stream channels.

2. Demonstrate that it has entered into or intends to enter into a Cooperative Implementation Agreement with other parties having responsibility for the TMDL, as specified below under Cooperative Implementation Agreements.

3. Identify cooperative implementation grants that have been awarded to other parties having responsibility for the TMDL, as specified below under Cooperative Implementation Grant Program.

B. Cooperative Implementation

1. Cooperative Implementation Agreements

- a. The Department is encouraged to establish agreements for cooperative implementation efforts, such as joint implementation actions and/or special implementation studies with other parties that have responsibility for the TMDL, except where precluded by a TMDL or where specific implementation requirements are prescribed in Table IV.2. Cooperative agreements that only involve monitoring are not eligible for compliance units.
- b. Where the Department has existing cooperative implementation agreements with other responsible parties, it shall fulfill the commitments and requirements of those agreements.
- c. Where the Department has not yet committed to cooperative implementation efforts, but intends to do so, the Department must provide written notification,

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including the anticipated date of commitment, to the State Water Board in its **TMDL STATUS REVIEW REPORT**.

- d. Cooperative agreements relative to the TMDL implementation activity are subject to approval by the applicable Regional Water Board Executive Officer. Cooperative agreements shall describe the terms of the mutually agreed activities to be performed, and at a minimum shall include:
 - i. The date the cooperative agreement was approved by the Regional Water Board,
 - ii. A map showing the location of work to be performed in the reach,
 - iii. Any monitoring program parameters and responsibilities,
 - iv. Any implementation responsibilities, including BMP Operation and Maintenance,
 - v. Any funding commitments that correspond with the implementation responsibilities, and
 - vi. A termination clause upon failure to comply with the terms and conditions of the agreement, as applicable.
- e. The Department shall submit sufficient information to document the progress in achieving the requirements of the TMDL for each cooperative implementation agreement in its annual **TMDL STATUS REVIEW REPORT**. (See Section I.B.2.)
- f. If the Department is not participating or has not given notice of its intent to participate in cooperative implementation efforts, or the Department is not fulfilling its cooperative implementation responsibilities under an agreement, it shall immediately comply with applicable TMDL Control Requirements listed in Table IV-2 below and report the corresponding status in the **TMDL STATUS REVIEW REPORT**.

2. Cooperative Implementation Grant Program

- a. The Department may establish a cooperative implementation grant program to be administered by the State Water Board for TMDL watersheds.
- b. If the Department elects to establish a grant program, the Department and State Water Board will prepare an agreement specifying the terms of the grant program and the commitments and responsibilities of the parties. The Department will be responsible for paying the State Water Boards' cost of administering the grant program.
- c. Cooperative implementation grants will be used to fund capital projects undertaken by other responsible parties in impaired watersheds in which the Department has been assigned a WLA or otherwise has responsibility for implementation of the TMDL. Cooperative implementation grant applications that are consistent with the final prioritized Categorical Inventories of Reaches

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(Section I.A.5) will be given a higher priority for funding. Cooperative implementation grants will not be awarded for projects that only involve monitoring, where precluded by a TMDL, or where specific implementation requirements are prescribed in Table IV.2.

C. Consideration for Factors Affecting Implementation

Implementation may require environmental approvals and permitting from local, State, and/or federal resource agencies (e.g., California Coastal Commission, California Department of Fish and Wildlife, U.S. Army Corps of Engineers, local Flood Control agencies, local County, etc.). Other factors such as safety concerns and technical infeasibility may affect project implementation. Delays or cancellations due to environmental or permitting factors beyond the Department's control must be reported in its annual ***TMDL STATUS REVIEW REPORT***.

The State Water Board will revoke compliance units for projects not completed within the implementation schedule approved under Section I.B.1 of this attachment, unless the delay in the implementation schedule is additionally approved by the Executive Director. Partial credit may be allowed if a portion of the project is completed and functioning.

The State Water Board will revoke compliance units for unrecovered grant funds for projects that are not completed under Section II.B.2 of this attachment. Partial credit may be allowed if a portion of the project is completed and functioning. If the grant program is discontinued, any unexpended funds will be returned to the Department and the corresponding compliance units will be revoked.

Compliance units revoked shall be added to the total number of the required compliance units in following years. For example, if a project which claimed 20 compliance units is cancelled, 1670 compliance units (1650 + 20) are required to be implemented in the following year. If the grant program is discontinued, additional time may be allowed for the Department to implement the corresponding compliance units.

ATTACHMENT IV

Table IV.2. TMDL Summary Table and Control Requirements

Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R1 - North Coast Regional Water Board			
Albion River	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Big River	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Lower Eel River	Temperature and Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 18, 2007 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Middle Fork Eel River	Temperature and Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 2003 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
South Fork Eel River	Sediment and Temperature	<i>U.S. EPA Established TMDL</i> Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	Temperature and Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 29, 2004 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Garcia River	Sediment	Effective Date: March 16, 1998 BPA: 4-37.00 Action Plan for the Garcia River Watershed Resolution:	Implement Section III.A. and Section III.B.
Gualala River	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: November 29, 2004 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Klamath River in California	Temperature, Dissolved Oxygen, Nutrients, and Microcystin	Effective Date: December 28, 2010 BPA: Action Plan for Klamath River TMDLs Resolution: R1-2010-0026	Implement, Section III.A., Section III.B., Section III.H. In addition, the Department shall refer to the Section E.2.d.4) of this Order for locating, assessing, and remediating barriers to fish passage.
Lost River	Nitrogen, Biochemical Oxygen Demand to address Dissolved Oxygen and pH Impairments	Effective Date: December 30, 2008 BPA: Action Plan for Lost River TMDL Resolution: R1-2010-0026	Implement Section III.A. and Section III.B.
Mad River	Sediment and Turbidity	U.S. EPA Established TMDL Effective Date: December 21, 2007 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Navarro River	Sediment and Temperature	U.S. EPA Established TMDL Effective Date: December 27, 2000 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.H.
Noyo River	Sediment	U.S. EPA Established TMDL Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Redwood Creek	Sediment	U.S. EPA Established TMDL Effective Date: December 30, 1998 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Scott River	Sediment and Temperature	Effective Date: August 11, 2006 BPA: Action Plan for Scott River. Resolutions: R1-2005-0113 & R-2010-0026	Implement Section III.A., Section III.B., and Section III.H.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Shasta River	Dissolved Oxygen and Temperature	Effective Date: January 26, 2007 BPA: Action Plan for the Shasta River Watershed Resolution: R1-2006-0052	Implement Section III.A., Section III.B., and Section III.H.
Ten Mile River	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 2000 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Trinity River	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 20, 2001 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
South Fork Trinity River and Hayfork Creek	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 1998 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Van Duzen River and Yager Creek	Sediment	<i>U.S. EPA Established TMDL</i> Effective Date: December 16, 1999 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
R2 - San Francisco Bay Regional Water Board			
Napa River	Sediment	Effective Date: January 20, 2011 BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs Resolution: R2-2009-0064	Implement Section III.A., Section III.B., and the following: <ul style="list-style-type: none"> • Conduct a survey of stream crossings associated with Department roadways, and develop a prioritized implementation plan and schedule for repair and/or replacement of high priority crossings/culverts. • Submit plan and schedule for conducting stream crossings surveys with

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
			<p>TMDL STATUS REVIEW REPORT in accordance with Section I.B. above.</p> <ul style="list-style-type: none"> • Submit implementation plan and schedule for repair and/or replacement of high priority crossings/culverts with TMDL STATUS REVIEW REPORT in accordance with Section I.B. above.
Richardson Bay	Pathogens	Effective Date: December 18, 2009 BPA: Pathogens in Richardson Bay Resolution: R2-2008-0061	Implement Section III.A. and Section III.E.
San Francisco Bay	PCBs	Effective Date: March 29, 2010 BPA: Exhibit A & TMDL & Implementation Plan for PCBs Resolution: R1-2008-0012	Implement Section III.A. and Section III.C.
San Francisco Bay	Mercury	Effective Date: February 12, 2008 BPA : Chapter 7, SF Bay Mercury TMDL Resolution: R2-2006-0052	Implement Section III.A, Section III.B., and the following: The Department shall work out an equitable mercury WLA scheme in consultation with the San Francisco Bay Area Urban Runoff Management Agencies.
San Pedro and Pacifica State Beach	Bacteria	Effective Date: August 1, 2013 BPA – Chapter 3, Section 3.3.1 Bacteria Resolution: R2-2012-0089	Implement Section III.A. and Section III.E.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
<p align="center">Sonoma Creek</p>	<p align="center">Sediment</p>	<p>Effective Date: September 8, 2010 BPA: Exhibit A & Implementation Plan Resolution: R2-2008-0103</p>	<p>Implement Section III.A., Section III.B, and the following:</p> <ul style="list-style-type: none"> • Conduct a survey of stream crossings associated with Department roadways, and develop a prioritized implementation plan and schedule for repair and/or replacement of high priority crossings/culverts. • Submit plan and schedule for conducting stream crossings surveys with TMDL STATUS REVIEW REPORT in accordance with Section I.B. above. • Submit implementation plan and schedule for repair and/or replacement of high priority crossings/culverts with TMDL STATUS REVIEW REPORT in accordance with Section I.B. above.
<p align="center">San Francisco Bay Urban Creeks</p>	<p align="center">Diazinon & Pesticide-Related Toxicity</p>	<p>Effective Date: May 16, 2007 BPA: Chapter 3, Toxicity Resolution: R2-2005-0063</p>	<p>Implement Section III.A., Section III.C., and Section III.F.</p>

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R3 - Central Coast Regional Water Board			
San Lorenzo River (includes Carbonera Lompico, and Shingle Mill Creeks)	Sediment	Effective Date: February 19, 2004 BPA: Attachment to R3-2002-0063 Resolution: R3-2002-0063	Implement Section III.A. and Section III.B.
Morro Bay (includes Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)	Sediment	Effective Date: January 20, 2004 BPA: Attachment A to R3-2002-0051 Resolution: R3-2003-0051	Implement Section III.A. and Section III.B.
R4 - Los Angeles Regional Water Board			
Ballona Creek	Metals (Ag, Cd, Cu, Pb, & Zn) and Selenium	Effective Date: December 22, 2005 and reaffirmed on October 29, 2008 BPA: Attachment A, Chapter 7-12 Resolution: R2007-015	Implement Section III.A., Section III.C., and Section III.G.
Ballona Creek	Trash	Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3. Resolution: 2004-0023	Implement Section III.A. and Waste Load Allocation requirements and schedule as set forth in the Ballona Creek Trash TMDL.
Ballona Creek Estuary	Toxic Pollutants (Ag, Cd, Cu, Pb, Zn, Chlordane, DDTs, Total PCBs, & Total PAHs)	Effective Date: December 22, 2005 BPA: Attachment A, Chapter 7-14 Resolution: R4-2005-008	Implement Section III.A. and Section III.C.
Ballona Creek, Ballona Estuary, and Sepulveda Channel	Bacteria	Effective Date: March 26, 2007 and November 18, 2013 BPA: Attachment A, Chapter 7-21 Resolution: R4-2006-011	Implement Section III.A. and Section III.E.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Ballona Creek Wetlands	Sediment and Invasive Exotic Vegetation	U.S. EPA Established Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Calleguas Creeks, its Tributaries and Mugu Lagoon	Metals and Selenium	Effective Date: March 26, 2007 BPA: Attachment A, Chapter 7-19 Resolution: R4-2006-012	Implement Section III.A., Section III.C., and Section III.G.
Calleguas Creeks its Tributaries and Mugu Lagoon	Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation	Effective Date: March 14, 2006 BPA: Attachment A, Chapter 7-17 Resolution: R4-2005-010	Implement Section III.A., Section III.B, and Section III.C.
Colorado Lagoon	Organochlorine Pesticides, PCBs, Sediment Toxicity, PAHs, and Metals (Pb & Zn)	Effective Date: June 14, 2011 BPA: Attachment K, Chapter 7-38 Resolution: R09-005	Implement Section III.A. and Section III.C.
Dominguez Channel & Greater Los Angeles & Long Beach Harbor Waters	Toxic Pollutants: Metals (Cu, Pb, Zn), DDT, PAHs, and PCBs	Effective Date: March 23, 2012 BPA: Attachment A, Chapter 7-40 Resolution: R11-008	Implement Section III.A. and Section III.C.
Legg Lake	Trash	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-27 Resolution: R4-2007-10	Implement Section III.A. and Section III.D.
Long Beach City Beaches and Los Angeles River Estuary	Indicator Bacteria	U.S. EPA Established Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., and Section III.E.
Los Angeles Area (Echo Park Lake)	Nitrogen, Phosphorus, Chlordane, Dieldrin, PCBs, & Trash	U.S. EPA Established Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., Section III.C., and Section III.D.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Los Angeles Area (Lake Sherwood)	Mercury	U.S. EPA Established Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Los Angeles Area (North, Center, & Legg Lakes)	Nitrogen & Phosphorus	U.S. EPA Established Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Los Angeles Area (Peck Road Park Lake)	Nitrogen, Phosphorus, Chlordane, DDT, Dieldrin, PCBs, and Trash	U.S. EPA Established Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., Section III.C, and Section III.D.
Los Angeles Area (Puddingstone Reservoir)	Nitrogen, Phosphorus, Chlordane, DDT, PCBs, Hg, and Dieldrin	U.S. EPA Established Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.C.
Los Angeles River and Tributaries	Metals	Effective Date: December 22, 2005, October 29, 2008, & Reopened and Modified on November 3, 2011 BPA: Attachment A, Chapter 7-13 to 7-13 and Attachment B Resolution: R2007-014 & R10-003	Implement Section III.A. and Section III.C.
Los Angeles River	Trash	Effective Date: December 24, 2008 BPA: Attachment A, Chapter 7-2 Resolution: R4-2007-012	Implement Section III.A. and Waste Load Allocation requirements and schedule as set forth in the Los Angeles River Watershed Trash TMDL.
Los Angeles River Watershed	Bacteria	Effective Date: March 23, 2012 BPA: Attachment A, Chapter 7-39 Resolution: R10- 007	Implement Section III.A and Section III.E.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Los Cerritos	Metals	<i>U.S. EPA Established</i> Effective Date: March 17, 2010 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
Machado Lake	Eutrophic, Algae, Ammonia, and Odors (Nutrients)	Effective Date: March 11, 2009 BPA: Attachment A, to R09-006 Resolution: R08-006	Implement Section III.A. and Section III.B.
Machado Lake	Pesticides and PCBs	Effective Date: March 20, 2012 BPA: Attachment A, Chapter 7-38 Resolution: R10- 008	Implement Section III.A. and Section III.C.
Machado Lake	Trash	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-26 Resolution: R4-2007-06	Implement Section III.A. and Section III.D.
Malibu Creek Watershed	Bacteria	Effective Date: January 10, 2006, Revised on November 8, 2013 ** BPA: Attachment A, Chapter 7-10 Resolution: 2004-019R & R12-009	Implement Section III.A. and Section III.E.
Malibu Creek and Lagoon	Sedimentation and Nutrients to address Benthic Community Impairments	<i>U.S. EPA Established TMDL</i> Effective Date: July 2, 2013 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.B.
Malibu Creek Watershed	Trash	Effective Date: June 26, 2009 BPA: Attachment A, Chapter 7-31 Resolution: R4-2008-007	Implement Section III.A. and Section III.D.
Marina del Rey Harbor	Toxic Pollutants (Cu, Pb, Zn, Chlordane, and Total PCBs)	Effective Date: March 16, 2006 BPA: Attachment A, Chapter 7-18 Resolution: R4-2005-012	Implement Section III.A. and Section III.C.
Marina del Rey Harbor Mothers' Beach and Back Basins	Bacteria	Effective Date: March 18, 2004, Revised on November 7, 2013 ** BPA: Attachment A, Chapter 7-5 Resolution: 2003-012, R12-007	Implement Section III.A. and Section III.E.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Revolon Slough and Beardsley Wash	Trash	Effective Date: August 1, 2002 & February 8, 2005 BPA: Attachment A, Chapter 7-3 Resolution: 2004-0023	Implement Section III.A. and Section III.D.
San Gabriel River	Metals (Cu, Pb, Zn) and Selenium	<i>U.S. EPA Established TMDL</i> Effective Date: March 26, 2007 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.C., and Section III.G.
Santa Clara River Estuary and Reaches 3, 5, 6, and 7	Coliform	Effective Date: January 13, 2012 BPA: Attachment A, Chapter 7-36 Resolution: R10-006	Implement Section III.A. and Section III.E.
Santa Clara River Reach 3	Chloride	Effective Date: December 11, 2008 BPA: Attachment B to Resolution No. R4-2008-012 & R4-2008-012	Implement Section III.A. and Section III.I.
Santa Monica Bay Beaches	Bacteria	Effective Date: June 19, 2003, Revised November 7, 2013 ** BPA: Attachment A, Revised in Chapter 7-4 Resolution: 2003-012, R12-007	Implement Section III.A. and Section III.E.
Santa Monica Bay	DDTs and PCBs	<i>U.S. EPA Established TMDL</i> Effective Date: March 26, 2012 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
Santa Monica Bay Nearshore & Offshore	Debris (trash & plastic pellets)	Effective Date: March 20, 2012 BPA: Attachment A, Chapter 7 Resolution:	Implement Section III.A. and Section III.D.
Upper Santa Clara River	Chloride	Effective Date: April 6, 2010 BPA: Attachment B. Chapter 7-6 Resolution: R4-2008-012	Implement Section III.A. and Section III.I.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
Ventura River Estuary	Trash	Effective Date: February 27, 2008 BPA: Attachment A, Chapter 7-25 Resolution: R4-2007-008	Implement Section III.A. and Section III.D.
Ventura River and its Tributaries	Algae, Eutrophic Conditions, and Nutrients	Effective Date: June 28, 2013 BPA: Attachment A, Chapter 7-35 Resolution: R12-011	Implement Section III.A. and Section III.B.
R5 - Central Valley Regional Water Board			
Clear Lake	Nutrients	Effective Date: September 21, 2007 BPA: Attachment 1 to R5-2006-0060 Resolution No.: R5-2006-0060	Implement Section III.A. and Section III.B.
Cache Creek, Bear Creek, Sulphur Creek and Harley Gulch	Mercury	Effective Date: February 7, 2007 BPA: Attachment 1 to R5-2005-0146 Resolution: R5-2005-0146	Implement Section III.A. and Section III.B.
Sacramento-San Joaquin River Delta Estuary	Methyl mercury	Effective Date: October 20, 2011 BPA: Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento – San Joaquin River Delta Estuary Resolution: R5-2010-0043.	Implement Section III.A. and Section III.B.
R6 - Lahontan Regional Water Board			
<p>Lake Tahoe Sediment and Nutrients TMDL Effective Date: August 16, 2011 BPA: WQ Amendment May 2008 Resolution: 2009-0028</p> <p>Lake Tahoe Sediment Requirements A. Pollutant Load Reduction Requirements The Department must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by September 30, 2016.</p>			

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
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Pollutant load reductions shall be measured in accordance with the processes outlined in the most recent version of Lake Clarity Crediting Program Handbook. To demonstrate compliance with the average annual fine sediment particle pollutant load reduction requirements, the Department must earn and maintain 298 Lake Clarity Credits for the water year October 1, 2015 to September 30, 2016, and for subsequent water years.

B. Pollutant Load Reduction Plans

The Department shall prepare a Pollutant Load Reduction Plan (PLRP) describing how it expects to meet the pollutant load reduction requirements described in Section A above. The Department shall submit a plan no later than July 15, 2014 that shall include, at a minimum, the following elements:

1. *Catchment registration schedule*

The PLRP shall include a list of catchments that the Department plans to register pursuant to the approved Lake Clarity Crediting Program to meet load reduction requirements. The list shall include catchments where capital improvement projects have been constructed since May 1, 2004 that the Department expects to claim credit for, and catchments where projects will be constructed and other load reduction activities (capital improvements, institutional controls, and other measures/practices implement) taken during the term of this Order.

2. *Proposed pollutant control measures*

The PLRP shall generally describe storm water program activities to reduce fine sediment particle, total phosphorus, and total nitrogen loading that the Department will implement in identified catchments.

3. *Pollutant load reduction estimates*

The Department shall conduct pollutant load reduction analyses on a representative catchment subset to demonstrate that proposed implementation actions are expected to achieve the pollutant load reduction requirements specified in Section A. above. For representative catchments, the analysis shall include detailed estimates of both baseline pollutant loading and expected pollutant loading resulting from implementation actions and provide justification why the conducted load reduction analysis is adequate for extrapolation to other catchments.

The pollutant loading estimates shall differentiate between estimates of pollutant load reductions achieved since May 1, 2004 and pollutant load reductions from actions not yet taken.

4. *Load reduction schedule*

The PLRP shall describe a schedule for achieving the pollutant load reduction requirements described in the

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
			<p>Lake Tahoe Sediment TMDL Section A above. The schedule shall include an estimate of expected pollutant load reductions for each year of this Permit term based on preliminary numeric modeling results. The schedule shall also describe which catchments the Department anticipates it will register for each year of this Permit term.</p> <p>5. <i>Annual adaptive management</i> The PLRP shall include a description of the processes and procedures to annually assess storm water management activities and associated load reduction progress. The plan shall describe how the Department will use information from the monitoring and implementation or other efforts to improve operational effectiveness and for achieving the pollutant load reduction requirements specified in Section A.</p> <p>6. <i>Pollutant Load Reduction Plan Update</i> By March 15, 2017, the Department shall update its Pollutant Load Reduction Plan to describe how it will achieve the pollutant load reduction requirements for the second five-year TMDL implementation period, defined as the ten-year load reduction milestone in the Lake Tahoe TMDL. Specifically, the updated Pollutant Load Reduction Plan shall demonstrate how the Department will reduce baseline fine sediment particle, total nitrogen, and total phosphorus loads by 21 percent, 14 percent, and 14 percent, respectively, by water year 2021.</p> <p>C. <i>Pollutant Load Reduction Progress</i> To demonstrate pollutant load reduction progress, the Department shall submit a Progress Report by July 15, 2014 documenting pollutant load reductions accomplished between May 1, 2004 (baseline year) and October 15, 2011.</p> <p>D. <i>Pollutant Load Reduction Monitoring and Water Quality Monitoring Requirements</i> The Department shall prepare and submit a Storm water Monitoring Plan for review and approval by the Regional Water Board by July 15, 2013 and implement the approved plan.</p>
Truckee River	Sediment	Effective Date: September 16, 2009 BPA: WQ Amendment May 2008 Resolution: 2009-0028	Implement Sections III.A. and Section III.B.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R7 - Colorado River Regional Water Board			
Coachella Valley Storm Water Channel	Bacterial Indicators	Effective Date: April 27, 2012 BPA: Attachment 1: Final CVSC Bacteria TMDL Resolution: R7-2010-0028	Implement Section III.A. and Section III.E.
R8 - Santa Ana Regional Water Board			
Big Bear Lake	Nutrients for Dry Hydrological Conditions	Effective Date: September 25, 2007 BPA: Attachment to R8-2006-0023 Resolutions: R8-2006-0023, and R8-2008-0070	Implement Section III.A. and Section III.B.
<p>Lake Elsinore and Canyon Lake Nutrients TMDL Effective Date: September 30, 2005 BPA: Attachment to R8-2004-0037 & R8-2006-0031 Resolution: R8-2007-0083 Implement Section III.A., Section III.B., and the following:</p> <p>Lake Elsinore/Canyon Lake Nutrient TMDL Joint Responsibility Options</p> <ol style="list-style-type: none"> a. The Department has already committed to cooperative implementation actions, monitoring actions, special studies and implementation actions jointly with other responsible agencies as an active paying member of the Lake Elsinore/Canyon Lake TMDL Task Force. The Department shall continue with those actions and remain an active paying Task Force member. b. If the State Water Board is notified that the Department is not fulfilling its Lake Elsinore/Canyon Lake Task Force obligations or if Department chooses to opt out of the cooperative approach with the TMDL Task Force for implementation actions, monitoring actions, and/or special studies the Department shall make a formal decision six months after the adoption of the Permit Amendment. These decisions must be approved/adopted by the State Board. The Department will then be required to conduct the following activities: <ol style="list-style-type: none"> 1) Within 30 days of such notification, implement a Lake Elsinore and Canyon Lake in-lake monitoring consistent with the TMDL Task Force monitoring program. 2) Within 30 days of such notification, submit a proposed Department facilities monitoring program to evaluate nutrient discharges from the Department’s facilities in the Lake Elsinore/Canyon Lake watershed. 			

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
<p>3) Within 30 days of notification, develop and implement a Lake Elsinore in-lake sediment nutrient reduction program to mitigate Department facilities in-lake nutrient sediment load. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented.</p> <p>4) Within 60 days of notification, develop and implement a Canyon Lake in-lake sediment nutrient reduction program to mitigate Department facilities in-lake nutrient sediment load. Develop and implement a monitoring program to evaluate the success of in-lake sediment reduction strategies that will be implemented.</p> <p>5) Within 60 days of notification, submit an annual monitoring report by August 15th of each year.</p> <p>6) Submit an annual in-lake nutrient reduction program status report by August 15th of each year</p>			
Rhine Channel Area of Lower Newport Bay	Chromium and Mercury	<i>U.S. EPA Established TMDL</i> Effective Date: June 14, 2002 BPA: N/A Resolution: N/A	Implement Section III.A., Section III.B., and Section III.C.
San Diego Creek and Newport Bay, including Rhine Channel	Metals (Copper, Lead, & Zinc)	<i>U.S. EPA Established TMDL</i> Effective Date: June 14, 2002 BPA: N/A Resolution: N/A	Implement Section III.A. and Section III.C.
San Diego Creek and Upper Newport Bay	Cadmium	<i>U.S. EPA Established TMDL</i> Effective Date: June 14, 2002 BPA: N/A	Implement Section III.A. and Section III.C
San Diego Creek Watershed	Organochlorine Compounds (DDT, Chlordane, PCBs, & Toxaphene)	Effective Date: November 12, 2013 BPA: Attachment 2 Resolution: R8-2011-0037	Implement Section III.A. and Section III.C.
Upper & Lower Newport Bay	Organochlorine Compounds (DDT, Chlordane & PCBs)	Effective Date: November 12, 2013 BPA: Attachment 2 Resolution: R8-2011-0037	Implement Section III.A. and Section III.C.

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Impaired Waterbody	Pollutant(s)	Approved or U.S. EPA Established TMDLs Effective Date Basin Plan Amendment Resolution No.	Implementation Requirements
R9 - San Diego Regional Water Board			
Chollas Creek	Diazinon	Effective Date: November 3, 2003 BPA: Attachment A to Resolution: R9-2002-0123	Implement Section III.A. and Section III.F.
Chollas Creek	Dissolved Copper, Lead and Zinc	Effective Date: December 18, 2008 BPA: Attachment A Resolution: R9-2007-0043	Implement Section III.A and Section III.C.
Rainbow Creek	Total Nitrogen and Total Phosphorus	Effective Date: March 22, 2006 BPA: Attachment A Resolution: R9-2005-0036	Implement Section III.A. and Section III.B.
Project 1- Revised Twenty Beaches & Creeks in the San Diego Region (including Tecolote Creek)	Indicator Bacteria	Effective Date: June 22, 2011 BPA: Attachment A Resolution: R9-2010-001	Implement Section III.A. and Section III.E.
** OAL Approved, U.S. EPA Approval Pending			

Section III. General and Categorical Requirements

A. General Requirements for All TMDLs:

1. Comprehensive TMDL Monitoring Plan

- a. The Department shall continue to implement existing TMDL water quality monitoring plans, including cooperative water quality monitoring plans that the Department is party to that have already received approval from the Regional Water Board Executive Officer.
- b. The Department shall develop and implement a comprehensive TMDL monitoring plan to be submitted to the State Water Board by January 1, 2015. The comprehensive TMDL monitoring plan shall include existing approved water quality monitoring plans as described in Section III.A.1.a. above, and shall also include monitoring for all TMDLs that do not have existing approved

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water quality monitoring plans. The proposed comprehensive TMDL monitoring plan shall be designed to inform selection of BMPs, to inform future reach prioritization submittals, and to assess the effectiveness of BMP implementation. The Department may propose monitoring by pollutant category and may rely on representative monitoring for BMP effectiveness assessment. The comprehensive TMDL monitoring plan shall include a time-schedule for the implementation of the monitoring plan. The comprehensive TMDL monitoring plan is subject to approval by the Executive Director of the State Water Board.

2. Adaptive Management

The Department shall use monitoring data to conduct an on-going assessment of the performance and effectiveness of BMPs. The assessment shall include necessary modifications to control measures to achieve WLAs and other applicable performance standards. Where an assessment indicates that control measures are inadequate to achieve WLAs and other performance standards in a reach, the Department must implement improved control measures/BMPs.

3. Reporting

- a. By January 1, 2015, the Department shall submit the required information in section I.B. of this attachment regarding planned implementation of control measures for the upcoming reporting period (January 1, 2015 – October 1, 2015).
- b. The Department shall summarize the previous year's TMDL monitoring results, deliverables and other actions as specified in its annual **TMDL STATUS REVIEW REPORT**.
- c. The Department shall prepare and submit a **TMDL PROGRESS REPORT** by January 1, 2018, to the State Water Board as part of its report of waste discharge under Provision E.13.c. The **TMDL PROGRESS REPORT** shall be presented to the State Water Board as an informational item and include the following information:
 - i. A summary of the effectiveness of the control measures installed for each reach that has been addressed, as a result of the BMP effectiveness assessment,
 - ii. A determination as to whether the control measures have been or will be sufficient to achieve WLAs and other performance standards by the final compliance deadlines,
 - iii. Where the control measures are determined not to be sufficient to achieve WLAs or other performance standards by the final compliance deadlines, a proposal for improved control measures to address the relevant pollutants,
 - iv. A summary of the estimated quantified amount of pollutants prevented from entering into the receiving waters as a result of BMPs, cooperative agreements, or other source control measures taken, and

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- v. An analysis demonstrating that the level of effort (1650 compliance units/year) during the present permit cycle will be sufficient to achieve WLAs and other performance standards for all TMDLs listed in Table IV.2 by 2034. The analysis must utilize monitoring data if available, pertinent analytical tools, including modeling where appropriate, and provide a reasonable assurance that applicable WLAs and performance criteria will be met.

The **TMDL PROGRESS REPORT** will be subject to public review and comment and will be used in the development of the reissued permit.

B. Sediment/Nutrients/Mercury/Siltation/Turbidity TMDL Control Requirements

Sediment, nutrient and mercury TMDLs identify sediment from roads as a significant or primary source of these pollutants. Measures that control the discharge of sediment can be effective in controlling releases of nutrients and mercury. Therefore, the Department shall implement control measures to prevent or minimize erosion and sediment discharge. This can be achieved by protecting hillsides, intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying natural runoff flow patterns.

C. Metals/Toxics/Pesticides TMDL Control Requirements

1. Fine Particulates

Toxic pollutants and/or heavy metals have a high affinity for adherence to fine sediment, such as particles from tires, brake parts, and the road surfaces. Therefore, the appropriate control measures for metals and toxics are to control erosion and prevent or minimize the discharge of fine sediment. The Department shall implement control measures to prevent the discharge of fine sediment. This can be achieved by intercepting and filtering runoff, avoiding concentrated flows in natural channels and drains, and not modifying runoff flow patterns.

2. Dissolved Fraction Metals

The fraction of metals that are not bound to particulates exists in a dissolved state as free metal ions, as inorganic complexes, or bound to dissolved organic chemicals. Although fine particulate removal also reduces dissolved fraction metals, additional control measures may be necessary for the control of dissolved metals. Typically, treatment for dissolved fraction metals requires physical structures that prevent contaminated runoff from reaching receiving waters, such as infiltration systems that allow runoff water to percolate into soil.

The Department shall propose and implement appropriate control measures to reduce the discharge of dissolved fraction metals to comply with this Order.

3. Pesticides

The Department shall comply with Provision E.2.h.3)b) of this Order which specifies practices for the safe handling and use of pesticides, including

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compliance with federal, State and local regulations, and label directions. This provision also requires site assessments, applicator training, and implementation of integrated pest and vegetation management practices in its vegetation control program.

D. Trash TMDL Control Requirements

Trash in waterbodies reduces habitat for aquatic life, directly impacts wildlife from ingestion or entanglement, impacts human health from pathogens, and impacts the aesthetics of waterbodies.

1. The discharge of trash to receiving waters is prohibited. The Department shall comply with this prohibition in all significant trash generating areas in the watersheds subject to trash TMDL controls, identified as the following:
 - a. Highway on-ramps and off-ramps in high density residential, commercial, and industrial land use areas.
 - b. Rest area and park-and-ride facilities.
 - c. State highways in commercial and industrial land use areas.
 - d. Mainline highway segments identified through pilot studies and/or surveys.
2. The Department shall comply with the discharge prohibition of trash through one of the following control measures:
 - a. Install, operate, and maintain a full capture system, treatment controls, and/or institutional controls for storm drains that service the significant trash generating areas; or
 - b. Coordinate with neighboring municipalities that have jurisdiction over significant trash generating areas and/or priority land use areas (high density residential, industrial, commercial, mixed urban, and public transportation stations) to implement Section III.D.2.a above.
3. The Department shall submit as part of its **TMDL STATUS REVIEW REPORT** a determination of the highway characteristics that may qualify as significant trash generating areas by October 1, 2015, and
4. The Department shall submit as part of its **TMDL STATUS REVIEW REPORT** the status of each of the applicable control measures specified in Section III.D.2 above.

The constituents of Attachment II are not applicable for this pollutant category; therefore the Department is exempted from monitoring for the constituents listed in Attachment II for the waterbodies listed only for trash impairments.

E. Bacteria TMDL Control Requirements

The constituents of Attachment II are not applicable for this pollutant category; therefore the Department is exempted from monitoring for the constituents listed in Attachment II for the waterbodies listed only for bacteria impairments.

1. Dry-Weather Flows

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Dry weather non-storm water discharges may significantly increase bacteria loading to receiving waters. Therefore, the Department shall implement control measures to ensure that the effective prohibition of non-storm water discharges (Provision B.2. of this Order) is implemented according to the prioritized work schedule specified in Section I of this attachment. The prohibition of non-storm water discharges can be achieved through infiltration, diversion, or other methods.

2. Wet-Weather Flows

Wet weather storm water discharges also contribute significant bacteria loads to receiving waters. The principal impact is to the water contact recreation beneficial use (REC-1). The Department shall implement control measures/BMPs to prevent or eliminate the discharge of bacteria from its ROW. Source control and preemptive activities such as street sweeping, clean-up of illegal dumping, public education on littering; and BMPs such as retention/detention, infiltration, diversion of storm water prevent or eliminate the discharge of bacteria to receiving waters.

F. Diazinon TMDL Control Requirements

Diazinon is an organophosphate pesticide used in agriculture. It is no longer registered by the California Department of Pesticide Regulation for non-agricultural uses. The Department does not use diazinon on its ROW. The discharge of diazinon is prohibited.

G. Selenium TMDL Control Requirements

Selenium is naturally occurring in geologic formations, soils and aquatic sediments. Storm water runoff, dewatering, ground water seepage, irrigation of high selenium content soils, and oil refineries are identified as significant sources of selenium. The Department shall implement control measures to control the discharge of selenium, unless the Department can demonstrate one of the following:

1. There is no exceedance of an applicable receiving water limitation for selenium in the receiving water(s) at, or immediately downstream of, the Department's outfall(s), or
2. There is no direct or indirect discharge from the Department's outfall(s) to the receiving water during the time period subject to the WLA.

The Department does not have to comply with the monitoring requirements of Attachment II in demonstrating non-exceedance or no discharge of selenium.

H. Temperature TMDL Control Requirements

Maintenance activities may increase receiving water temperatures as a result of vegetation removal and/or erosion and sedimentation. Sedimentation and erosion control measures for temperature impairments are being required in accordance with Section III.B. Therefore, the Department shall:

1. Preserve existing riparian biotic conditions immediately adjacent to receiving waters susceptible to temperature increases,

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2. Provide effective shade near receiving waters susceptible to temperature increases, and
3. Maintain site potential effective shade near receiving waters susceptible to temperature increases.

Alteration of riparian biotic conditions that may increase sedimentation or reduce effective shade shall receive prior written authorization by the applicable Regional Water Board Executive Officer or designee.

Site-specific Potential Effective Shade is defined as the shade equivalent to that provided by topography and potential vegetation conditions at a site. Effective shade is the percentage of direct beam solar radiation that attenuated and scattered before reaching the ground or stream surface from topographic and vegetation conditions. The term "site-specific potential" is defined as the vegetation conditions possible at a location, considering the vegetation species present, and any natural factors that limit vegetation size and density.

I. Chloride TMDL Control Requirements

Elevated levels of chloride in receiving waters affect their beneficial use for agricultural irrigation. Chloride in the Santa Clara River watershed is principally due to increased salt loadings from imported water and the use of self-regenerating water softeners. The Department does not discharge significant amounts of chloride and any minimal discharges are expected to be addressed under the requirements of this Order. No additional TMDL implementation actions for control of chloride are required in this attachment.

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REGIONAL WATER BOARD SPECIFIC REQUIREMENTS

PART 1 NORTH COAST REGION

1. North Coast Regional Water Board Resolution R1-2004-0087 directs its staff to utilize existing regulatory programs to address sources of sediment within sediment impaired watersheds. The Department owns road right-of-way and other property within watersheds that are listed as impaired for sediment. Some of these facilities have sources of sediment (eroding shoulders, failed culverts, unstabilized cut and fill slopes, etc) that discharge into sediment impaired waterbodies. Consistent with Resolution R1-2004-0087 and the Water Quality Control Plan for the North Coast Region, the Department shall take the following steps in watersheds listed for sediment to identify, prioritize and control sources of sediment that discharge anthropogenic amounts of sediment into impaired waters. These requirements are in addition to any watershed-specific TMDL implementation requirements listed in Attachment IV of this Order. Steps to be taken include:
 - a. Inventory: Identify sources of excess sediment or threatened discharge, and quantify the discharge or threatened discharges from the source(s).
 - b. Prioritize: Prioritize efforts to control discharge of excess sediment based on, but not limited to, severity of threat to water quality and beneficial uses, the feasibility of source control, and source site accessibility. The inventory and prioritized steps shall be completed within two (2) years of the adoption of this Order and updated annually. This step is not required if the Department is implementing the requirements of Attachment IV for sediment TMDLs as the given reaches have already been prioritized within the context of statewide implementation.
 - c. Implement: Develop and implement feasible sediment control practices to prevent, minimize, and control the discharge.
 - d. Monitor and Adapt: Use monitoring results to direct adaptive management measures in order to refine and adjust erosion control practices and implementation schedules, until sediment discharge is reduced and no longer causes a violation of any sediment related narrative or numeric objective.

Each District within the North Coast Region shall include a time schedule for the above-referenced activities within the District Workplan for Regional Water Board approval. The time schedule shall implement the required activities as quickly as feasible. An annual update on activities and compliance with the projected time schedule shall be included in each subsequent annual report.

2. Removal of riparian vegetation may result in a threatened discharge or an exceedance of a water quality objective. The North Coast Region has many

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watersheds that are impaired for excess sediment and temperature. Riparian vegetation shall be protected and restored to the greatest extent feasible and removal may require permitting by the Regional Water Board.

PART 2 SAN FRANCISCO BAY REGION

1. High Trash Generation Areas

The Department shall demonstrate compliance with Discharge Prohibition 7, Table 4-1 of the San Francisco Bay Regional Water Board Basin Plan through the timely implementation of control measures in all high trash generating areas in the San Francisco Bay Region, identified as the following:

- a. Freeway on- and off-ramps in high density residential, commercial and industrial land uses.
- b. Rest areas and park-and-rides.
- c. State highways in commercial and industrial land use areas.
- d. Other freeway segments as identified by maintenance staff and/or trash surveys.

2. Control Measures

The Department shall comply with the prohibition of discharge for trash through implementation of the following control measures:

- a. Install, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls for storm drains or catchments that service the significant trash generating areas.
- b. Coordinate with neighboring MS4 permittees to construct, operate, and maintain full trash capture systems, treatment controls, and/or enhanced maintenance controls in high trash generating areas and/or priority land use areas (high density residential, industrial, commercial, and public transportation stations).

All installed devices that meet the full trash capture definition (See "Full Capture System", Attachment VIII) may be counted toward this requirement regardless of date of installation.

3. Coordination with Local Entities

The Department may choose to establish a municipal coordination plan to design, build, operate, and/or maintain controls in conjunction with other watershed stakeholders. The Minimum Full Trash Capture requirement may be met with the Department specific activities and devices, or from load reduction resulting from municipal coordination implementation, or any combination thereof, so long as the municipal coordination activities meet the full trash capture standard.

4. Assessment

The Department shall assess the effectiveness of enhanced maintenance controls implemented in high trash generation areas. This assessment will include controls implemented in coordination with local municipalities.

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5. Additional

- a. Abate trash from construction and reconstruction projects.
- b. Include trash capture devices on the outlets of treatment systems for new and redeveloped highway projects to achieve the full trash capture standard.

6. Reporting

In each Annual Report, as part of the **TMDL STATUS REVIEW REPORT**, the Department shall provide a per District summary of the following:

- a. Trash load reduction actions.
- b. Full trash capture installation and maintenance.
- c. Implementation of enhanced maintenance controls.
- d. A map and list of high trash generation areas and the installed controls addressing each area.
- e. The reporting of trash load shall be in a manner approved by the Executive Officer.
- f. Municipal coordination implementation.

7. Storm Water Pump Stations

The Department shall comply with the following implementation measures to reduce polluted water discharges from its pump stations:

- a. Complete an inventory of pump stations within the Department's jurisdiction in the San Francisco Bay Region, including locations and key characteristics⁴¹ and submit to the Regional Water Board by October 1, 2015.
- b. Inspect and collect dissolved oxygen (DO) data from 20 percent of the pump stations once a year (100 percent in five years) after a minimum of a two week antecedent period with no precipitation. DO monitoring is exempted where all discharge from a pump station remains in the storm water collection system or infiltrates into a dry creek immediately downstream.
- c. If DO levels are at or below three milligrams per liter (3 mg/L), apply corrective actions, such as continuous pumping at a low flow rate, aeration, or other appropriate methods to maintain DO concentrations of the discharge above 3 mg/L.
- d. Report inspection and monitoring results in the Annual Report.

⁴¹ Characteristics include name of pump station, latitude and longitude in NAD83, number of pumps, drainage area in acres, dominant land use(s), first receiving water body, maximum pumping capacity of station in gallons per minute (gpm), flow measurement capability (Y or N), flow measurement method, average wet season discharge rate in gpm, dry season discharge (Y, N, or unknown), nearest municipal wastewater treatment plant, wet well storage capacity in gallons, trash control (Y or N), trash control measure, and date built or last updated.

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PART 3 LAHONTAN REGION

The Water Quality Control Plan for the Lahontan Region (Basin Plan) has additional requirements which have been historically applied to the Department's permits and which apply to this NPDES Permit in the Lahontan Region. These requirements include:

1. For projects meeting the criteria specified in Provision E.2.d.of the permit (Project Planning and Design), the following numeric sizing criteria for storm water treatment control BMPs apply:

Where storm water runoff is determined to have connectivity to surface waters and/or is not adequately infiltrated or treated by the natural environment, storm water/urban runoff collection, treatment, and/or infiltration disposal facilities shall be designed, installed, and maintained for the discharge of storm water runoff from all impervious surfaces generated by the 20-year, one-hour design storm (1) within the Truckee River Hydrologic Unit (3/4- inch of rain), (2) within the East Fork Carson River and West Fork Carson River Hydrologic Units (one inch of rain), and (3) within the Mammoth Creek Hydrologic Unit above 7,000-foot elevation (one inch of rain). Hydrologic evaluations may be required or may be conducted consistent with the NEAT study described in item No. 2 below to help determine areas where infiltration of the 20-year, one-hour storm is required.

2. In 2009, the Department completed the Natural Environment as Treatment (NEAT) study and report for 38 miles of roadway within the Lake Tahoe Hydrologic Unit. The NEAT approach is consistent with the strategic approach required by this permit. Projects developed within the NEAT study area shall be designed and constructed based on the priority areas identified by the study.
3. Unless granted a variance by the Lahontan Regional Water Board Executive Officer, there shall be neither removal of vegetation nor disturbance of existing ground surface conditions between October 15 of any year and May 1 of the following year, except when there is an emergency situation that threatens the public health or welfare. This prohibition period applies to the Lake Tahoe, Truckee River, East Fork Carson River, and West Fork Carson River Hydrologic Units and above the 5,000-foot elevation in the portions of Mono and Inyo Counties within the Lahontan Region.
4. Project Review Requirements
 - a. The Department shall participate in early project design consultation for all projects within the Lake Tahoe, Truckee River, East and West Forks Carson River and Mammoth Creek Hydrologic Units.
 - b. The Department must solicit Lahontan Regional Water Board staff review when project development/design is at the 20 to 30 percent design level (prior to Project "Approval" and Environmental Document), 60 percent design level, and 90 percent design level (Plans, "Specifications" and Estimates).

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ATTACHMENT VI — STANDARD PROVISIONS

1. **Duty to Comply.** The Department shall comply with all of the conditions of this Order. Any permit noncompliance constitutes a violation of the CWA and the Porter-Cologne Water Quality Control Act, which may be grounds for enforcement action or denial of permit coverage. [40 C.F.R. § 122.41(a)]

The Department shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. [40 C.F.R. § 122.41(a)(1)]

2. **Modification, Revocation and Reissuance, or Termination.** This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Department for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any General Permit condition.

3. **Enforcement**

- a. The provision contained in this enforcement section shall not act as a limitation on the statutory or regulatory authority of the State and Regional Water Board.
- b. Any violation of the Order constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.
- c. The State and Regional Water Boards may impose administrative civil liability may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law.
- d. All applications, reports, or information submitted to the State Water Board or Regional Water Boards shall be signed and certified. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 C.F.R. § 122.41(k)]

4. **Need to Halt or Reduce Activity not a Defense.** It shall not be a defense for the Department in an enforcement action that it would have been necessary to halt or

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reduce the permitted activity in order to maintain compliance with the conditions of this Order. [40 C.F.R. § 122.41(c)]

5. **Duty to Mitigate.** The Department shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. [40 C.F.R. § 122.41(d)]
6. **Proper Operation and Maintenance.** The Department at all times shall properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Department to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems installed by the Department only when necessary to achieve compliance with the conditions of this Order. [40 C.F.R. § 122.41(e)]
7. **Property Rights.** This Order does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations. [40 C.F.R. § 122.41(g)]
8. **Duty to Provide Information.** Within a reasonable time specified by the State Water Board, Regional Water Boards, or U.S. EPA, the Department shall furnish records, reports, or information required to be kept by this Order, and shall furnish any information requested to determine whether cause exists for modifying, revoking, and reissuing, or terminating this Order or to determine compliance with this Order. [40 C.F.R. § 122.41(h)]
9. **Inspection and Entry.** [40 C.F.R. § 122.41(i)] Upon the presentation of credentials and other documents as may be required by law, the Department shall allow the State and Regional Water Boards, or U.S. EPA to:
 - a. Enter upon the Department's premises where a regulated facility or activity is located or conducted or where records are required to be kept under the conditions of this Order;
 - b. Have access to and copy at reasonable times any records that must be kept under the conditions of this Order;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
 - d. Sample or monitor at reasonable times for the purposes of assuring ensuring permit compliance, or as otherwise authorized by the Clean Water Act.

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10. **Monitoring and Records.** [40 C.F.R. § 122.41(j)]
- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - b. The Department shall retain records of all monitoring information for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the State Water Board's Executive Director or Regional Water Board's Executive Officer at any time.
 - c. Records of monitoring information shall include:
 - i. The date, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.
 - d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. subchapters N or O.
 - e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.
11. **Signatory Requirements.** All reports, certifications, and records required by this Order or requested by the State Water Board and Regional Water Boards or U.S. EPA shall be signed by either a principal executive officer or by a duly authorized representative. A person is a duly authorized representative only if [40 C.F.R. §§ 122.22 & 122.41(k)]:
- a. The authorization is made in writing by the principal executive officer; and
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the Department. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

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If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, the Department shall provide a new authorization prior to submittal of any reports, certifications, or records signed by the newly authorized representative.

12. **Certification.** Any person signing documents under Provision 11 above shall make the following certification [40 C.F.R. § 122.22(d)]:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

13. **Reporting Requirements.**

- a. *Planned changes.* The Department shall give advance notice to the State Water Board and the appropriate Regional Water Board of any planned physical alteration or additions to the permitted facility. Notice is required under this provision only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged; [40 C.F.R. § 122.41(l)(1)]
- b. *Anticipated noncompliance.* The Department shall give advance notice to the appropriate Regional Water Board of any planned changes at the permitted facility or activity which may result in noncompliance with Permit requirements; [40 C.F.R. § 122.41(l)(2)]
- c. *Compliance Schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each scheduled date; [40 C.F.R. § 122.41(l)(5)]
- d. *Other Information.* Where the Department becomes aware that it failed to submit any relevant facts, or submitted incorrect information in a permit application or in any required report, it shall promptly submit such facts or information [40 C.F.R. § 122.41(l)(8)].
- e. The Department shall submit, except for the Annual Report, one copy of each report required by the permit to the State Water Board. The Department shall also submit one copy to each of the appropriate Regional Water Boards. The Department may choose to submit its properly signed reports electronically

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into SMARTS in the Portable Document Format (PDF) and submit hard copies only upon request of the State or Regional Water Board staff.

14. **Oil and Hazardous Substance Liability.** Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Department from any responsibilities, liabilities, or penalties to which the Department is or may be subject to under Section 311 of the CWA.
15. **Severability.** The provisions of this Order are severable; and if any provision of this Order or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.
16. **Availability.** A copy of this Order shall be maintained at the facility and be available at all times to the appropriate facility personnel and to representatives of the Regional Water Boards, State Water Board, or U.S. EPA.
17. **Education.** The Department shall ensure that all personnel whose decisions or activities could affect storm water quality are familiar with the requirements of this NPDES Permit.

ATTACHMENT VII

ATTACHMENT VII — LIST OF ACRONYMS & ABBREVIATIONS

ASBS	Areas of Special Biological Significance
BAT	Best Available Technology Economically Achievable
Basin Plans	Regional Water Quality Control Plans
BCT	Best Conventional Pollutant Control Technology
BMPs	Best Management Practices
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit - NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
Department	California Department of Transportation (Caltrans)
EC	Electrical Conductivity
EMA	Emergency Management Agency
ESA	Environmentally Sensitive Area
FPPP	Facility Pollution Prevention Plan
GPS	Global Positioning System
Hydromodification	Hydrograph Modification
IC/ID	Illegal Connection/ Illicit Discharge
IGP	Industrial General Permit - NPDES General Permit for Discharges Associated with Industrial Activities Excluding Construction Activities
LA	Load Allocation
LID	Low Impact Development
MEP	Maximum Extent Practicable
MRP	Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
NCIR	Non-Compliance Incident Report
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
Ocean Plan	California Ocean Plan
PAHs	Polycyclic Aromatic Hydrocarbons
POTW	Publicly Owned Treatment Works
Regional Water Board	Regional Water Quality Control Board
ROW	Department Right-of-Way
State Water Board	State Water Resources Control Board
SUSMP	Standard Urban Storm Water Mitigation Plan
SWAMP	Surface Water Ambient Monitoring Program
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TCGP	Tahoe Construction General Permit
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TPH	Total Petroleum Hydrocarbon
TSS	Total Suspended Solids
U.S. EPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements
WLA	Waste Load Allocation
WQBEL	Water Quality-Based Effluent Limitation
WQO	Water Quality Objective
WQS	Water Quality Standard
Workplans	District Workplans

ATTACHMENT VIII

ATTACHMENT VIII - GLOSSARY

Acute Toxicity. A chemical stimulus severe enough to rapidly induce an effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute. When expressed as toxic units acute (TUa), $TUa = 100/96\text{-hour LC } 50 \text{ percent}$. Acute toxicity can also be expressed as lethal concentration 50 percent (LC 50).

Administrative Noncompliance. Failure to comply with the procedural requirements of this Order. Examples include but are not limited to: failure to submit required reports or documents required by the Permit and/or SWMP, missed deadlines or late submittal, and/or failure to submit required information, failure to develop and/or maintain site-specific FPPP or to implement any other procedural requirement of the Permit.

Areas of Special Biological Significance (ASBS). Ocean or estuarine areas designated by the State Water Board that require special protection of species or biological communities to the extent where alteration of natural water quality is undesirable. The California Ocean Plan describes ASBSs as "those areas containing biological communities of such extraordinary value that no risk of change in their environment as the result of man's activities can be entertained". ASBSs are a subset of State Water Quality Protection Areas.

Basin Plans. Basin Plans (regional water quality control plans) are the principal regulatory mechanisms for protection of water quality in California. Basin plans describe the beneficial uses that each water body supports, e.g. drinking, swimming, fishing, and agricultural irrigation; the water quality objectives necessary to protect those uses; and the program implementation needed to achieve the objectives, such as waste discharge permits and enforcement actions.

Batch Plant. A processing plant where concrete or asphalt is mixed before transport to a construction site. Batch plants are considered to be industrial activities as defined in 40 CFR 122.26(b)(14) (iii) and are regulated under the Industrial General Permit.

Beneficial Uses. The uses of the water protected against degradation including, but not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT). Technology-based compliance standard established by the Clean Water Act. BAT is based on consideration of the age of the equipment and facilities involved, the processes employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements) and other factors as deemed appropriate. BAT effluent

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limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT). Technology-based compliance standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, oil and grease. BCT is established by a two-part “cost reasonableness” test, which compares the cost for an industry to reduce its pollutant discharge with the cost to a POTW for similar levels of reduction of a pollutant loading. The second test examines the cost-effectiveness of additional industrial treatment beyond BCT. Limits must be reasonable under both tests.

Best Management Practices (BMPs). Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of “waters of the United States.” BMPs include structural and nonstructural controls, treatment requirements, operation and maintenance procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Non-Approved BMP. Any BMP for maintenance, construction, design pollution prevention, and treatment that are not in the Department’s SWMP (CTSW-RT-02-008) or Statewide Storm Water Quality Practice Guidelines (CTSW-RT-02-009) approved for statewide use.

Post-Construction BMPs. Any structural or non-structural controls that detain, retain, or filter storm water to prevent the release of pollutants to receiving waters after final site stabilization is attained.

Structural BMPs. Any structural facility designed and constructed to mitigate the adverse impacts of storm water runoff (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

Source Control BMPs. Any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source. Examples include treatment techniques that use natural measures to reduce pollution levels, do not require extensive construction efforts, and/or promote pollutant reduction by controlling the pollutant source.

Treatment Control BMPs. Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

California Ocean Plan (Ocean Plan). The water quality control plan for California near-coastal waters, first adopted by the State Water Resources Control Board in 1972.

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The purpose of the Ocean Plan is to protect the beneficial uses of the State's ocean waters by identifying water quality objectives, setting general waste discharge requirements, and listing discharge prohibitions. In addition, the Ocean Plan is used to develop and update statewide water quality control plans, policies, and standards involving marine waters.

California Toxics Rule. The Federal regulation, found at 40 CFR § 131.38. Establishes water quality criteria (limits) for heavy metals and other toxic compounds for the protection of beneficial uses of surface waters in California.

Catch Basins. A storm drain inlet having a sump below the outlet to capture settled solids, debris, sediment, and prevent clogging.

Chronic Toxicity. The ability of a substance or a mixture of substances to cause harmful effects over an extended period of time. Expressed as toxic units chronic (TUc), $TUc = 100/NOEL$, where NOEL is the No Observed Effect Level.

Construction Activity. Any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction does not include emergency construction activities required to immediately protect public health and safety or routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

Cut and Fill. The process of moving earth by excavating part of an area and using the excavated material for adjacent embankment of fill areas.

Department Airspaces. Any area within the Department's operating right-of-way that can safely accommodate a privately managed use such as: parking lots, self storage units, commercial businesses, light industry, and cellular telephone towers. The Department executes airspace leases with third parties for these uses.

Department Facility. A Maintenance Facility, Non-maintenance Facility, Highway Facility, Industrial Facility, or Vehicle Maintenance.

Maintenance Facility. A facility under Department ownership or control that contains fueling areas, maintenance stations/yards, waste storage or disposal facilities, wash racks, equipment or vehicle storage and materials storage areas.

Non-maintenance Facility. Laboratories or office buildings used exclusively for administrative functions.

Highway Facility. Highways are linear facilities designed to carry vehicular and pedestrian traffic. These include freeways, highways, and expressways as designated by the California Streets and Highway Code and the California legislature. These facilities also include all support infrastructure associated with these freeways, including bridges, toll plazas, inspection and weigh stations, sound walls, retaining

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walls, culverts, vegetated slopes, shoulders, intersections, off ramps, on ramps, over passes, lights, signal lights, gutter, guard rail, and other support

facilities. The support infrastructure is considered a Highway Facility only when accompanied by an increase in highway impervious surface. Otherwise, it is considered a non-highway .

Industrial Facility. A collection of industrial processes discharging storm water associated with industrial activity within the property boundary or operational unit.

Non-Highway Facility. For purposes of this permit, a Non-Highway Facility is any facility not meeting the definition of a Highway Facility, including but not limited to rest stops, park and ride facilities, maintenance stations, vista points, warehouses, laboratories, and office buildings.

Discharge. When used without qualification means the discharge of a pollutant.

Direct Discharge. Any discharge from the MS4 that does not meet the definition of an indirect discharge.

Indirect Discharge. Any discharge from the MS4 that is conveyed to the receiving water through 300 feet or more of an unlined ditch or channel as measured between the discharge point from the MS4 and the receiving water.

Discharge of a Pollutant. The addition of any pollutant or combination of pollutants to waters of the United States from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term includes additions of pollutants to waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

District Workplans (DWPs). Annual workplans prepared by each District containing descriptions of all activities and projects to be undertaken in the District that are necessary to implement the SWMP and comply with the requirements of this Order. DWPs are submitted annually with the Annual Report. Formerly known as the Regional Work Plans.

Drainage Inlet. A location where water runoff enters a storm water drainage system that includes streets, gutters, conduits, natural or artificial drains, channels and watercourses, or other facilities that are owned, operated, maintained and used for the purpose of collecting, storing, transporting or disposing of storm water

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Effluent. Any discharge from the MS4.

Emergency. Any sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage.

Erosion. The diminishing or wearing away of land due to wind, or water. Often the eroded material (silt or sediment) becomes a pollutant via stormwater runoff.

Erosion occurs naturally, but can be intensified by land disturbing and grading activities such as farming, development, road building, and timber harvesting.

Facility Pollution Prevention Plan (FPPP). A plan that identifies the functional activities specific to the maintenance facility and the applicable BMPs and other procedures utilized by facility personnel to control the discharge of pollutants in storm water. Facilities subject to FPPPs include: maintenance yards/stations; material storage facilities/permanent stockpile locations (if not totally enclosed); equipment storage and repair facilities, roadside rest areas, agricultural and highway patrol weigh stations, decant storage or disposal locations, and permanent and temporary solid and liquid waste management sites.

FPPPs are not required for temporary stockpile locations (in continuous use for less than one year). All temporary stockpile locations shall implement the applicable best management practices defined in the Caltrans Stormwater Quality Handbook Maintenance Staff guide. Any stockpile location in continuous use for more than one year is deemed permanent and requires a Facility Pollution Prevention Plan.

Full Capture System. A full capture system is any single device or series of devices that traps all particles retained by a five (5) mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour, storm in the subdrainage area.

Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$

Where Q = design flow rate (cubic feet per second, cfs);

C = runoff coefficient (dimensionless);

I = design rainfall intensity (inches per hour, as determined per a rainfall isohyetal map), and

A = subdrainage area (acres).

Hydrograph Modification (Hydromodification). The alteration of the hydrologic characteristics of surface waters through watershed development. Under past practices, new and re-development construction activities resulted in urbanization, which in turn modified natural watershed and stream processes. The impacts of hydromodification include, but are not limited to, increased bed and bank erosion,

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loss of habitat, increased sediment transport and deposition, and increased flooding. Urbanization does this by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, and altering the condition of stream channels through straightening, deepening, and armoring. These changes affect hydrologic characteristics in the watershed and affect the supply and transport of sediment in the stream system.

Hydromodification Management Plan. A plan to control and reduce the impacts of hydrograph modification from development activities in a watershed.

Illegal Connection/Illicit Discharge (IC/ID).

Illegal Connection. An engineered conveyance that is connected to an MS4 without authorization by local, state, or federal statutes, ordinances, codes, or regulations.

Illicit Discharge. Any discharge to an MS4 that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. It includes all non-storm water discharges except conditionally exempt non-storm water discharges.

Illegal Dumping. Discarding or disposal within the Department's right-of-way, properties or facilities, either intentionally or unintentionally, of trash and other wastes in non-designated areas that may contribute to storm water pollution.

Impervious Cover. Any surface in the landscape that cannot effectively absorb or infiltrate rainfall; for example, sidewalks, rooftops, roads, and parking lots.

Incidental Runoff. Unintended small amounts (volume) of runoff from landscape irrigation, such as minimal over-spray from sprinklers that escapes the irrigated area. Water leaving an irrigated area is not considered incidental if it is due to improper (e.g. during a precipitation event) or excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Leaks and other discharges (e.g. broken sprinkler heads) are not considered incidental if not corrected within 72 hours of learning of the discharge or if the discharge exceeds 1000 gallons.

Land Use. How land is managed or used by humans (e.g., residential and industrial development, roads, mining, timber harvesting, agriculture, grazing, etc.). Land use is generally regulated at the local level in the U.S. based on zoning and other regulations. Land use mapping differs from land cover mapping in that it is not always obvious what the land use is from visual inspection.

Load Allocation. The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which can range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading (40 CFR 130.2(g)).

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Low Impact Development (LID). An approach to land development with the goal of mimicking or replicating the pre-project hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic site design. Hydrologic functions of storage, infiltration and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale storm water retention and detention areas, reduction of impervious surfaces, and the lengthening of runoff flow paths and flow time. Other strategies include the preservation/protection of environmentally sensitive site features such as riparian buffers, wetlands, steep slopes, mature trees, flood plains, woodlands, and highly permeable soils.

Maximum Extent Practicable (MEP). The minimum required performance standard for implementation of municipal storm water management programs to reduce pollutants in storm water. Clean Water Act § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible and are not cost-prohibitive. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the costs would be prohibitive. A final determination of whether a municipality has reduced pollutants to the MEP can only be made by the State or Regional Water Boards.

Municipal Separate Storm Sewer System (MS4). A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is: (1) Owned or operated by a state, city, town, village, or other public entity that discharges to waters of the U.S.; (2) Designed or used to collect or convey storm water; (3) Not a combined sewer; and (4) Not part of a Publicly Owned Treatment Works.

Natural Ocean Water Quality. The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, i.e., an absence of significant amounts of: (a) man-made constituents (e.g., DDT); (b) other chemical (e.g., trace metals), physical (temperature/thermal pollution, sediment burial), and biological (e.g., bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (e.g., invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges "shall not alter natural ocean water quality" as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional

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monitoring program(s). If monitoring information indicates that natural ocean water quality is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

New Development. Any newly constructed facility, street, road, highway or contiguous road surface installed as part of a street, road or highway project within the Department's right-of-way.

Non-Department Activities. Third party activities that are primarily controlled by encroachment permits, leases, and rental agreements. They include both construction activities and non-construction activities.

Non-Department Projects. Same as Non-Department Activities.

Non-storm Water. Discharges that are not induced by precipitation events and are not composed entirely of storm water. These discharges include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, concrete washout water, paint wash water, irrigation water, pipe testing water, lawn watering overspray, hydrant flushing, and fire fighting activities.

Nonpoint Source. Pollution that is not released through a discrete conveyance but rather originates from multiple sources over a relatively large area. Nonpoint sources can be divided into source activities related to either land or water use, including failing septic tanks, animal agriculture, forest practices, and urban and rural runoff.

Nuisance. Anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Perennial Stream. Any stream shown as a solid blue line on the latest version of the U.S. Geological Survey (USGS) 7.5 minute series quadrangle map (sometimes referred to as a blue-line stream). Where 7.5 minute series maps have not been prepared by USGS, 15 minute series maps are used.

Pesticide. Substances intended to repel, kill, or control any species designated a "pest" including weeds, insects, rodents, fungi, bacteria, or other organisms. The family of pesticides includes [herbicides](#), [insecticides](#), [rodenticides](#), [fungicides](#), algicides, and [bactericides](#).

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Algicide. A pesticide that controls algae in swimming pools and water tanks.

Herbicide. A pesticide designed to control or kill plants, weeds, or grasses.

Insecticide. A pesticide compound specifically used to kill or prevent the growth of insects.

Rodenticide. A pesticide or other agent used to kill rats and other rodents or to prevent them from damaging food, crops, or forage.

Fungicide. A pesticide used to control or destroy fungi on food or grain crops.

Bactericide. A pesticide used to control or destroy bacteria, typically in the home, schools, or on hospital equipment.

pH. A measure of the degree of acidity or alkalinity in a water sample. The pH of natural waters tends to range between six (6) and nine (9), with neutral being seven (7). Extremes of pH can have deleterious effects on aquatic systems.

Point source. Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

Pollutant. Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollutants of Concern. Pollutants in a discharge with potential to cause a condition of pollution or nuisance due to the discharge of excessive amounts, proximity to receiving waters, or the properties of the pollutant. Pollutants that impair waterbodies listed under CWA section 303(d) are also Pollutants of Concern. Pollutants in the Department's discharge that may be Pollutants of Concern include, but are not limited to, total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (e.g., decaying vegetation and animal waste), and litter and trash.

Pollution. An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the beneficial uses of the water or facilities which serve those beneficial uses (Porter-Cologne Water Quality Control Act, section 13050(l)(1)).

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Redevelopment. The creation, addition, and/or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that removes impervious materials and exposes the underlying soil or pervious subgrade. Redevelopment does not include trenching and resurfacing associated with utility work; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway. Redevelopment does include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed during construction. Replaced impervious surfaces of this type shall be considered "new impervious surfaces" for purposes of determining the applicability of post-construction treatment controls as provided in provision E.2.d.2).

Roadway. Any road within the Department's right-of-way.

Routine Maintenance. Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility. Routine maintenance does not include replacement of existing roadway surfaces where the underlying soil or pervious subgrade is exposed.

Right-of-Way (ROW). Real property that is either owned or controlled by the Department or subject to a property right of the Department. Right-of-way that is in current use is referred to as operating ROW.

Sediment. Soil, sand, and minerals washed from land into water, usually after rain.

Slope Lateral Drainage. Horizontal drains placed in hillside embankments to intercept groundwater and direct it away from slopes to provide stability.

Spill. The sudden release of a potential pollutant to the environment.

Storm Water. Storm water runoff, snowmelt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26 (b)(13).

Storm Water Runoff. The portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes.

Standard Urban Storm Water Mitigation Plan (SUSMP). Plans designating the Best Management Practices that must be used in specified categories of development and redevelopment. The State Water Board adopted a precedential decision (Order WQ 2000-11) upholding a SUSMP requirement imposed under a Phase I MS4 permit and requiring SUSMPs in all MS4 permits.

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Storm Water Management Plan (SWMP). Description of the procedures and practices used to reduce or eliminate the discharge of pollutants to storm drain systems and receiving waters.

Surface Water Ambient Monitoring Program (SWAMP). The State Water Board's monitoring, assessment, and reporting program for ambient surface water.

Threshold Drainage Area (TDA). The area draining to a location 20 channel widths downstream (representative reach) of a stream crossing (pipe, swale, culvert, or bridge) within Project Limits.

Threatened Non-compliance. Any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

Total Dissolved Solids (TDS). A quantitative measure of the residual minerals dissolved in water that remain after evaporation of a solution and used to evaluate the quality of freshwater systems.

Total Kjeldahl Nitrogen (TKN). The sum of organic nitrogen and total ammonia nitrogen.

Total Maximum Daily Load (TMDL). The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs (40 CFR 130.2(i)).

Total Petroleum Hydrocarbon (TPH). A measure of the concentration or mass of petroleum hydrocarbons in a given amount of soil or water. TPH is a mixture of different compounds from different sources.

Total Suspended Solids (TSS). Suspended particulate matter: Fine material or soil particles that remain suspended by the water column. They create turbidity and, when deposited, can smother fish eggs or alevins.

Toxicity. The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Trash. All improperly discarded waste material associated with human habitation, of human origin; or from any producing, manufacturing, or processing operation including, but not limited to, product packaging or containers constructed of steel,

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aluminum, glass, paper, plastic, and other natural and synthetic materials that are thrown or deposited in waters or where it could be transported, as floating, suspended, and/or settleable materials, to waters of the State, including watersheds. (SWRCB Trash Policy).

Turbidity. Murkiness or cloudiness of water, indicating the presence of suspended solids.

United States Environmental Protection Agency (U.S. EPA). U.S. EPA works to develop and enforce regulations that implement environmental laws enacted by the United States Congress. U.S. EPA is responsible for researching and setting national standards for the Storm Water Program.

Waste. Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Wasteload Allocation (WLA). The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. Waste load allocations constitute a type of water quality-based effluent limitation.

Water Quality Objectives (WQO). The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to prevent nuisance within a specific area. Water quality objectives may be numeric or narrative.

Water Quality Standards (WQS). State-adopted and U.S. EPA-approved water quality standards for surface water bodies. The standards prescribe the beneficial uses (swimmable, fishable, drinkable, etc.) of the water body and establish the WQOs that must be met to protect designated uses.

Waters of the State. Any surface water or groundwater, including saline waters, within boundaries of the state, as defined in CWC 13050(e). This Order contains requirements to protect the beneficial uses of waters of the State.

Waters of the United States. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide. Waters of the United States [as defined in 40 CFR 230.3(s)] include all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use of which would affect or could affect interstate or foreign commerce. The definition also applies to tributaries of the aforementioned waters. See 40 CFR 122.2 for the complete definition, which is hereby incorporated by reference.

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Watershed. A drainage area or basin in which all water drains or flows toward a central collector such as a stream, river, or lake at a lower elevation.

Wetlands. Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Workplans. See District Workplans.

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Attachment IX: Reporting Requirements

Reporting Requirement	Permit Section	Due Date	Frequency
Annual Report	E.3.	October 1, 2013	Annually
Draft ASBS Compliance Plan	E.5.c.2)	September 20, 2013	18 months after the General Exception effective date
Final ASBS Compliance Plan	E.5.c.2)	September 20, 2015	30 months after the General Exception effective date
Budget Analysis	E.2.b.3)c)	October 1, 2017	Year 4 of Permit Cycle
Certification of the Adequacy of Legal Authority	E.2.b.2)b)	October 1, 2013	Annually as part of the Annual Report
District Workplans	E.3.b.	October 1, 2013	Annually as part of the Annual Report
Facility Pollution Prevention Plan (FPPP)	E.2.h.2)	October 1, 2013	Annually as part of the Annual Report and as required by the Regional Water Board
Fiscal Analysis	E.2.b.3)b)	October 1, 2013	Annually as part of the Annual Report
IC/ID & Illegal Dumping Response Plan	E.2.h.4)b)ii)	December 31, 2013	Update as needed annually
Incident Report Form	E.2.b.6)and Attachment I	October 1, 2013	As Needed
Landslide Management Plan	E.2.h.3)d)	October 1, 2013	Year 1 Annual Report
Monitoring Results Report (MRR)	E.2.c.5)	October 1, 2013	Annually
Monitoring Site Prioritization (Tier 2)	E.2.c.1)	March 1, 2014	Within 8 months of the effective date
Municipal Coordination Plan	E.2.b.1)b)	October 1, 2013	To be Included in the SWMP and Progress Report as part of the Annual Report
Overall Program Effectiveness Evaluation	E.2.m.3)	October 1, 2013	Annually as part of the Annual Report
Public Education Program Progress Report	E.2.l.2)	October 1, 2013	Annually as part of the Annual Report
Self-Audit - (includes construction activities)	E.2.m.2)	October 1, 2013	Annually as part of the Annual Report
Stormwater Monitoring & BMP Development Status Report	E.2.e.	October 1, 2013	Annually as part of the Annual Report
Stormwater Treatment BMP Technology Report	E.2.e.	October 1, 2013	Annually as part of the Annual Report
TMDL Status Review Report	E.4.b.	October 1, 2015	Annually as part of the Annual Report
Updated Stormwater Management Plan (SWMP)	E.1.a.	October 1, 2013	Revisions as part of the Annual Report
Waste Management Plan	E.2.h.3)c)iii)	July 1, 2014	Within 1 year of the Effective Date

Note: This table is a partial list of reporting requirements. The Department shall submit all required reports as provided in the Order. Any discrepancy between the text of the NPDES Permit and this table will be resolved in favor of the Permit.

Effective Date of this Order is July 1, 2013

Effective Date of the ASBS Special Protections (General Exception) is March 20, 2012

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ATTACHMENT X — REFERENCES

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ATTACHMENT G-1

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

**Authorization to Discharge Under the
National Pollutant Discharge Elimination System**

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

**Ada County Highway District,
Boise State University,
City of Boise,
City of Garden City,
Drainage District #3,
and the Idaho Transportation Department District #3,

(hereinafter "the Permittees")**

are authorized to discharge from all municipal separate storm sewer system (MS4) outfalls existing as of the effective date of this Permit to waters of the United States, including the Boise River and its tributaries, in accordance with the conditions set forth herein.

This Permit will become effective February 1, 2013.

This Permit, and the authorization to discharge, expires at midnight, January 30, 2018.

Permittees must reapply for permit reissuance on or before August 3, 2017, 180 days before the expiration of this Permit, if the Permittees intend to continue operations and discharges from the MS4s beyond the term of this Permit.

Signed this 12th day of December, 2012.


Daniel D. Opalski, Director
Office of Water and Watersheds, Region 10
U.S. Environmental Protection Agency

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I. Applicability

A. Permit Area. This Permit covers all areas within the corporate boundary of the City of Boise and Garden City, Idaho, which are served by the municipal separate storm sewer systems (MS4s) owned or operated by the Ada County Highway District, Boise State University, City of Boise, City of Garden City, Drainage District #3, and/or the Idaho Transportation Department District #3 (the Permittees).

B. Discharges Authorized Under This Permit. Subject to the conditions set forth herein, the Permittees are authorized to discharge storm water to waters of the United States from the MS4s identified in Part I.A.

As provided in Part I.D, this Permit also authorizes the discharge of flows from the MS4s which are categorized as allowable non-storm water discharge, storm water discharge associated with industrial activity, and storm water discharge associated with construction activity.

C. Permittees' Responsibilities

1. **Individual Responsibility.** Each Permittee is individually responsible for Permit compliance related only to portions of the MS4 owned or operated solely by that Permittee, or where this Permit requires a specific Permittee to take an action.
2. **Joint Responsibility.** Each Permittee is jointly responsible for Permit compliance:
 - a) related to portions of the MS4 where operational or storm water management program (SWMP) implementation authority has been transferred to all of the Permittees in accordance with an intergovernmental agreement or agreement between the Permittees;
 - b) related to portions of the MS4 where Permittees jointly own or operate a portion of the MS4;
 - c) related to the submission of reports or other documents required by Parts II and IV of this Permit; and
 - d) Where this Permit requires the Permittees to take an action and a specific Permittee is not named.
3. **Intergovernmental Agreement.** The Permittees must maintain an intergovernmental agreement describing each organization's respective roles and responsibilities related to this Permit. Any previously signed agreement may be updated, as necessary, to comply with this requirement. An updated intergovernmental agreement must be completed no later than July 1, 2013. A copy of the updated intergovernmental agreement must be submitted to the Environmental Protection Agency (EPA) with the 1st Year Annual Report.

D. Limitations on Permit Coverage

1. **Non-Storm Water Discharges.** Permittees are not authorized to discharge non-storm water from the MS4, except where such discharges satisfy one of the following three conditions:
 - a) The non-storm water discharges are in compliance with a separate NPDES permit;
 - b) The non-storm water discharges result from a spill and:
 - (i) are the result of an unusual and severe weather event where reasonable and prudent measures have been taken to prevent and minimize the impact of such discharge; or
 - (ii) consist of emergency discharges required to prevent imminent threat to human health or severe property damage, provided that reasonable and prudent measures have been taken to prevent and minimize the impact of such discharges;
 - or
 - c) The non-storm water discharges satisfy each of the following two conditions:
 - (i) The discharges consist of uncontaminated water line flushing; potable water sources; landscape irrigation (provided all pesticides, herbicides and fertilizer have been applied in accordance with manufacturer's instructions); lawn watering; irrigation water; flows from riparian habitats and wetlands; diverted stream flows; springs; rising ground waters; uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20)) to separate storm sewers; uncontaminated pumped ground water or spring water; foundation and footing drains (where flows are not contaminated with process materials such as solvents); uncontaminated air conditioning or compressor condensate; water from crawlspace pumps; individual residential car washing; dechlorinated swimming pool discharges; routine external building wash down which does not use detergents; street and pavement wash waters, where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed); fire hydrant flushing; or flows from emergency firefighting activities; and
 - (ii) The discharges are not sources of pollution to waters of the United States. A discharge is considered a source of pollution to waters of the United States if it:
 - 1) Contains hazardous materials in concentrations found to be of public health significance or to impair beneficial uses in receiving waters. (Hazardous materials are those

that are harmful to humans and animals from exposure, but not necessarily ingestion);

- 2) Contains toxic substances in concentrations that impair designated beneficial uses in receiving waters. (Toxic substances are those that can cause disease, malignancy, genetic mutation, death, or similar consequences);
 - 3) Contains deleterious materials in concentrations that impair designated beneficial uses in receiving waters. (Deleterious materials are generally substances that taint edible species of fish, cause taste in drinking waters, or cause harm to fish or other aquatic life);
 - 4) Contains radioactive materials or radioactivity at levels exceeding the values listed in 10 CFR Part 20 in receiving waters;
 - 5) Contains floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or in concentrations that may impair designated beneficial uses in receiving waters;
 - 6) Contains excessive nutrients that can cause visible slime growths or other nuisance aquatic growths that impair designated beneficial uses in receiving waters;
 - 7) Contains oxygen-demanding materials in concentrations that would result in anaerobic water conditions in receiving waters; or
 - 8) Contains sediment above quantities specified in IDAPA 58.01.02.250.02.e or in the absence of specific sediment criteria, above quantities that impair beneficial uses in receiving waters; or
 - 9) Contains material in concentrations that exceed applicable natural background conditions in receiving waters (IDAPA 58.01.02.200.09). Temperature levels may be increased above natural background conditions when allowed under IDAPA 58.01.02.401.
2. **Discharges Threatening Water Quality.** Permittees are not authorized to discharge storm water that will cause, or have the reasonable potential to cause or contribute to, an excursion above the Idaho water quality standards.
 3. **Snow Disposal to Receiving Waters.** Permittees are not authorized to push or dispose of snow plowed within the Permit area directly into waters of the United States, or directly into the MS4(s). Discharges from any Permittee's snow disposal and snow management practices are authorized under this Permit only when such sites and practices are designed, conducted, operated, and maintained to prevent and reduce pollutants in the discharges to the maximum

extent practicable so as to avoid excursions above the Idaho water quality standards.

4. **Storm Water Discharge Associated with Industrial and Construction Activity.** Permittees are authorized to discharge storm water associated with industrial activity (as defined in 40 CFR 122.26(b)(14)), and storm water associated with construction activity (as defined in 40 CFR 122.26(b)(14)(x) and (b)(15)), from their MS4s, only when such discharges are otherwise authorized under an appropriate NPDES permit.

II. Storm Water Management Program (SWMP) Requirements

A. General Requirements

1. **Reduce pollutants to the maximum extent practicable.** The Permittees must implement and enforce a SWMP designed to reduce the discharge of pollutants from their MS4 to the maximum extent practicable (MEP), and to protect water quality in receiving waters. The SWMP as defined in this Permit must include best management practices (BMPs), controls, system design, engineering methods, and other provisions appropriate to control and minimize the discharge of pollutants from the MS4s.
 - a) **SWMP Elements.** The required SWMP control measures are outlined in Part II.SWMP assessment/monitoring requirements are described in Part IV. Each Permittee must use practices that are selected, implemented, maintained, and updated to ensure that storm water discharges do not cause or contribute to an exceedance of an applicable Idaho water quality standard.
 - b) **SWMP Documentation.** Each Permittee must prepare written documentation of the SWMP as implemented within their jurisdiction. The SWMP documentation must be organized according to the program components in Parts II and IV of this Permit, and must provide a current narrative physical description of the Permittee's MS4, illustrative maps or graphics, and all related ordinances, policies and activities as implemented within their jurisdiction. Each Permittee's SWMP documentation must be submitted to EPA with the 1st Year Annual Report.
 - (i) Each Permittee must provide an opportunity for public review and comment on their SWMP documentation, consistent with applicable state or local requirements and Part II.B.6 of this Permit.
 - (ii) Each Permittee's SWMP documentation must be updated at least annually and submitted as part of each subsequent Annual Report. (The document format used for Annual Report(s) submitted to EPA by the Permittees' prior to the effective date of this Permit may be modified to meet this requirement.)
 - c) **SWMP Information.** The SWMP must include an ongoing program for gathering, tracking, maintaining, and using information to set priorities, evaluate SWMP implementation and Permit compliance.

- d) **SWMP Statistics.** Permittees must track the number of inspections, official enforcement actions and types of public education activities and outcomes as stipulated by the respective program component. This information must be included in the Annual Report.
2. **Shared Implementation with outside entities.** Implementation of one or more of the SWMP minimum control measures may be shared with or delegated to another entity other than the Permittee(s). A Permittee may rely on another entity only if:
 - a) The other entity, in fact, implements the minimum control measure;
 - b) The action, or component thereof, is at least as stringent as the corresponding Permit requirement; and
 - c) The other entity agrees to implement the minimum control measure on the Permittee's behalf. A binding written acceptance of this obligation is required. Each Permittee must maintain and record this obligation as part of the SWMP documentation. If the other entity agrees to report on the minimum control measure, the Permittees must supply the other entity with the reporting requirements in Part IV.C of this Permit. The Permittees remain responsible for compliance with the Permit obligation if the other entity fails to implement the required minimum control measure.
 3. **Modification of the SWMP.** Minor modifications to the SWMP may be made in accordance with Part II.E of this Permit.
 4. **Subwatershed Planning.** No later than September 30, 2016, the Permittees must jointly complete at least two individual sub-watershed plans for areas served by the MS4s within the Permit area. For the purposes of this Permit, the terms "subwatershed" and "storm sewershed" are defined as in Part VII. For each plan document, the subwatershed planning area must drain to at least one of the water bodies listed in Table II.C.

Selected subwatersheds must be identified in the 1st Year Annual Report. Two completed subwatershed plan documents must be submitted to EPA as part of the 4th Year Annual Report.

- a) The Permittees must actively engage stakeholders in the development of each plan, and must provide opportunities for public input, consistent with Part II.B.6.
- b) The Permittees may modify and update any existing watershed planning document(s) to address the requirements of this Part.
- c) Each subwatershed plan must describe the extent and nature of the existing storm sewershed, and identify priority aquatic resources and beneficial uses to be protected or restored within the subwatershed planning area. Each subwatershed plan must contain a prioritized list of potential locations or opportunities for protecting or restoring such resources or beneficial uses through storm water infiltration, evapotranspiration or rainfall

harvesting/reuse, or other site-based low impact development (LID) practices. See Parts II.B.2.a, and II.B.2.c.

- d) Each subwatershed plan must include consideration and discussion of how the Permittees will provide incentives, or enforce requirements, through their respective Stormwater Management Programs to address the following principles:
- (i) Minimize the amount of impervious surfaces (roads, parking lots, roofs) within each watershed, by minimizing the creation, extension and widening of roads and associated development.
 - (ii) Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.
 - (iii) Prevent or reduce thermal impacts to water bodies, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.
 - (iv) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.
 - (v) Preserve and protect trees, and other vegetation with important evapotranspirative qualities.
 - (vi) Preserve and protect native soils, prevent topsoil stripping, and prevent compaction of soils.

B. Minimum Control Measures. The following minimum control measures must be accomplished through each Permittee's Storm Water Management Program:

1. **Construction Site Runoff Control Program.** The Permittees must implement a construction site runoff control program to reduce discharges of pollutants from public and private construction activity within its jurisdiction. The Permittees' construction site management program must include the requirements described below:
 - a) **Ordinance and/or other regulatory mechanism.** To the extent allowable under local or state law, Permittees must adopt, implement, and enforce requirements for erosion controls, sediment controls, and materials management techniques to be employed and maintained at each construction project from initial clearing through final stabilization. Each Permittee must require construction site operators to maintain adequate and effective controls to reduce pollutants in storm water discharges from construction sites. The Permittees must use enforcement actions (such as, written warnings, stop work orders or fines) to ensure compliance.

No later than September 30, 2015, each Permittee must update their ordinances or other regulatory mechanisms, as necessary, to be consistent with this Permit and with the current version of the *NPDES General Permit for Storm Water Discharges from Construction Activities*, Permit #IDR12-0000 (NPDES Construction General Permit or CGP).

- b) **Manuals Describing Construction Storm Water Management Controls and Specifications.** The Permittees must require construction site operators within their jurisdiction to use construction site management controls and specifications as defined within manuals adopted by the Permittees.

No later than September 30, 2015, the Permittees must update their respective manuals, as necessary, to include requirements for the proper installation and maintenance of erosion controls, sediment controls, and material containment/pollution prevention controls during all phases of construction activity. The manual(s) must include all acceptable control practices, selection and sizing criteria, illustrations, and design examples, as well as recommended operation and maintenance of each practice. At a minimum, the manual(s) must include requirements for erosion control, sediment control, and pollution prevention which complement and do not conflict with the current version of the CGP. If the manuals previously adopted by the individual Permittee do not meet these requirements, the Permittee may create supplemental provisions to include as part of the adopted manual in order to comply with this Permit.

- c) **Plan Review and Approval.** The Permittees must review and approve preconstruction site plans from construction site operators within their jurisdictions. Permittees must ensure that the construction site operator is prohibited from commencing construction activity prior to receipt of written approval.
- (i) The Permittees must not approve any erosion and sediment control (ESC) plan or Storm Water Pollution Prevention Plan (SWPPP) unless it contains appropriate site-specific construction site control measures meeting the Permittee's requirements as outlined in Part II.B.1.b.
 - (ii) Prior to the start of a construction project disturbing one or more acres, or disturbing less than one acre but is part of a larger common plan of development, the Permittees must advise the construction site operator(s) to seek or obtain necessary coverage under the NPDES Construction General Permit.
 - (iii) Permittees must use qualified individuals, knowledgeable in the technical review of ESC plans/SWPPPs, to conduct such reviews.
 - (iv) Permittees must document the review of each ESC plan and/or SWPPP using a checklist or similar process.
- d) **Construction Site Inspections.** The Permittees must inspect construction sites occurring within their jurisdictions to ensure compliance with their

applicable requirements. The Permittees may establish an inspection prioritization system to identify the frequency and type of inspection based upon such factors as project type, total area of disturbance, location, and potential threat to water quality. If a prioritization system is used, the Permittee must include a description of the current inspection prioritization in the SWMP document required in Part II.A, and summarize the nature and number of inspections conducted during the previous reporting period in each Annual Report.

(i) Inspections of construction sites must include, but not be limited to:

- As applicable, a check for coverage under the Construction General Permit by reviewing any authorization letter or Notice of Intent (NOI) during initial inspections;
- Review the applicable ESC plan/SWPPP to determine if control measures have been installed, implemented, and maintained as approved;
- Assessment of compliance with the Permittees' ordinances/requirements related to storm water runoff, including the implementation and maintenance of required control measures;
- Assessment of the appropriateness of planned control measures and their effectiveness;
- Visual observation of non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
- Education or instruction related to on storm water pollution prevention practices, as needed or appropriate; and
- A written or electronic inspection report.

(ii) The Permittees must track the number of construction site inspections conducted throughout the reporting period, and verify that the sites are inspected at the minimum frequencies required by the inspection prioritization system. Construction site inspections must be tracked and reported with each Annual Report.

(iii) Based on site inspection findings, each Permittee must take all necessary follow-up actions (i.e., re-inspection, enforcement) to ensure compliance. Follow-up and enforcement actions must be tracked and reported with each Annual Report.

- e) **Enforcement Response Policy for Construction Site Management Program.** No later than September 30, 2016, each Permittee must develop and implement a written escalating enforcement response policy (ERP) appropriate to their organization. Upon implementation of the policy in its jurisdiction, each Permittee must submit its completed ERP to EPA with the 4th Year Annual Report. The ERP for City of Boise, City of Garden City, and Ada County Highway District must address enforcement of construction site runoff controls for all currently regulated construction projects within their jurisdictions. The ERP for Idaho Transportation Department District 3, Drainage District 3, and Boise State University must address contractual enforcement of construction site runoff controls at construction sites within their jurisdictions. Each ERP must describe the Permittee's potential responses to violations with an appropriate educational or enforcement response. The ERP must address repeat violations through progressively stricter responses as needed to achieve compliance. Each ERP must describe how the Permittee will use the following types of enforcement response, as available, based on the type of violation:
- (i) **Verbal Warnings:** Verbal warnings are primarily consultative in nature. At a minimum, verbal warnings must specify the nature of violation and required corrective action.
 - (ii) **Written Notices:** Written notices must stipulate the nature of the violation and the required corrective action, with deadlines for taking such action.
 - (iii) **Escalated Enforcement Measures:** The Permittees must have the legal ability to employ any combination of the enforcement actions below (or their functional equivalent):
 - The ERP must indicate when the Permittees will initiate a Stop Work Order. Stop work orders must require that construction activities be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate control measures.
 - The Permittees must also use other escalating measures provided under local or state legal authorities, such as assessing monetary penalties. The Permittees may perform work necessary to improve erosion control measures and collect the funds from the responsible party in an appropriate manner, such as collecting against the project's bond, or directly billing the responsible party to pay for work and materials.
- f) **Construction General Permit Violation Referrals.** For those construction projects which are subject to the NPDES Construction General Permit and do not respond to Permittee educational efforts, the Permittee may provide to EPA information regarding construction project operators which cannot demonstrate that they have appropriate NPDES Permit

coverage and/or site operators deemed by the Permittee as not complying with the NPDES Construction General Permit. Permittees may submit such information to the EPA NPDES Compliance Hotline in Seattle, Washington, by telephone, at (206) 553-1846, and include, at a minimum, the following information:

- Construction project location and description;
 - Name and contact information of project owner/ operator;
 - Estimated construction project disturbance size; and
 - An account of information provided by the Permittee to the project owner/ operator regarding NPDES filing requirements.
- (i) **Enforcement Tracking.** Permittees must track instances of non-compliance either in hard-copy files or electronically. The enforcement case documentation must include, at a minimum, the following:
- Name of owner/operator;
 - Location of construction project;
 - Description of violation;
 - Required schedule for returning to compliance;
 - Description of enforcement response used, including escalated responses if repeat violations occur;
 - Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violations, etc.); and
 - Any referrals to different departments or agencies.
- g) **Construction Program Education and Training.** Throughout the Permit term, the Permittees must ensure that all staff whose primary job duties are related to implementing the construction program (including permitting, plan review, construction site inspections, and enforcement) are trained to conduct such activities. The education program must also provide regular training opportunities for construction site operators. This training must include, at a minimum:
- (i) *Erosion and Sediment Control/Storm Water Inspectors:*
- Initial training regarding proper control measure selection, installation and maintenance as well as administrative requirements such as inspection reporting/tracking and the implementation of the enforcement response policy; and

- Annual refresher training for existing inspection staff to update them on preferred BMPs, regulation changes, Permit updates, and policy or standards updates.
- (ii) *Other Construction Inspectors:* Initial training on general storm water issues, basic control measure implementation information, and procedures for notifying the appropriate personnel of noncompliance.
- (iii) *Plan Reviewers:*
- Initial training regarding control measure selection, design standards, review procedures;
 - Annual training regarding new control measures, innovative approaches, Permit updates, regulation changes and policy or standard updates.
- (iv) *Third-Party Inspectors and Plan Reviewers.* If the Permittee utilizes outside parties to either conduct inspections and or review plans, these outside staff must be trained per the requirements listed in Part II.B.1.f.i.-iii above.
- (v) *Construction Operator Education.* At a minimum, the Permittees must educate construction site operators within the Permit area as follows:
- At least once per year, the Permittees must either provide information to all construction companies on existing training opportunities or develop new training for construction operators regarding appropriate selection, installation, and use of required construction site control measures at sites within the Permit area.
 - The Permittees must require construction site operators to have at least one person on-site during construction that is appropriately trained in erosion and sediment control.
 - The Permittees must require construction operators to attend training at least once every three years.
 - The Permittees must provide appropriate information and outreach materials to all construction operators who may disturb land within their jurisdiction.

2. Storm Water Management for Areas of New Development and Redevelopment.

At a minimum, the Permittees must implement and enforce a program to control storm water runoff from new development and redevelopment projects that result in land disturbance of 5,000 square feet or more, excluding individual one or two family dwelling development or redevelopment. This program must apply to private and public sector development, including roads and streets. The program implemented by the Permittees must ensure that permanent controls or practices are utilized at each new development and redevelopment site to protect water quality. The program must include, at a minimum, the elements described below:

- a) **Ordinance or other regulatory mechanisms.** No later than the expiration date of this Permit, each Permittee must update its applicable ordinance or regulatory mechanism which requires the installation and long-term maintenance of permanent storm water management controls at new development and redevelopment projects. Each Permittee must update their ordinance/regulatory mechanism to the extent allowed by local and state law, consistent with the individual Permittee's respective legal authority. Permittees must submit their revised ordinance/regulatory mechanism as part of the 5th Year Annual Report.
 - (i) The ordinance/regulatory mechanism must include site design standards for all new and redevelopment that require, in combination or alone, storm water management measures that keep and manage onsite the runoff generated from the first 0.6 inches of rainfall from a 24-hour event preceded by 48 hours of no measureable precipitation. Runoff volume reduction can be achieved by canopy interception, soil amendments, bioretention, evapotranspiration, rainfall harvesting, engineered infiltration, extended filtration, and/or any combination of such practices that will capture the first 0.6 inches of rainfall. An Underground Injection Control permit may be required when certain conditions are met. The ordinance or regulatory mechanism must require that the first 0.6 inches of rainfall be 100% managed with no discharge to surface waters, except when the Permittee chooses to implement the conditions of II.B.2.a.ii below.
 - (ii) For projects that cannot meet 100% infiltration/evapotranspiration/reuse requirements onsite, the Permittees' program may allow offsite mitigation within the same subwatershed, subject to siting restrictions established by the Permittee. The Permittee allowing this option must develop and apply criteria for determining the circumstances under which offsite mitigation may be allowed. A determination that the onsite retention requirement cannot be met must be based on multiple factors, including but not limited to technical feasibility or logistic practicality (e.g. lack of available space, high groundwater, groundwater contamination, poorly infiltrating soils, shallow bedrock, and/or a land use that is inconsistent with

capture and reuse or infiltration of storm water). Determinations may not be based solely on the difficulty and/or cost of implementing such measures. The Permittee(s) allowing this option must create an inventory of appropriate mitigation projects and develop appropriate institutional standards and management systems to value, estimate and track these situations. Using completed subwatershed plans or other mechanisms, the Permittee(s) must identify priority areas within subwatersheds in which off-site mitigation may be conducted.

- (iii) The ordinance or regulatory mechanism must include the following water quality requirements:
- Projects with potential for excessive pollutant loading(s) must provide water quality treatment for associated pollutants before infiltration.
 - Projects with potential for excessive pollutant loading(s) that cannot implement adequate preventive or water quality treatment measures to ensure compliance with Idaho surface water standards must properly convey storm water to a NPDES permitted wastewater treatment facility or via a licensed waste hauler to a permitted treatment and disposal facility.
- (iv) The ordinance or other regulatory mechanism must include procedures for the Permittee's review and approval of permanent storm water management plans for new development and redevelopment projects consistent with Part II.B.1.d.
- (v) The ordinance or other regulatory mechanism must include sanctions (including fines) to ensure compliance, as allowed under state or local law.
- b) **Storm Water Design Criteria Manual.** No later than September 30, 2015, each Permittee must update as necessary their existing Storm Water Design Criteria Manual specifying acceptable permanent storm water management and control practices. The manual must contain design criteria for each practice. In lieu of updating a manual, a Permittee may adopt a manual created by another entity which complies with this section. The manual must include:
- (i) Specifications and incentives for the use of site-based practices appropriate to local soils and hydrologic conditions;
 - (ii) A list of acceptable practices, including sizing criteria, performance criteria, design examples, and guidance on selection and location of practices; and
 - (iii) Specifications for proper long term operation and maintenance, including appropriate inspection interval and self-inspection checklists for responsible parties.

- c) **Green Infrastructure/Low Impact Development (LID) Incentive Strategy and Pilot Projects.** No later than September 30, 2015, the Permittees must develop a strategy to provide incentives for the increased use of LID techniques in private and public sector development projects within each Permittee's jurisdiction. Permittees must comply with applicable State and local public notice requirements when developing this Strategy. Pursuant to Part IV.A.2.a, the Strategy must reference methods of evaluating at least three (3) Green Infrastructure/LID pilot projects as described below. Permittees must implement the Green Infrastructure/LID Incentive Strategy, and complete an effectiveness evaluation of at least three pilot projects, prior to the expiration date of this Permit.
- (i) As part of the 3rd Year Annual Report, the Permittees must submit the written Green Infrastructure /LID Incentive Strategy; the Strategy must include a description of at least three selected pilot projects, and a narrative report on the progress to evaluate the effectiveness of each selected LID technique or practice included in the pilot project. Each pilot project must include an evaluation of the effectiveness of LID technique(s) or practice(s) used for on-site control of water quality and/or quantity. Each Pilot Project must involve at least one or more of the following characteristics:
- The project manages runoff from at least 3,000 square feet of impervious surface;
 - The project involves transportation related location(s) (including parking lots);
 - The drainage area of the project is greater than five acres in size; and/or
 - The project involves mitigation of existing storm water discharges to one or more of the water bodies listed in Table II.C.
- (ii) Consistent with Part IV.A.10, the Permittees must evaluate the performance of LID technique(s) or practice(s) in each pilot project, and include a progress report on overall strategy implementation in the 4th Annual Report. Final pilot project evaluations must be submitted in the 5th Year Annual Report. The Permittees must monitor, calculate or model changes in runoff quantities for each of the pilot project sites in the following manner:
- For retrofit projects, changes in runoff quantities shall be calculated as a percentage of 100% pervious surface before and after implementation of the LID technique(s) or practice(s).
 - For new construction projects, changes in runoff quantities shall be calculated for development scenarios both with LID technique(s) or practice(s) and without LID technique(s) or practice(s).

- The Permittees must measure runoff flow rate and subsequently prepare runoff hydrographs to characterize peak runoff rates and volumes, discharge rates and volumes, and duration of discharge volumes. The evaluation must include quantification and description of each type of land cover contributing to surface runoff for each pilot project, including area, slope, vegetation type and condition for pervious surfaces, and the nature of impervious surfaces.
 - The Permittees must use these runoff values to evaluate the overall effectiveness of various LID technique(s) or practice(s) and to develop recommendations for future adoption of LID technique(s) or practice(s) that address appropriate use, design, type, size, soil type and operation and maintenance practices.
- (iii) **Riparian Zone Management and Outfall Disconnection.** No later than September 30, 2015, the Permittees must identify and prioritize riparian areas appropriate for Permittee acquisition and protection. Prior to the expiration date of this Permit, the Permittees must undertake and complete at least one project designed to reduce the flow of untreated urban storm water discharging through the MS4 system through the use of vegetated swales, storm water treatment wetlands and/or other appropriate techniques. The Permittees must submit the list of prioritized riparian protection areas, and a status report on the planning and implementation of the outfall disconnection project, as part of the 3rd Year Annual Report. Documentation of the completed outfall disconnection project must be included in the 5th Year Annual Report.
- (iv) **Repair of Public Streets, Roads and Parking Lots.** When public streets, roads or parking lots are repaired (as defined in Part VII), the Permittees performing these repairs must evaluate the feasibility of incorporating runoff reduction techniques into the repair by using canopy interception, bioretention, soil amendments, evaporation, rainfall harvesting, engineered infiltration, rain gardens, infiltration trenches, extended filtration and/or evapotranspiration and/or any combination of the aforementioned practices. Where such practices are found to be technically feasible, the Permittee performing the repair must use such practices in the design and repair. These requirements apply only to projects whose design process is started after the effective date of this Permit. As part of the 5th Year Annual Report, the Permittees must list the locations of street, road and parking lot repair work completed since the effective date of the Permit that have incorporated such runoff reduction practices, and the receiving water body(s) benefitting from such practices. This documentation must include a general description of the project design, estimated total cost, and estimates of total flow

volume and pollutant reduction achieved compared to traditional design practices.

- d) **Plan Review and Approval.** The Permittees must review and approve pre-construction plans for permanent storm water management. The Permittees must review plans for consistency with the ordinance/regulatory mechanism and Storm Water Design Criteria Manual required by this Part. The Permittees must ensure that the project operator is prohibited from commencing construction activity prior to receipt of written approval from the Permittee.
- (i) The Permittees must not approve or recommend for approval any plans for permanent storm water controls that do not contain appropriate permanent storm water management practices that meet the minimum requirements specified in this Part.
 - (ii) Permittees must use qualified individuals, knowledgeable in the technical review of plans for permanent storm water controls to conduct such reviews.
 - (iii) Permittees must document the review of each plan using a checklist or similar process.
- e) **Operation and Maintenance (O&M) of Permanent Storm Water Management Controls.**
- (i) **Inventory and Tracking.** The Permittees must maintain a database tracking all new public and private sector permanent storm water controls. No later than January 30, 2018, all of the available data on existing permanent storm water controls known to the Permittees must be included in the inventory database. For the purposes of this Part, new permanent controls are those installed after February 1, 2013; existing permanent controls are those installed prior to February 1, 2013. The tracking must begin in the plan review stage with a database that incorporates geographic information system (GIS) information. The tracking system must also include, at a minimum: type and number of practices; O&M requirements, activity and schedule; responsible party; and self-inspection schedule.
 - (ii) **O&M Agreements.** Where parties other than the Permittees are responsible for operation and maintenance of permanent storm water controls, the Permittees must require a legally enforceable and transferable O&M agreement with the responsible party, or other mechanism, that assigns permanent responsibility for maintenance of structural or treatment control storm water management practices.
- f) **Inspection and Enforcement of Permanent Storm Water Management Controls.** The Permittees must ensure proper long term operation and

maintenance of all permanent storm water management practices within the Permittees' respective jurisdiction. The Permittees must implement an inspection program, and define and prioritize new development and redevelopment sites for inspections of permanent storm water management controls. Factors used to prioritize sites must include, but not be limited to: size of new development or redevelopment area; sensitivity and/or impaired status of receiving water(s); and, history of non-compliance at the site during the construction phase.

- (i) No later than September 30, 2017, all high priority locations must be inventoried and associated inspections must be scheduled to occur at least once annually. The inspections must determine whether storm water management or treatment practices have been properly installed (i.e., an "as built" verification). The inspections must evaluate the operation and maintenance of such practices, identify deficiencies and potential solutions, and assess potential impacts to receiving waters.
 - (ii) No later than September 30, 2017, the Permittees must develop checklists to be used by inspectors during these inspections, and must maintain records of all inspections conducted on new development and redevelopment sites.
 - (iii) No later than September 30, 2017, the Permittees must develop and implement an enforcement strategy similar to that required in Section II.B.1.e to maintain the integrity of permanent storm water management and treatment practices.
- g) **Education and Training on Permanent Storm Water Controls.** No later than September 30, 2015, the Permittees must begin a training program for appropriate audiences regarding the selection, design, installation, operation and maintenance of permanent storm water controls. The training program and materials must be updated as necessary to include information on updated or revised storm water treatment standards, design manual specifications, Low Impact Development techniques or practices, and proper operation and maintenance requirements.
- (i) No later than September 30, 2016, and annually thereafter, all persons responsible for reviewing plans for new development and redevelopment and/or inspecting storm water management practices and treatment controls must receive training sufficient to determine the adequacy of storm water management and treatment controls at proposed new development and redevelopment sites.
 - (ii) No later than September 30, 2016, and at least annually thereafter, Permittees must provide training to local audiences on the storm water management requirements described in this Part.

3. Industrial and Commercial Storm Water Discharge Management. The Permittees must implement a program to reduce to the MEP the discharge of pollutants from industrial and commercial operations within their jurisdiction. Throughout the Permit term, the Permittees must conduct educational and/or enforcement efforts to reduce the discharge of pollutants from those industrial and commercial locations which are considered to be significant contributors of phosphorus, bacteria, temperature, and/or sediment to receiving waters. At a minimum, the program must include the following elements:

- a) **Inventory of Industrial and Commercial Facilities/Activities.** No later than September 30, 2016, the Permittees must update the inventory and map of facilities and activities discharging directly to their MS4s.
 - (i) At a minimum, the inventory must include information listing the watershed/receiving water body, facility name, address, nature of business or activity, and North American or Standard Industrial Classification code(s) that best reflect the facility's product or service;
 - (ii) The inventory must include the following types of facilities: municipal landfills (open and closed); Permittee-owned maintenance yards and facilities; hazardous waste recovery, treatment, storage and disposal facilities; facilities subject to Section 313 of the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. 11023; all industrial sectors listed in 40 CFR §122.26(b)(14); vehicle or equipment wash systems; commercial animal facilities, including kennels, race tracks, show facilities, stables, or other similar commercial locations where improper management of domestic animal waste may contribute pollutants to receiving waters or to the MS4; urban agricultural activities; and other industrial or commercial facility that the Permittees determine is contributing a substantial pollutant loading to the MS4 and associated receiving waters.
 - (iii) The Permittees must collectively identify at least two specific industrial/commercial activities or sectors operating within the Permit area for which storm water discharges are not being adequately addressed through existing programs. No later than September 30, 2016, the Permittees must develop best management practices for each activity, and educate the selected industrial/commercial audiences regarding these performance expectations. Example activities for consideration include, but are not limited to: landscaping businesses; wholesale or retail agricultural and construction supply businesses; urban agricultural activities; power washers; commercial animal facilities; commercial car/truck washing operations; and automobile repair shops.
- b) **Inspection of Industrial and Commercial Facilities/Activities.** The Permittees must work cooperatively throughout the Permit term to prioritize

and inspect selected industrial and commercial facilities/activities which discharge to receiving waters or to the MS4. No later than September 30, 2016, any existing agreements between the Permittees to accomplish such inspections must be updated as necessary to comply with this permit. At a minimum, the industrial and commercial facility inspection program must include:

- (i) Priorities and procedures for inspections, including inspector training, and compliance assistance or education materials to inform targeted facility/activity operators of applicable requirements;
 - (ii) Provisions to record observations of a facility or activity;
 - (iii) Procedures to report findings to the inspected facility or activity, and to follow-up with the facility/activity operator as necessary;
 - (iv) A monitoring (or self monitoring) program for facilities that assesses the type and quantity of pollutants discharging to the MS4s;
 - (v) Procedures to exercise legal authorities to ensure compliance with applicable local storm water ordinances.
- c) **Maintain Industrial and Commercial Facility/Activity Inventory.** The industrial and commercial facility/activity inventory must be updated at least annually. The updated inventory and a summary of the compliance assistance and inspection activities conducted, as well as any follow-up actions, must be submitted to EPA with each Annual Report.

4. Storm Water Infrastructure and Street Management. The Permittees must maintain their MS4 and related facilities to reduce the discharge of pollutants from the MS4 to the MEP. All Permittee-owned and operated facilities must be properly operated and maintained. This maintenance requirement includes, but is not limited to, structural storm water treatment controls, storm sewer systems, streets, roads, parking lots, snow disposal sites, waste facilities, and street maintenance and material storage facilities. The program must include the following:

- a) **Storm Sewer System Inventory and Mapping.** No later than January 30, 2018, the Permittees must update current records to develop a comprehensive inventory and map of the MS4s and associated outfall locations. The inventory must identify all areas over which each Permittee has responsibility. The inventory must include:
- (i) the location of all inlets, catch basins and outfalls owned/operated by the Permittee;
 - (ii) the location of all MS4 collection system pipes (laterals, mains, etc.) owned/operated by the Permittee, including locations where the MS4 is physically interconnected to the MS4 of another operator ;

- (iii) the location of all structural flood control devices, if different from the characteristics listed above;
- (iv) the names and locations of receiving waters of the U.S. that receive discharges from the outfalls;
- (v) the location of all existing structural storm water treatment controls;
- (vi) identification of subwatersheds, associated land uses, and approximate acreage draining into each MS4 outfall; and
- (vii) the location of Permittee-owned vehicle maintenance facilities, material storage facilities, maintenance yards, and snow disposal sites; Permittee-owned or operated parking lots and roadways.

A summary description of the Permittees' storm sewer system inventory and a map must be submitted to EPA as part of the reapplication package required by Part VI.B

- b) **Catch Basin and Inlet Cleaning.** No later than September 30, 2016, the Permittees must initiate an inspection program to inspect all Permittee-owned or operated catch basins and inlets at least every two years and take appropriate maintenance action based on those inspections. Inspection records must be maintained and summarized in each Annual Report.
- c) **Street and Road Maintenance.** No later than September 30, 2015, the Permittees responsible for road and street maintenance must update any standard operating procedures for storm water controls to ensure the use of BMPs that, when applied to the Permittee's activity or facility, will protect water quality, and reduce the discharge of pollutants to the MEP. The operating procedures must contain, for each activity or facility, inspection and maintenance schedules specific to the activity, and appropriate pollution prevention/good housekeeping procedures for all of the following types of facilities and/or activities listed below. Water conservation measures should be considered for all landscaped areas.
 - (i) **Streets, roads, and parking lots.** The procedures must address, but are not limited to: road deicing, anti-icing, and snow removal practices; snow disposal areas; street/road material (e.g. salt, sand, or other chemical) storage areas; maintenance of green infrastructure/low impact development practices; and BMPs to reduce road and parking lot debris and other pollutants from entering the MS4. Within four years of the effective date of this permit, the Permittees must implement all of the pollution prevention/good housekeeping practices established in the SOPs for all streets, roads, highways, and parking lots with more than 3,000 square feet of impervious surface that are owned, operated, or maintained by the Permittees.
 - (ii) **Inventory of Street Maintenance Materials.** Throughout the Permit term, all Permittees with street maintenance

responsibilities must maintain an inventory of street /road maintenance materials, including use of sand and salt, and document the inventory in the corresponding Annual Reports.

- (iii) **Manage Sand with Salt and Salt Storage Areas.** No later than September 30, 2017, the Permittees must address any sand, salt, or sand with salt material stockpiles at each of their materials storage locations to prevent pollutants in stormwater runoff from discharging to the MS4 or into any receiving waterbody. Examples how the Permittee may choose to address runoff from their material storage areas include, but are not limited to: building covered storage areas; fully containing the material stockpile area in a manner that prevents runoff from discharging to the MS4 or a receiving waterbody; relocating and/or otherwise consolidating material storage piles to alternative locations which prevents discharges to the MS4 or a receiving waterbody. The Permittees must identify their material storage locations in the SWMP documentation submitted to EPA with the 1st year Annual Report and reference the average quantity of material stored at each location in the inventory required in Part II.B.4.c.ii. Permittees must document in the 5th Year Annual Report how their material stockpiles have been addressed to prevent runoff from discharging to the MS4 or a receiving waterbody.
- d) **Street, Road and Parking Lot Sweeping.** Each Permittee with street, road, and/or public parking lot maintenance responsibilities must update their respective sweepings management plans no later than September 30, 2015. Each updated plan must designate all streets, roads, and/or public parking lots which are owned, operated or maintained by that Permittee to fit within one of the following categories for sweeping frequency based on land use, traffic volumes or other factors:
- Residential – Streets and road segments that include, but are not limited to, light traffic zones and residential zones.
 - Arterial and all other – Streets and road segments with high traffic volumes serving commercial or industrial districts.
 - Public Parking Lots – large lots serving schools and cultural facilities, plazas, sports and event venues or similar facilities.
- (i) No later than September 30, 2014, each Permittee with street, road, and/or public parking lot maintenance responsibilities must inventory and map all of their designated streets, roads, and public parking lots for sweeping frequency. The resulting inventory and map must be submitted as part of the 2nd Year Annual Report.
- (ii) No later than September 30, 2015, Permittees with street, road, and/or public parking lot maintenance responsibilities must

sweep all streets, roads, and public parking lots that are owned, operated or maintained by that Permittee according to the following schedule:

Table II.B-2

Roadway Type	Sweeping Schedule			
	Two Times Per Month	Every Six Weeks	Four Times Per Year	One Time Per Year
Downtown Areas of Boise and Garden City	X			
Arterial and Collector Roadways (non-downtown)		X		
Residential Roadways			X	
Paved Alleys and Public Parking Lots				X

- (iii) If a Permittee’s existing overall street/road/parking lot sweeping program provides equivalent or greater street sweeping frequency to the requirements above, the Permittee must continue to implement its existing street/road/parking lot sweeping program.
- (iv) For areas where sweeping is technically infeasible, the Permittees with street, road, and/or public parking lot maintenance responsibilities must document in the 1st Year Annual Report each area and indicate why sweeping is infeasible. The Permittee must document what alternative sweeping schedule will be used, or how the Permittee will increase implementation of other trash/litter control procedures to minimize pollutant discharges to the MS4 and to receiving waters.
- (v) The Permittees with street, road, and/or public parking lot maintenance responsibilities must estimate the effectiveness of their street sweeping activities to minimize pollutant discharges to the MS4 and receiving waters, and document the following in each Annual Report:

- Identify any significant changes to the designated road/street/parking lot inventory and map, and the basis for those changes;
 - Report annually on types of sweepers used, swept curb and/or lane miles, dates of sweeping by general location and frequency category, volume or weight of materials removed and a representative sample of the particle size distribution of swept material;
 - Report annually on any public outreach efforts or other means to address excess leaves and other material as well as areas that are infeasible to sweep.
- e) **Implement appropriate requirements for pesticide, herbicide, and fertilizer applications.** Permittees must continue to implement practices to reduce the discharge of pollutants to the MS4 associated with the application, storage and disposal of pesticides, herbicides and fertilizers from municipal areas and activities. Municipal areas and activities include, at a minimum, municipal facilities, public right-of-ways, parks, recreational facilities, golf courses, and landscaped areas. All employees or contractors of the Permittees applying restricted use pesticides must be registered as certified applicators.
- f) **Develop and implement Storm Water Pollution Prevention Plans.** No later than September 30, 2015, the Permittees must develop and implement SWPPPs for all Permittee-owned material storage facilities, and maintenance yards located within the Permit area and identified in the inventory required in Parts II.B.3.a and II.B.4.a.viii. Permittee-owned facilities discharging storm water associated with industrial activity as defined in 40 CFR 122.26(b)(14) must obtain separate NPDES permit coverage as required in Part I.D.4 of this permit.
- g) **Storm Water Management.** Each Permittee must ensure that any storm water management projects it undertakes after the effective date of this Permit are designed and implemented to prevent adverse impacts on water quality.
- (i) Permittees must evaluate the feasibility of retrofitting existing storm water control devices to provide additional pollutant removal from collected storm water.
 - (ii) No later than the expiration date of this Permit, Permittees must identify and define all locations where such retrofit project opportunities are feasible, identify appropriate funding sources, and outline project timelines or schedule(s) for retrofit projects designed to better control the discharge of pollutants of concern to the Boise River and its tributaries.
- h) **Litter Control.** Throughout the Permit term, each Permittee must continue to implement effective methods to reduce litter within their jurisdiction. Permittees must work with others as appropriate to control litter on a

regular basis and after major public events to reduce the discharge of pollutants to receiving waters.

- i) **Training.** The Permittees must provide regular training to appropriate Permittee staff on all operations and maintenance procedures designed to prevent pollutants from entering the MS4 and receiving waters. Appropriate Permittee staff must receive training no later than September 30, 2015, and annually thereafter.

5. Illicit Discharge Management. An illicit discharge is any discharge to an MS4 that is not composed entirely of storm water. Exceptions are described in Part I.D. of this permit. The Permittees must continue to implement their illicit discharge management program to reduce to the MEP the unauthorized and illegal discharge of pollutants to the MS4. The program must include:

- a) **Ordinance or other regulatory mechanisms.** Upon the effective date of this Permit, the Permittees must effectively prohibit non-storm water discharges to the MS4 (except those identified in Part 1.D of this permit) through enforcement of relevant ordinances or other regulatory mechanisms. Such ordinances/regulatory mechanisms must be updated prior to the expiration date of this Permit as necessary to provide adequate controls. To be considered adequate, an ordinance or regulatory mechanism must:
 - (i) Authorize the Permittee to prohibit, at a minimum, the following discharges to the MS4, unless otherwise authorized in Part 1.D:
 - Sewage;
 - Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
 - Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility, including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
 - Discharges of wash water from mobile operations, such as mobile automobile or truck washing, steam cleaning, power washing, and carpet cleaning, etc.;
 - Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas - including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc. - where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
 - Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;

- Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
 - Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
 - Discharges of food-related wastes (grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).
- (ii) Prohibit and eliminate illicit connections to the MS4;
- (iii) Control the discharge of spills, and prohibit dumping or disposal of materials other than storm water into the MS4.
- b) **Illicit Discharge Complaint Reporting and Response Program.** At a minimum, Permittees must respond to reports of illicit discharges from the public in the following manner:
- (i) **Complaint/Reporting Hotline.** The Permittees must maintain the dedicated telephone number and email address, or other publicly available and accessible means in addition to the website required in Part II.B.6, for use by the public to report illicit discharges. This complaint hotline must be answered by trained staff during normal business hours. During non-business hours, a system must be in place to record incoming calls to the hotline and a system must be in place to guarantee timely response. The telephone number must be printed on appropriate education, training, and public participation materials produced under Part II.B.6, and clearly listed in the local telephone book as appropriate.
- (ii) **Response to Complaints/Reports.** The Permittees must respond to all complaints or reports of illicit discharges as soon as possible, but no later than within two working days.
- (iii) **Maintain log of complaints/reports received and actions taken.** The Permittees must maintain a record documenting all complaints or reports of illicit discharges and responses taken by the Permittees.
- c) **Illicit Discharge Mapping.** No later than September 30, 2014, the Permittees must develop a map of reported and documented illicit discharges or illicit connections to identify priority areas. The map must identify, at a minimum, the location, type and relative quantity or severity of the known, recurrent or ongoing non-storm water discharges to the MS4. This map must be updated annually and used to target the specific outfall locations for that field screening season.
- d) **Dry Weather Outfall Screening Program.** Permittees must implement, and update as necessary, a dry weather analytical and field screening monitoring program. This dry weather outfall screening program must emphasize frequent, geographically widespread monitoring to detect illicit discharges and illegal connections, and to reinvestigate potentially

problematic outfalls. At a minimum, the procedures must be based on the following guidelines and criteria:

- (i) **Outfall Identification.** The Permittees must update as necessary the storm water outfall identification and screening plan, describing the reconnaissance activities that must be performed and information used to prioritize targeted outfalls and associated land uses.. The plan must discuss how chemical and microbiological analysis will be conducted on any flows identified during dry weather screening, including field screening methodologies and associated trigger thresholds to be used for determining follow-up action.
- (ii) **Monitoring Illicit Discharges.** No later than September 30, 2015, dry weather analytical and field screening monitoring must be conducted at least once annually (or more often if the Permittees deem necessary). One third of the outfalls to be screened annually must be conducted within the June 1 and September 30th timeframe.
 - Upon the effective date of the Permit, the Permittees must conduct visual dry weather screening of at least 20% of their total outfalls per year.
 - The outfalls must be geographically dispersed across the MS4 and must represent all major land uses in the Permit area. In addition, the Permittees must ensure that dry weather screening includes, but is not limited to, screening of 20% outfalls discharging to impaired waters listed in Table II.C.
 - When flows during dry weather are identified the Permittees must collect grab samples of the discharge for in-field analysis of the following indicator constituents: pH; total chlorine; detergents as surfactants; total copper; total phenols; *E. coli*; total phosphorus; turbidity; temperature; and suspended solids concentrations (to be measured in mg/L).
 - Photos may be used to document conditions.
 - Results of field sampling must be compared to established trigger threshold levels and/or existing state water quality standards. If the outfall is dry (no flowing or ponded runoff), the Permittees must make and record all applicable visual observations.
 - All dry weather flows previously identified or documented by the Permittees to be associated with irrigation flows or ground water seepage must be sampled to assess pollutant loading associated with such flows. The results must be evaluated to identify feasible actions necessary to eliminate such flows and ensure compliance with Part I.D of this Permit. If field sample

results of such irrigation or groundwater seepage comply with Part I.D of this permit, annual sampling of that dry weather flow at that outfall is no longer required. Permittees must document in the SWMP document the specific location(s) of outfalls associated with these results as well as the Permittee's rationale for the conclusion to discontinue future dry weather screening at that location..

- (iii) **Maintain Records of Dry Weather Screening.** The Permittees must keep detailed records of the dry weather screening with the following information at a minimum: time since last rain event; quantity of last rain event; site description (e.g., conveyance type, dominant watershed land uses); flow estimation (e.g., width of water surface, approximate depth of water, approximate flow velocity, flow rate); visual observations (e.g., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology); results of any in field sampling; and recommendations for follow-up actions to address identified problems, and documentation of completed follow-up actions.
- e) **Follow-up.** The Permittees must investigate recurring illicit discharges identified as a result of complaints or as a result of dry weather screening inspections and sampling within fifteen (15) days of its detection to determine the source. Permittees must take appropriate action to address the source of the ongoing illicit discharge within 45 days of its detection.
- f) **Prevent and Respond to Spills to the MS4.** Throughout the Permit term, the Permittees must coordinate appropriate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies to ensure maximum water quality protection at all times. The Permittees must respond to, contain and clean up all sewage and other spills that may discharge into the MS4 from any source (including private laterals and failing septic systems).
- g) **Facilitate Disposal of Used Oil and Toxic Materials.** The Permittees must continue to coordinate with appropriate agencies to ensure the proper management and disposal or recycling of used oil, vehicle fluids, toxic materials, and other household hazardous wastes by their employees and the public. Such a program must include educational activities, public information activities, and establishment of collection sites operated by the Permittees or other entity. The program must be implemented throughout the Permit term.
- h) **Training.** No later than September 30, 2014, and annually thereafter, the Permittees must develop and provide training to staff on identifying and eliminating illicit discharges, spill, and illicit connections to the MS4. At a minimum, the Permittee's construction inspectors, maintenance field staff, and code compliance officers must be sufficiently trained to respond to illicit discharges and spills to the MS4.

6. Education, Outreach and Public Involvement.

- a) **Comply with Applicable Requirements.** The Permittees must comply with applicable State and local public notice requirements when implementing their SWMP public involvement activities.
- b) **Implement an Ongoing Education Outreach and Involvement Program.** The Permittees must conduct, or contract with other entities to conduct, an ongoing joint education, outreach and public involvement program aimed at residents, businesses, industries, elected officials, policy makers, and Permittee planning staff /other employees.

The goal of the education and outreach program is to reduce or eliminate behaviors and practices that cause or contribute to adverse storm water impacts. The goal of the public involvement program is to engage interested stakeholders in the development and implementation of the Permittees' SWMP activities to the extent allowable pursuant to the respective authority granted individual Permittees under Idaho law.

The Permittees' joint education and public involvement program must be designed to improve each target audience's understanding of the selected storm water issues, engage stakeholders, and help target audiences understand what they can do to positively impact water quality by preventing pollutants from entering the MS4.

- (i) No later than September 30, 2014, the Permittees must implement or participate in an education, outreach and public involvement program using a variety of methods to target each of the audiences and at least one or more of the topics listed below:

- 1) General Public

- Watershed characteristics and subwatershed planning efforts as required in Part II.A.4;
- General impacts of storm water flows into surface water;
- Impacts from impervious surfaces;
- Source control best management practices and environmental stewardship, actions and opportunities for pet waste control/disposal, vehicle maintenance, landscaping and vegetative buffers;
- Water wise landscaping, water conservation, water efficiency.

- 2) General public and businesses, including home based and mobile businesses

- Best management practices for use and storage of automotive chemicals, hazardous cleaning supplies, vehicle wash soaps and other hazardous materials;

- Proper use and application of pesticides, herbicides and fertilizers;
 - Impacts of illicit discharges and how to report them;
 - Water wise landscaping, water conservation, water efficiency.
- 3) Homeowners, homeowner's associations, landscapers, and property managers
- Yard care techniques protective of water quality, such as composting;
 - Best management practices for use and storage of pesticides, herbicides, and fertilizers;
 - Litter and trash control and recycling programs;
 - Best management practices for power washing, carpet cleaning and auto repair and maintenance;
 - Low Impact Development techniques, including site design, pervious paving, retention of mature trees and other vegetation;
 - Storm water treatment and flow/volume control practices;
 - Water wise landscaping, water conservation, water efficiency.
- 4) Engineers, contractors, developers, review staff, and land use planners
- Technical standards for storm water site plans;
 - Low Impact Development techniques, including site design, pervious paving, retention of mature trees and other vegetation;
 - Storm water treatment and flow/volume control practices;
 - Water wise landscaping, water conservation, water efficiency.
- 5) Urban farmers and managers of public and private community gardens
- Water wise landscaping, water conservation, and water efficiency.
- (ii) The Permittees must assess, or participate in an effort to assess understanding and adoption of behaviors by the target audiences.

The resulting assessments must be used to direct storm water education and outreach resources most effectively.

- (iii) The Permittees must track and maintain records of public education, outreach and public involvement activities.
- c) **Targeted Education and Training.** For the specific topics identified in the Permit sections listed below, the Permittees must develop and implement, or contract with other entities to implement, targeted training programs to educate appropriate Permittee staff or other audiences within their jurisdiction. Where joint, cooperative education efforts to address these topics are not feasible, the individual Permittee must ensure that the necessary education and training occurs for the following topics:
- (i) II.B.1.f - Construction Storm Water Management Training for construction site operators and Permittee staff;
 - (ii) II.B.2.g – Permanent Storm Water Control Training for project operators and Permittee staff;
 - (iii) II.B.4.i– Storm Water Infrastructure and Street Management/ Maintenance training for the Permittee staff; and
 - (iv) II.B.5.h – Illicit Discharge Management Training for Permittee staff.
- d) **Storm Water Website.** The Permittees must maintain and promote at least one publicly-accessible website that identifies each Permittee’s SWMP activities and seeks to educate the audiences listed in Part II.B.6.b.i. The website(s) must describe and provide relevant information regarding the activities of all Permittees. The website must be updated no later than February 1, 2014, and updated at least quarterly thereafter as new material is available. The website must incorporate the following features:
- (i) All reports, plans, or documents generated by each Permittee in compliance with this Permit must be posted on the website in draft form when input from the public is being solicited, and in final form when the document is completed.
 - (ii) Information and/or links to key sites that provide education, training, licensing, and permitting related to construction and post-construction storm water management controls and requirements for each jurisdiction. The website must include links to all applicable ordinances, policies and/or guidance documents related to the Permittees’ construction and post-construction stormwater management control programs.
 - (iii) Information and/or links to appropriate controls for industrial and commercial activities,
 - (iv) Information and/or links to assist the public to report illicit connections and illegal dumping activity;

- (v) Appropriate Permittee contact information, including phone numbers for relevant staff and telephone hotline, mailing addresses, and electronic mail addresses.

C. Discharges to Water Quality Impaired Receiving Waters.

1. The Permittees must conduct a storm water discharge monitoring program as required in Part IV.
2. For the purposes of this Permit and as listed in Table II.C, the Clean Water Act §303 (d) listed water bodies are those cited in the IDEQ 2010 Integrated Report including, but not limited to the Lower Boise River, and its associated tributaries. "Pollutant(s) of concern" refer to the pollutant(s) identified as causing or contributing to the water quality impairment. Pollutants of concern for the purposes of this Permit are: total phosphorus, sediment, temperature, and *E. coli*.
3. Each Permittees' SWMP documentation must include a description of how the activities of each minimum control measure in Part II.B are implemented by the Permittee to control the discharge of pollutants of concern and ensure that the MS4 discharges will not cause or contribute to an excursion above the applicable Idaho water quality standards. This discussion must specifically identify how the Permittee evaluates and measures the effectiveness of the SWMP to control the pollutants of concern. For those activities identified in Part II.B requiring multiple years to develop and implement, the Permittee must provide interim updates on progress to date. Consistent with Part II.A.1.b, each Permittee must submit this description of the SWMP implementation to EPA and IDEQ as part of the 1st Year Annual Report required in Part IV.C, and must update its description annually in subsequent Annual Reports.

Table II.C	
Clean Water Act §303 (d) listed Water Bodies and Pollutants of Concern	
Receiving Water Body Assessment Unit/ Description	Pollutants of Concern Causing Impairment
<i>ID17050114SW011a_06</i> <i>Boise River – Diversion Dam to River Mile 50</i>	Temperature
<i>ID17050114SW005_06</i> <i>Boise River – River Mile 50 to Star Bridge</i>	Temperature, Sediment, <i>E. coli.</i>
<i>ID17050114SW005_06a</i> <i>Boise River – Star to Middleton</i>	Temperature, Sediment, <i>E. coli.</i>
<i>ID17050114SW005_06b</i> <i>Boise River- Middleton to Indian Creek</i>	Temperature, Total phosphorus, Sediment, <i>E. coli.</i>
<i>ID17050114SW001_06</i> <i>Boise River- Indian Creek to the mouth</i>	Temperature, Total phosphorus, Sediment, <i>E. coli.</i>
<i>ID17050114SW008_03</i> <i>Tenmile Creek - 3rd order below Blacks Creek Reservoir</i>	Sediment, <i>E. coli.</i>
<i>ID17050114SW010_02</i> <i>Fivemile Creek - 1st & 2nd order tributaries</i>	<i>E. coli.</i>
<i>ID17050114SW010_03</i> <i>Fivemile Creek - 3rd order-tributaries</i>	Sediment, <i>E. coli.</i>

D. Reviewing and Updating the SWMP.

1. Permittees must annually review their SWMP actions and activities for compliance with this Permit as part of the preparation of the Annual Report required under Part IV.C.2.
2. Permittees may request changes to any SWMP action or activity specified in this Permit in accordance with the following procedures:
 - a) Changes to delete or replace an action or activity specifically identified in this Permit with an alternate action or activity may be requested by the Permittees at any time. Modification requests to EPA must include:
 - (i) An analysis of why the original action or activity is ineffective, infeasible, or cost prohibitive;
 - (ii) Expectations on the effectiveness of the replacement action or activity; and
 - (iii) An analysis of why the replacement action or activity is expected to better achieve the Permit requirements.
 - b) Change requests must be made in writing and signed by the Permittees in accordance with Part VI.E.
 - c) Documentation of any of the actions or activities required by this Permit must be submitted to EPA upon request.
 - d) EPA may review Annual Reports or other such documentation and subsequently notify the Permittees that changes to the SWMP actions and activities are necessary to:
 - (i) Address discharges from the MS4 that are causing or contributing to water quality impacts;
 - (ii) Include more stringent requirements necessary to comply with new federal or state statutory or regulatory requirements; or
 - (iii) Include other conditions deemed necessary by EPA to comply with water quality standards, and/or other goals and requirements of the CWA.
 - e) If EPA notifies the Permittees that changes are necessary pursuant to Parts II.D.2.a or II.D.2.d, the notification will offer the Permittees an opportunity to propose alternative program changes to meet the objectives of the requested modification. Following this opportunity, the Permittees must implement any required changes according to the schedule set by EPA.
4. Any modifications to this Permit will be accomplished according to Part VI.A of this Permit.

E. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation. The Permittees must implement the actions and activities of the SWMP in all new areas added or transferred to the Permittee's MS4 (or for which a Permittee becomes responsible for implementation of storm water quality controls) as expeditiously as practicable, but not later than one year from the date upon which the new areas were added. Such additions and schedules for implementation must be documented in the next Annual Report following the transfer.

F. SWMP Resources. The Permittees must continue to provide adequate finances, staff, equipment and other support capabilities to implement their SWMP actions and activities outlined in this permit. The Permittees must report on total costs associated with SWMP implementation over the prior 12 month reporting period in each Annual Report. Permittees are encouraged to consider establishing consistent funding sources for continued program implementation.

G. Legal Authority. To the extent allowable pursuant to the respective authority granted individual Permittees under Idaho law, each Permittee must operate to, at a minimum:

- Prohibit and eliminate, through statute, ordinance, policy, permit, contract, court or administrative order or other similar means, the contribution of pollutants to the MS4 by illicit connections and discharges to the MS4. Illicit connections include pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4. Illicit discharges include all non-storm water discharges not otherwise authorized under Part I.D. of this Permit;
- Control through statute, ordinance, policy, permit, contract, court or administrative order, or other similar means, the discharge to the MS4 of spills, dumping or disposal of materials other than storm water;
- Control through interagency agreements among the Permittees the contribution of pollutants from one portion of the MS4 to another portion of the MS4;
- Require compliance with conditions in statutes, ordinances, policy, permits, contracts, or court or administrative orders; and
- Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with Permit conditions including the prohibition on illicit discharges to the MS4.

No later than January 30, 2014, each Permittee must review and revise its relevant ordinances or other regulatory mechanisms, (or adopt new ordinances or regulatory mechanisms that provide it with adequate legal authority as allowed and authorized pursuant to applicable Idaho law), to control pollutant discharges into and from its MS4 and to meet the requirements of this permit. As part of the SWMP documentation that accompanies the 1st Year Annual Report, each Permittee must summarize all of its unique legal authorities which satisfy the five criteria listed above.

III. Schedule for Implementation and Required Submissions

The Permittees must complete SWMP actions, and/or submit documentation, to EPA and IDEQ as summarized below. Unless otherwise noted, Annual Reports must include the interim or completed status of required SWMP activities occurring during the corresponding reporting period as specified in Part IV.C.3, and include program summary statistics, copies of interim or final documents, and/or other supporting information.

Table III. Schedule for Implementation and Required Submissions		
Permit Part	Item/Action	Due Date
I.C.3	Update intergovernmental agreement no later than July 1, 2013.	Submit updated intergovernmental agreement with the 1 st Year Annual Report.
II.A.1.b, II.C.3	SWMP documentation	Submit SWMP documentation with the 1 st Year Annual Report. Include updated documentation in each subsequent Annual Report.
II.A.4	Complete two subwatershed planning documents	Identify subwatersheds in 1 st Year Annual Report; Submit two completed planning documents with the 4 th Year Annual Report.
II.B.1.a	Update construction runoff control ordinances/regulatory mechanisms, if necessary	September 30, 2015; submit any updated ordinances etc w/ 3 rd Year Annual Report.
II.B.1.b	Update Construction Stormwater Management Manual(s)	September 30, 2015; submit any updated documents with 3 rd Year Annual Report.
II.B.1.e	Develop & Implement Enforcement Response Policy (ERP)	September 30, 2016; submit final ERPs w/ 4 th Year Annual Report
II.B.2.a	Update ordinance or regulatory mechanism requiring long term onsite stormwater management controls	January 30, 2018; submit ordinance or regulatory mechanism with 5 th Year Annual Report.
II.B.2.b	Update Stormwater Design Criteria Manual(s)	September 30, 2015; submit any updated ordinances etc w/ 3 rd Year Annual Report
II.B.2.c	Develop & Implement Green Infrastructure/Low Impact Development (LID) Incentive Strategy;	September 30, 2015;
II.B.2.c.i	Evaluate Effectiveness of LID Practices via three Pilot Projects;	Submit strategy document, identify 3 pilot projects in the 3 rd Year Annual Report.
II.B.2.c.ii, IV.A.10	Identify recommendations for specific LID practices to be adopted within the Permit area	Progress report on strategy implementation/ Pilot Project evaluations w/4 th Year Annual Report. Submit final evaluations & recommendations with the 5 th Year Annual Report.
II.B.2.c.iii	Develop Priority Riparian Area List	September 30, 2015; Submit priority area list with the 3 rd Year Annual Report.
II.B.2.c.iii	Complete Outfall Disconnection Project	Document progress on outfall disconnection project w/3 rd Year Annual Report. Complete outfall disconnection project by January 30, 2018; document completed project in 5 th Year Annual Report.

Table III. Schedule for Implementation and Required Submissions, continued

Permit Part	Item/Action	Due Date
II.B.2.c.iv	Consider/install stormwater runoff reduction techniques for streets, roads & parking lot repair work entering design phase after February 1, 2013 where feasible	Document all locations of street/road/parking lot repair projects where runoff reduction techniques were installed w/5 th Year Annual Report.
II.B.2.e.i	O&M Database of new permanent stormwater controls; Incorporate all existing controls into database	Include new controls beginning February 1, 2013; Existing controls, no later than January 30, 2018.
II.B.2.f.i	Identify high priority locations; annual inspections	September 30, 2017
II.B.2.f.ii	Develop inspection checklists	September 30, 2017
II.B.2.f.iii	Enforcement Response Policy for SW controls	September 30, 2017
II.B.2.g	Conduct Education/Training on Permanent SW Controls	September 30, 2015; staff training & training for local audiences, September 30, 2016.
II.B.3.a	Inventory Industrial & Commercial facilities/activities	September 30, 2016
II.B.3.a.iii	Identify two specific activities, develop BMPs, and begin compliance assistance education program	September 30, 2016
II.B.3.b	Update Permittee agreements; inspect selected industrial & commercial facilities/activities	September 30, 2016
II.B.3.c	Document industrial & commercial inspection and compliance assistance activities	Annually
II.B.4.a	Update MS4 system inventory & map	No later than January 30, 2018; include w/5 th Year Annual Report
II.B.4.b	Inspect of catch basins at least every two years	September 30, 2016
II.B.4.c	Update SOPs for Street & Road Maintenance	September 30, 2015
II.B.4.c.iii	Cover storage facilities for sand/salt storage areas	September 30, 2017; Identify locations in SWMP w/1 st year Annual Report; Final documentation w/5 th Year Annual Report
II.B.4.d	Update Street/Road/Parking Lot Sweeping Plans	September 30, 2015
II.B.4.d.i	Inventory/map designated areas	September 30, 2014; submit w/2 st Year Annual Report
II.B.4.d.ii	Sweep according to schedule	September 30, 2015
II.B.4.d.iv,	Identify infeasible sweeping areas, alternative schedule or other program	Document in 1 st Year Annual Report
II.B.4.d.v	Estimate sweeping effectiveness	Document in each Annual Report
II.B.4.f	Develop facility& maintenance yards SWPPPs	September 30, 2015
II.B.4.i	Train Permittee staff	September 30, 2016; annually thereafter
II.B.4.g	Evaluate the feasibility of retrofitting existing control devices	January 30, 2018; submit evaluation with 5 th Year Annual Report

Table III. Schedule for Implementation and Required Submissions, continued

Permit Part	Item/Action	Due Date
II.B.5.c	Inventory/Map Illicit Discharge Reports	September 30, 2014, update annually
II.B.5.d.ii, IV.A.11	Conduct dry weather outfall screening; update screening plan; inspect 20% of outfalls per year	September 30, 2015; inspect 20% annual ly
II.B.6.b	Conduct public education & assess understanding to specific audiences	September 30, 2014; ongoing
II.B.6.d	Maintain, Promote, and Update Storm water Website	September 30, 2014, quarterly thereafter
II.C.3, II.A.1.b	Identify how Permittee controls are implemented to reduce discharge of pollutants of concern, measure SWMP effectiveness	Include discussion in SWMP documentation submitted with 1 st Year Annual Report
II.E	Implement SWMP in all geographic areas newly added or annexed by Permittee	No later than one year from date new areas are added to Permittee's jurisdiction
II.F	Report SWMP implementation costs for the corresponding 12 month reporting period	Within each Annual Report
II.G	Review & Summarize legal authorities or regulatory mechanisms used by Permittee to implement & enforce SWMP & Permit requirements	No later than January 30, 2014, summarize legal authorities within the required SWMP documentation submitted with 1 st Annual Report
IV.A.1	Assess & Document Permit Compliance	Annually; submit with Annual Reports
IV.A.2	Develop & Complete Stormwater Monitoring & Evaluation Plan	September 30, 2014; Submit Completed Plan with 2 nd Year Annual Report
IV.A.7.a	Update <i>Boise NPDES Municipal SW Monitoring Plan</i>	September 30, 2015
IV.A.7.b	Monitor Five Representative Outfalls During Wet Weather; sample three times per year thereafter	No later than September 30, 2014
IV.A.8	If Applicable: update SW Monitoring & Evaluation Plan to include WQ Monitoring and/or Fish Tissue Sampling	If applicable: Update SW Monitoring & Evaluation Plan by September 30, 2014 to include WQ Monitoring and/or Fish Tissue Sampling; submit with 2 nd Year Annual Report
IV.A.9	Evaluate Effectiveness of 2 Structural Control Techniques Currently Required by the Permittees	Begin evaluations no later than September 30, 2015; document in Annual Report(s)
IV.C.1	Submit Stormwater Outfall Discharge Data	2 nd Year Annual Report, annually thereafter
IV.C.2	Submit WQ Monitoring or Fish Tissue Sampling Data Report (if applicable)	2 nd Year Annual Report, annually thereafter
IV.C.3	Submit Annual Reports	1 st Year Annual Report due January 30, 2014; all subsequent Annual Reports are due annually no later than January 30 th ; See Table IV.C.
VI.B	Submit Permit Renewal Application	No later than 180 days prior to Permit Expiration Date; see cover page. Alternatively, Renewal Application may be submitted as part of the 4 th Year Annual Report.

IV. Monitoring, Recordkeeping and Reporting Requirements.

A. Monitoring

1. **Assess Permit Compliance.** At least once per year, each Permittee must individually evaluate their respective organization's compliance with these Permit conditions, and progress toward implementing each of the control measures defined in Part II. The compliance evaluation must be documented in each Annual Report required in Part IV.C.2.
2. **Stormwater Monitoring and Evaluation Program Plan and Objectives.** The Permittees must conduct a wet weather monitoring and evaluation program, or contract with another entity to implement such a program. This stormwater monitoring and evaluation program must be designed to characterize the quality of storm water discharges from the MS4, and to evaluate overall effectiveness of selected storm water management practices.
 - a) No later than September 30, 2014, the Permittees must develop a stormwater monitoring and evaluation plan that includes the quality assurance requirements, outfall monitoring, in-stream and/or fish tissue monitoring (as appropriate), evaluation of permanent storm water controls and evaluation of LID pilot project effectiveness as described later in this Part. In general, the Permittees must develop and conduct a stormwater monitoring and evaluation program to:
 - (i) Broadly estimate reductions in annual pollutant loads of sediment, bacteria, phosphorus and temperature discharged to impaired receiving waters from the MS4s, occurring as a result of the implementation of SWMP activities;
 - (ii) Assess the effectiveness and adequacy of the permanent storm water controls and LID techniques or controls selected for evaluation by the Permittees and which are intended to reduce the total volume of storm water discharging from impervious surfaces and/or improve overall pollutant reduction in stormwater discharges; and
 - (iii) Identify and prioritize those portions of each Permittee's MS4 where additional controls can be accomplished to further reduce total volume of storm water discharged and/or reduce pollutants in storm water discharges to waters of the U.S.
 - b) The final, updated stormwater monitoring and evaluation plan must be submitted to EPA with the 2nd Year Annual Report.
3. **Representative Sampling.** Samples and measurements must be representative of the nature of the monitored discharge or activity.
4. **Analytical Methods.** Sample collection, preservation, and analysis must be conducted according to sufficiently sensitive methods/test procedures approved under 40 CFR Part 136, unless otherwise approved by EPA. Where an approved 40 CFR Part 136 method does not exist, and other test procedures

have not been specified, any available method may be used after approval from EPA.

5. **Quality Assurance Requirements.** The Permittees must develop or update a quality assurance plan (QAP) for all analytical monitoring conducted in accordance with this Part. The QAP must be developed concurrently as part of the stormwater monitoring and evaluation plan. The Permittees must submit the QAP as part of the stormwater monitoring and evaluation plan to EPA and IDEQ in the 2nd Year Annual Report. Any existing QAP may be modified for the requirements under this section.

- a) The QAP must be designed to assist in the collection and analysis of storm water discharges in support of this Permit and in explaining data anomalies when they occur.
- b) Throughout all sample collection, analysis and evaluation activities, Permittees must use the EPA-approved QA/QC and chain-of-custody procedures described in the most current version of the following documents:
 - (i) *EPA Requirements for Quality Assurance Project Plans EPA-QA/R-5* (EPA/240/B-01/003, March 2001). A copy of this document can be found electronically at:
<http://www.epa.gov/quality/qs-docs/r5-final.pdf>;
 - (ii) *Guidance for Quality Assurance Project Plans EPA-QA/G-5*, (EPA/600/R-98/018, February, 1998). A copy of this document can be found electronically at:
<http://www.epa.gov/r10earth/offices/oea/epaqag5.pdf> ;
 - (iii) *Urban Storm BMP Performance Monitoring*, (EPA-821-B-02-001, April 2002). A copy of this document can be found electronically at:
<http://www.epa.gov/npdes/pubs/montcomplete.pdf>

The QAP should be prepared in the format specified in these documents.

- c) At a minimum, the QAP must include the following:
 - (i) Organization chart reflecting responsibilities of key Permittee staff;
 - (ii) Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample representativeness and completeness, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;
 - (iii) Data quality objectives;

- (iv) Map(s) and associated documentation reflecting the location of each sampling point and physical description including street address or latitude/longitude;
 - (v) Qualification and training of personnel;
 - (vi) Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the Permittees;
 - (vii) Data management;
 - (viii) Data review, validation and verification; and
 - (ix) Data reconciliation.
- d) The Permittees must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP. The amended QAP must be submitted to EPA as part of the next Annual Report.
- e) Copies of any current QAP must be maintained by the Permittees and made available to EPA and/or IDEQ upon request.
6. **Additional Monitoring by Permittees.** If the Permittees monitor more frequently, or in more locations, than required by this Permit, the results of any such additional monitoring must be included and summarized with other data submitted to EPA and IDEQ as required in Part IV.C.
7. **Storm Water Outfall Monitoring**
- a) No later than September 30, 2015, the Permittees must update the existing *Boise NPDES Municipal Storm Water Permit Monitoring Plan* to be consistent with the monitoring and evaluation program objectives and plan as described in Part IV.A.2. At a minimum, the plan must describe five outfall sample locations, and any additional or alternative locations, as defined by the Permittees. The outfalls selected by the Permittees to be monitored must be identified as representative of all major land uses occurring within the Permit area.
 - b) No later than September 30, 2014, the Permittees must begin monitoring discharges from the identified five storm water outfalls during wet weather events at least three times per year. The specific minimum monitoring requirements are outlined in Table IV.A, but may be augmented based on the Permittees' updated stormwater monitoring and evaluation plan required by Part IV.A.2. The Permittees must include any additional parameters to be sampled in an updated Table IV.A within the final updated stormwater monitoring and evaluation plan submitted to EPA with the 2nd Annual Report.

Table IV.A – Outfall Monitoring Requirements^{1, 2}
PARAMETER SAMPLING
Ammonia
Total Kjeldahl Nitrogen (TKN) (mg/l)
Nitrate + Nitrite
Total Phosphorus (mg/l)
Dissolved Orthophosphate (mg/l)
<i>E. coli</i>
Biological Oxygen Demand (BOD5) (mg/l)
Chemical Oxygen Demand (COD) (mg/l)
Total Suspended Solids (TSS) (mg/l)
Total Dissolved Solids (TDS) (mg/l)
Dissolved Oxygen
Turbidity (NTU)
Temperature
pH (S.U)
Flow/Discharge, Volume, in cubic feet
Arsenic – Total
Cadmium- Total and Dissolved
Copper – Dissolved
Lead – Total and Dissolved
Mercury – Total
Zinc – Dissolved
Hardness (as CaCO₃) (mg/l)
<p>¹ Five or more outfall locations will be identified in the Permittees' updated stormwater monitoring and evaluation plan</p> <p>² A minimum of <i>three (3) samples</i> must be collected during wet weather storm events in each reporting year, assuming the presence of storm events sufficient to produce a discharge.</p>

8. **Water Quality Monitoring and/or Fish Tissue Sampling.** At the Permittees' option and to augment the storm water discharge data collection required in Part IV.A.7 above, one or more of the Permittees may conduct, or contract with others to conduct, water quality monitoring and/or fish tissue sampling within the Lower Boise River Watershed.
- a) If the Permittees elect to conduct in-stream water quality monitoring and/or fish tissue sampling within the Lower Boise River Watershed, the Permittees must revise the stormwater monitoring and evaluation plan and QAP to describe the monitoring and/or sampling effort(s) per Part IV.A.2 and IV.A.5, no later September 30, 2014.
 - b) The documentation of the Permittees' intended in-stream water quality monitoring and/or fish tissue sampling activities must be included in the final updated stormwater monitoring and evaluation plan submitted with the 2nd Year Annual Report as required in Part IV.A.2.b.
 - c) The Permittees are encouraged to engage in cooperative efforts with other organizations to collect reliable methylmercury fish tissue data within a specific geographic area of the Lower Boise River Watershed. The objective of the cooperative effort is to determine if fish tissue concentrations of methylmercury in the Lower Boise River are compliant with Idaho's methylmercury fish tissue criterion of 0.3 mg/kg.
 - (i) In particular, the Permittees are encouraged to cooperate with other organizations to collect data through implementation of the Methylmercury Fish Tissue Sampling requirements specified in NPDES Permits # ID-002044-3 and ID-002398-1 as issued to the City of Boise. Beginning with the 2nd Year Annual Report, the Permittees' may (individually or collectively) submit documentation in each Annual Report which describes their specific involvement over the prior reporting period, and may reference fish tissue sampling plans and data reports as developed or published by others through the cooperative watershed effort.
9. **Evaluate the Effectiveness of Required Structural Controls.** Within two years of the effective date of this Permit, the Permittees must select and begin to evaluate at least two different types of permanent structural storm water management controls currently mandated by the Permittees at new development or redevelopment sites. For each selected control, this evaluation must determine whether the control is effectively treating or preventing the discharge of one or more of the pollutants of concern into waterbodies listed in Table II.C. The results of this evaluation, and any recommendations for improved treatment performance, must be submitted to EPA in subsequent Annual Reports as the evaluation projects are implemented and completed.
10. **Evaluate the Effectiveness of Green Infrastructure/Low Impact Development Pilot Projects.** The Permittees must evaluate the performance and effectiveness of the three pilot projects required in Part II.B.2.c of this Permit, or contract with another entity to conduct such evaluations. An evaluation summary of the LID technique or control and any recommendations

of improved treatment performance must be submitted in subsequent Annual Reports as the evaluation projects are implemented and completed.

11. **Dry Weather Discharge Screening.** The Permittees must implement a dry weather screening program, or contract with another entity to implement such a program, as required in Part II.B.5.d.

B. Recordkeeping

1. **Retention of Records.** The Permittees must retain records and copies of all information (e.g., all monitoring, calibration, and maintenance records; all original strip chart recordings for any continuous monitoring instrumentation; copies of all reports required by this Permit; storm water discharge monitoring reports; a copy of the NPDES permit; and records of all data or information used in the development and implementation of the SWMP and to complete the application for this Permit;) for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this Permit, whichever is longer. This period may be extended at the request of the EPA at any time.
2. **Availability of Records.** The Permittees must submit the records referred to in Part IV.B.1 to EPA and IDEQ only when such information is requested. At a minimum, the Permittees must retain all records comprising the SWMP required by this Permit (including a copy of the Permit language and all Annual Reports) in a location and format that are accessible to EPA and IDEQ. The Permittees must make all records described above available to the public if requested to do so in writing. The public must be able to view the records during normal business hours. The Permittees may charge the public a reasonable fee for copying requests.

C. Reporting Requirements

1. **Storm Water Discharge Monitoring Report.** Beginning with the 2nd Year Annual Report, and in subsequent Annual Reports, all storm water discharge monitoring data collected to date must be submitted as part of the Annual Report. At a minimum, this Storm Water Discharge Monitoring Report must include:
 - a) Dates of sample collection and analyses;
 - b) Results of sample analyses;
 - c) Location of sample collection. and
 - d) Summary discussion and interpretation of the data collected, including a discussion of quality assurance issues and comparison to previously collected information, as appropriate.
2. **Water Quality Monitoring and/or Fish Tissue Sampling Report(s).** If the Permittees elect to conduct water quality monitoring and/or fish tissue sampling as specified in Part IV.A.8, all relevant monitoring data collected to date must

be submitted as part of each Annual Report beginning with the 2nd Year Annual Report. Summary data reports as prepared by other organizations with whom the Permittee(s) cooperate may be submitted to fulfill this requirement. At a minimum, this Water Quality Monitoring and/or Fish Tissue Sampling Report must include:

- a) Dates of sample collection and analyses;
- b) Results of sample analyses;
- c) Locations of sample collection; and
- d) Summary discussion and interpretation of the data collected, including discussion of quality assurance issues and comparison to previously collected information, as appropriate.

3. Annual Report.

- a) No later than January 30th of each year beginning in 2014, and annually thereafter, each Permittee must submit an Annual Report to EPA and IDEQ. The reporting period for the 1st Year Annual Report will be from February 1, 2013, through September 30, 2013. Reporting periods for subsequent Annual Reports are specified in Table IV.C. Copies of all Annual Reports, including each Permittee's SWMP documentation, must be available to the public, through a Permittee-maintained website, and/or through other easily accessible means.

Table IV.C - Annual Report Deadlines		
Annual Report	Reporting Period	Due Date
1 st Year Annual Report	February 1, 2013–September 30, 2013	January 30, 2014
2 nd Year Annual Report	October 1, 2013-September 30, 2014	January 30, 2015
3 rd Year Annual Report	October 1, 2014-September 30, 2015	January 30, 2016
4 th Year Annual Report	October 1, 2015-September 30, 2016	January 30, 2017
5 th Year Annual Report	October 1, 2016-December 31, 2017	January 30, 2018

- b) Preparation and submittal of the Annual Reports must be coordinated by Ada County Highway District. Each Permittee is responsible for content of their organization's SWMP documentation and Annual Report(s) relating to SWMP implementation for portions of the MS4s for which they are responsible.
- c) The following information must be submitted in each Annual Report:

- (i) A updated and current document describing the SWMP as implemented by the specific Permittee, in accordance with Part II.A.1.b;
 - (ii) A narrative assessment of the Permittee's compliance with this Permit, describing the status of implementing the control measures in Parts II and IV. The status of each control measure must be addressed, even if activity has previously been completed, has not yet been implemented, does not apply to the Permittee's jurisdiction or operation, or is conducted on the Permittee's behalf by another entity;
 - (iii) Discussion of any information collected and analyzed during the reporting period, including but not limited to storm water monitoring data not included with the Storm Water Discharge Monitoring Report; dry weather monitoring results; Green Infrastructure/LID pilot project evaluation results, structural control evaluation results, and any other information collected or used by the Permittee(s) to assess the success of the SWMP controls at improving receiving water quality to the maximum extent practicable;
 - (iv) A summary of the number and nature of public education programs; the number and nature of complaints received by the Permittee(s), and follow-up actions taken; and the number and nature of inspections, formal enforcement actions, or other similar activities as performed by the Permittee(s) during the reporting period;
 - (v) Electronic copies of new or updated education materials, ordinances (or other regulatory mechanisms), inventories, guidance materials, or other products produced as required by this Permit during the reporting period;
 - (vi) A description and schedule of the Permittee's implementation of additional controls or practices deemed necessary by the Permittee, based on monitoring or other information, to ensure compliance with applicable water quality standards;
 - (vii) Notice if the Permittee is relying on another entity to satisfy any of the Permit obligations, if applicable; and
 - (viii) Annual expenditures for the reporting period, and estimated budget for the reporting period following each Annual Report.
- d) If, after the effective date of this Permit, EPA provides the Permittees with an alternative Annual Report format, the Permittees may use the alternative format in lieu of the required elements of Part IV.C.3.c.

D. Addresses

Reports and other documents required by this Permit must be signed in accordance with Part VI.E and submitted to each of the following addresses:

IDEQ: Idaho Department of Environmental Quality
Boise Regional Office
Attn: Water Program Manager
1410 North Hilton
Boise, ID 83854

EPA: United States Environmental Protection Agency
Attention: Storm Water MS4 Compliance Program
NPDES Compliance Unit
1200 6th Avenue, Suite 900 (OCE-133)
Seattle, WA 98101

Any documents and/or submittals requiring formal EPA approval must also be submitted to the following address:

United States Environmental Protection Agency
Attention: Storm Water MS4 Permit Program
NPDES Permits Unit
1200 6th Avenue, Suite 900 (OWW-130)
Seattle, WA 98101

V. Compliance Responsibilities.

A. Duty to Comply. The Permittees must comply with all conditions of this Permit. Any Permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for Permit termination, revocation and reissuance, or modification, or for denial of a Permit renewal application.

B. Penalties for Violations of Permit Conditions

1. Civil and Administrative Penalties. Pursuant to 40 CFR Part 19 and the Act, any person who violates Section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently \$37,500 per day for each violation).

2. Administrative Penalties. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of this Act. Pursuant to 40 CFR Part 19

and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently \$16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$37,500). Pursuant to 40 CFR Part 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701) (currently \$16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$177,500).

3. Criminal Penalties

- a) **Negligent Violations.** The Act provides that any person who negligently violates Sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under Section 402 of the Act, or any requirement imposed in a pretreatment program approved under Section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two years, or both.
- b) **Knowing Violations.** Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six years, or both.
- c) **Knowing Endangerment.** Any person who knowingly violates Section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
- d) **False Statements.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Permit shall, upon conviction, be

punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for the Permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this Permit.

D. Duty to Mitigate. The Permittees must take all reasonable steps to minimize or prevent any discharge or disposal in violation of this Permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance. The Permittees must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittees to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittees only when the operation is necessary to achieve compliance with the conditions of the Permit.

F. Toxic Pollutants. The Permittees must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the Permit has not yet been modified to incorporate the requirement.

G. Planned Changes. The Permittee(s) must give notice to the Director and IDEQ as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR §122.29(b);
or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the Permit.

H. Anticipated Noncompliance. The Permittee(s) must give advance notice to the Director and IDEQ of any planned changes in the permitted facility or activity that may result in noncompliance with this Permit.

I. Twenty-four Hour Notice of Noncompliance Reporting

1. The Permittee(s) must report the following occurrences of noncompliance by telephone within 24 hours from the time the Permittee(s) becomes aware of the circumstances:

- a) any noncompliance that may endanger health or the environment;
- b) any unanticipated bypass that exceeds any effluent limitation in the permit (See Part IV.F., “Bypass of Treatment Facilities”);
- c) any upset that exceeds any effluent limitation in the permit (See Part IV.G., “Upset Conditions”); or
- d) any overflow prior to the stormwater treatment facility over which the Permittee(s) has ownership or has operational control. An overflow is any spill, release or diversion of municipal sewage including:
 - (1) an overflow that results in a discharge to waters of the United States; and
 - (2) an overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral) that does not reach waters of the United States.

2. The Permittee(s) must also provide a written submission within five days of the time that the Permittee(s) becomes aware of any event required to be reported under subpart 1 above. The written submission must contain:

- a) a description of the noncompliance and its cause;
- b) the period of noncompliance, including exact dates and times;
- c) the estimated time noncompliance is expected to continue if it has not been corrected; and
- d) steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- e) if the noncompliance involves an overflow, the written submission must contain:
 - (1) The location of the overflow;

- (2) The receiving water (if there is one);
- (3) An estimate of the volume of the overflow;
- (4) A description of the sewer system component from which the release occurred (e.g., manhole, constructed overflow pipe, crack in pipe);
- (5) The estimated date and time when the overflow began and stopped or will be stopped;
- (6) The cause or suspected cause of the overflow;
- (7) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
- (8) An estimate of the number of persons who came into contact with wastewater from the overflow; and
- (9) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps.

3. The Director of the Office of Compliance and Enforcement may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.

4. Reports must be submitted to the addresses in Part IV.D (“Addresses”).

J. Bypass of Treatment Facilities

1. **Bypass not exceeding limitations.** The Permittee(s) may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.

2. Notice.

a) **Anticipated bypass.** If the Permittee(s) knows in advance of the need for a bypass, it must submit prior written notice, if possible at least 10 days before the date of the bypass.

b) **Unanticipated bypass.** The Permittee(s) must submit notice of an unanticipated bypass as required under Part III.G (“Twenty-four Hour Notice of Noncompliance Reporting”).

3. Prohibition of bypass.

a) Bypass is prohibited, and the Director of the Office of Compliance and Enforcement may take enforcement action against the Permittee(s) for a bypass, unless:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The Permittee(s) submitted notices as required under paragraph 2 of this Part.

b) The Director of the Office of Compliance and Enforcement may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 3.a. of this Part.

K. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the Permittee(s) meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the Permittee(s) must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a) An upset occurred and that the Permittee(s) can identify the cause(s) of the upset;
- b) The permitted facility was at the time being properly operated;
- c) The Permittee(s) submitted notice of the upset as required under Part V.I, “*Twenty-four Hour Notice of Noncompliance Reporting*,” and
- d) The Permittee(s) complied with any remedial measures required under Part V.D, “*Duty to Mitigate*.”

3. Burden of proof. In any enforcement proceeding, the Permittee(s) seeking to establish the occurrence of an upset has the burden of proof.

VI. General Provisions

A. Permit Actions.

1. This Permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR §§ 122.62, 122.64, or 124.5. The filing of a request by the Permittee(s) for a Permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any Permit condition.

2. Permit coverage may be terminated, in accordance with the provisions of 40 CFR §§122.64 and 124.5, for a single Permittee without terminating coverage for the other Permittees subject to this Permit.

B. Duty to Reapply. If the Permittees intend to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittees must apply for and obtain a

new permit. In accordance with 40 CFR §122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Director, the Permittees must submit a new application at least 180 days before the expiration date of this Permit, or alternatively in conjunction with the 4th Year Annual Report. The reapplication package must contain the information required by 40 CFR §122.21(f), which includes: name and mailing address(es) of the Permittees(s) that operate the MS4(s), and names and titles of the primary administrative and technical contacts for the municipal Permittees(s). In addition, the Permittees must identify any previously unidentified water bodies that receive discharges from the MS4(s); a summary of any known water quality impacts on the newly identified receiving waters; a description of any changes to the number of applicants; and any changes or modifications to the Storm Water Management Program as implemented by the Permittees. The re-application package may incorporate by reference the 4th Year Annual Report when the reapplication requirements have been addressed within that report.

C. Duty to Provide Information. The Permittees must furnish to the Director and IDEQ, within the time specified in the request, any information that the Director or IDEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittees must also furnish to the Director or IDEQ, upon request, copies of records required to be kept by this Permit.

D. Other Information. When the Permittees become aware that it failed to submit any relevant facts in a Permit application, or that it submitted incorrect information in a Permit application or any report to the Director or IDEQ, the Permittees must promptly submit the omitted facts or corrected information.

E. Signatory Requirements. All applications, reports or information submitted to the Director and IDEQ must be signed and certified as follows.

1. All Permit applications must be signed as follows:
 - a) For a corporation: by a responsible corporate officer.
 - b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
 - c) For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the Permit and other information requested by the Director or the IDEQ must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a) The authorization is made in writing by a person described above;
 - b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or

position having overall responsibility for environmental matters for the organization; and

- c) The written authorization is submitted to the Director and IDEQ.
3. **Changes to Authorization.** If an authorization under Part VI.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part VI.E.2 must be submitted to the Director and IDEQ prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. **Certification.** Any person signing a document under this Part must make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Availability of Reports. In accordance with 40 CFR Part 2, information submitted to EPA pursuant to this Permit may be claimed as confidential by the Permittees. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the Permittees. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

G. Inspection and Entry. The Permittees must allow the Director, IDEQ, or an authorized representative (including an authorized contractor acting as a representative of the Director), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the Permittees' premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purpose of assuring Permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights. The issuance of this Permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of state or local laws or regulations.

I. Transfers. This Permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the Permit to change the name of the Permittees and incorporate such other requirements as may be necessary under the Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)

J. State/Tribal Environmental Laws

1. Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittees from any responsibilities, liabilities, or penalties established pursuant to any applicable State/Tribal law or regulation under authority preserved by Section 510 of the Act.
2. No condition of this Permit releases the Permittees from any responsibility or requirements under other environmental statutes or regulations.

K. Oil and Hazardous Substance Liability Nothing in this Permit shall be constructed to preclude the institution of any legal action or relieve the Permittees from any responsibilities, liabilities, or penalties to which the Permittees is or may be subject under Section 311 of the CWA or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

L. Severability The provisions of this Permit are severable, and if any provision of this permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to the circumstances, and the remainder of this Permit shall not be affected thereby.

VII. Definitions and Acronyms

All definitions contained in Section 502 of the Act and 40 CFR Part 122 apply to this Permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided but, in the event of a conflict, the definition found in the statute or regulation takes precedence.

“Administrator” means the Administrator of the EPA, or an authorized representative.

“Animal facility” see “commercial animal facility.”

“Annual Report” means the periodic self–assessment submitted by the Permittee(s) to document incremental progress towards meeting the storm water management requirements and implementation schedules as required by this Permit. See Part IV.C.

“Best Management Practices (BMPs)” means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR § 122.2. BMP refers to operational activities, physical controls or educational measures that are applied to reduce the discharge of pollutants and minimize potential impacts upon receiving waters, and accordingly, refers to both structural and nonstructural practices that have direct impacts on the release, transport, or discharge of pollutants. See also “storm water control measure (SCM).”

“Bioretention” is the water quality and water quantity storm water management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from storm water runoff.

“Canopy Interception” is the interception of precipitation, by leaves and branches of trees and vegetation that does not reach the soil.

“CGP” and “Construction General Permit” means the current available version of EPA’s *NPDES General Permit for Storm Water Discharges for Construction Activities in Idaho*, Permit No. IDR12-0000. EPA’s CGP is posted on EPA’s website at www.epa.gov/npdes/stormwater/cgp.

“Commercial Animal Facility” as used in this Permit, means a business that boards, breeds, or grooms animals including but not limited to dogs, cats, rabbits or horses.

“Common Plan of Development” is a contiguous construction project or projects where multiple separate and distinct construction activities may be taking place at different times on different schedules but under one plan. The “plan” is broadly defined as any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot; included in this definition are most subdivisions and industrial parks.

“Construction activity” includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to the construction of residential buildings and non-residential buildings, and heavy construction (e.g., highways, streets, bridges, tunnels, pipelines, transmission lines and industrial non-building structures).

“Control Measure” as used in this Permit, refers to any action, activity, Best Management Practice or other method used to prevent or reduce the discharge of pollutants in stormwater to waters of the United States.

“CWA” or “The Act” means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et seq.

“Director” means the Environmental Protection Agency Regional Administrator, the EPA Director of the Office of Water and Watersheds, or an authorized representative.

“Discharge” when used without a qualifier, refers to “discharge of a pollutant” as defined at 40 CFR §122.2.

“Discharge of a pollutant” means (a) any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or (b) any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any “indirect discharger.”

“Discharge of Storm Water Associated with Construction Activity” as used in this Permit, refers to a discharge of pollutants in storm water runoff from areas where soil disturbing activities (*e.g.*, clearing, grading, or excavation), construction materials or equipment storage or maintenance (*e.g.*, fill piles, borrow areas, concrete truck washout, fueling) or other industrial storm water directly related to the construction process are located, and which are required to be managed under an NPDES permit. See the regulatory definitions of storm water discharge associated with large and small construction activity at 40 CFR §122.26(b)(14)(x) and 40 CFR §122.26(b)(15), respectively

“Discharge of Storm Water Associated with Industrial Activity” as used in this Permit, refers to the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant included in the regulatory definition of storm water discharge associated with industrial activity at 40 CFR §122.26(b)(14).

“Discharge-related Activities” include: activities which cause, contribute to, or result in storm water point source pollutant discharges and measures to control storm water discharges, including the siting, construction, and operation of best management practices to control, reduce or prevent storm water pollution.

“Disconnect” for the purposes of this permit, means the change from a direct discharge into receiving waters to one in which the discharged water flows across a vegetated surface, through a constructed water or wetlands feature, through a vegetated swale, or other attenuation or infiltration device before reaching the receiving water.

“Engineered Infiltration” is an underground device or system designed to accept storm water and slowly exfiltrates it into the underlying soil. This device or system is designed based on soil tests that define the infiltration rate.

“Erosion” means the process of carrying away soil particles by the action of water.

“Evaporation” means rainfall that is changed or converted into a vapor.

“Evapotranspiration” means the sum of evaporation and transpiration of water from the earth’s surface to the atmosphere. It includes evaporation of liquid or solid water plus the transpiration from plants.

“Extended Filtration” is a structural storm water device which filters storm water runoff through a soil media and collects it in an underdrain which slowly releases it after the storm is over.

“EPA” means the Environmental Protection Agency Regional Administrator, the EPA Director of the Office of Water and Watersheds, or an authorized representative.

“Entity” means a governmental body, or a public or private organization.

“Existing Permanent Controls,” in the context of this Permit, means post- construction or permanent storm water management controls designed to treat or control runoff on a permanent basis and that were installed prior to the effective date of this Permit.

“Facility or Activity” generally means any NPDES “point source” or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

“Fish Tissue Sampling” see “Methylmercury Fish Tissue Sampling”

“Green infrastructure” means runoff management approaches and technologies that utilize, enhance and/or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse.

“Hydromodification” means changes to the storm water runoff characteristics of a watershed caused by changes in land use.

“IDEQ” means the Idaho Department of Environmental Quality or its authorized representative.

“Illicit Connection” means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

“Illicit Discharge” is defined at 40 CFR §122.26(b)(2) and means any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES Permit for discharges from the MS4) and discharges resulting from fire fighting activities.

“Impaired Water” (or “Water Quality Impaired Water”) for purposes of this Permit means any water body identified by the State of Idaho or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards. Impaired waters include both waters with approved or established Total Maximum Daily Loads (TMDLs), and those for which a TMDL has not yet been approved or established.

“Industrial Activity” as used in this Permit refers to the eleven categories of industrial activities included in the definition of discharges of “storm water associated with industrial activity” at 40 CFR §122.26(b)(14).

“Industrial Storm Water” as used in this Permit refers to storm water runoff associated with the definition of “discharges of storm water associated with industrial activity”.

“Infiltration” is the process by which storm water penetrates into soil.

“Low Impact Development” or “LID” means storm water management and land development techniques, controls and strategies applied at the parcel and subdivision scale that emphasize conservation and use of on-site natural features integrated with engineered, small scale hydrologic controls to more closely mimic pre-development hydrologic functions.

“Major outfall” is defined in 40 CFR §122.26(b)(5) and in general, means a municipal storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more.

“MEP” or "maximum extent practicable," means the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by Section 402(p) of the Clean Water Act, 33 U.S.C §1342(p).

“Measurable Goal” means a quantitative measure of progress in implementing a component of a storm water management program.

“Methylmercury Fish Tissue Sampling” and “Methylmercury Fish Tissue Sampling Requirements” means the IDEQ-recommended cooperative data collection effort for the Lower Boise River Watershed. In particular, Methylmercury Fish Tissue Sampling requirements are otherwise specified in NPDES Permits # ID-002044-3 and ID-002398-1, as issued by EPA to the City of Boise and available online at <http://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/Current+ID1319>

“Minimize” means to reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry or municipal practices.

“MS4” means "municipal separate storm sewer system," and is used to refer to either a Large, Medium, or Small Municipal Separate Storm Sewer System as defined in 40 CFR 122.26(b). The term, as used within the context of this Permit, refers to those portions of the municipal separate storm sewer systems within the corporate limits of the City of Boise and City of Garden City that are owned and/or operated by the Permittees, namely: Ada County Highway District, Boise State University, City of Boise, City of Garden City, Drainage District #3 and/or the Idaho Transportation Department District #3.

“Municipality” means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

“Municipal Separate Storm Sewer” is defined in 40 CFR §122.26(b) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to

State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

“National Pollutant Discharge Elimination System” or “NPDES” means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the CWA. The term includes an ‘approved program.’

“New Permanent Controls,” in the context of this Permit, means post- construction or permanent storm water management controls designed to treat or control runoff on a permanent basis that are installed after the effective date of this permit.

“Outfall” is defined at 40 CFR §122.26(b)(9) means a point source (see definition below) at the point where a municipal separate storm sewer discharges to waters of the United States, and does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

“Owner or operator” means the owner or operator of any “facility or activity” subject to regulation under the NPDES program.

“Permanent storm water management controls” see “post-construction storm water management controls.”

“Permitting Authority” means the U.S. Environmental Protection Agency (EPA)

“Point Source” is defined at 40 CFR §122.2 and means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

"Pollutant" is defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

“Pollutant(s) of concern” includes any pollutant identified by IDEQ as a cause of impairment of any water body that will receive a discharge from a MS4 authorized under this Permit. See Table II.C.

“Post- construction storm water management controls” or “permanent storm water management controls” means those controls designed to treat or control runoff on a permanent basis once construction is complete. See also “new permanent controls” and “existing permanent controls.”

“QA/QC” means quality assurance/quality control.

“QAP” means Quality Assurance Plan.

“Rainfall and Rainwater Harvesting” is the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses.

“Redevelopment” for the purposes of this Permit, means the alteration, renewal or restoration of any developed land or property that results in land disturbance of 5,000 square feet or more, and that has one of the following characteristics: land that currently has an existing structure, such as buildings or houses; or land that is currently covered with an impervious surface, such as a parking lot or roof; or land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering.

“Regional Administrator” means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.

“Repair of Public Streets, Roads and Parking Lots” means repair work on Permittee-owned or Permittee-managed streets and parking lots that involves land disturbance, including asphalt removal or regrading of 5,000 square feet or more. This definition excludes the following activities: pot hole and square cut patching; overlaying existing asphalt or concrete paving with asphalt or concrete without expanding the area of coverage; shoulder grading; reshaping or regrading drainage ditches; crack or chip sealing; and vegetative maintenance.

“Runoff Reduction Techniques” means the collective assortment of storm water practices that reduce the volume of storm water from discharging off site.

“Storm Sewershed” means, for the purposes of this Permit, all the land area that is drained by a network of municipal separate storm sewer system conveyances to a single point of discharge into a water of the United States.

“Significant contributors of pollutants” means any discharge that causes or could cause or contribute to a violation of surface water quality standards.

“Small Construction Activity” – is defined at 40 CFR §122.26(b)(15) and incorporated here by reference. A small construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than one (1) acre and less than five (5) acres of land or will disturb less than one (1) acre of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre and less than five (5) acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site.

“Snow management” means the plowing, relocation and collection of snow.

“Soil amendments” are components added to in situ or native soils to increase the spacing between soil particles so that the soil can absorb and hold more moisture. The amendment of soils changes

various other physical, chemical and biological characteristics so that the soils become more effective in maintaining water quality.

“Source control” storm water management means practices that control storm water *before* pollutants have been introduced into storm water

“Storm event” or “measurable storm event” for the purposes of this Permit means a precipitation event that results in an actual discharge from the outfall and which follows the preceding measurable storm event by at least 48 hours (2 days).

“Storm water” and “storm water runoff” as used in this Permit means storm water runoff, snow melt runoff, and surface runoff and drainage, and is defined at 40 CFR §122.26(b)(13). “Storm water” means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

“Storm Water Control Measure” (SCM) or “storm water control device,” means physical, structural, and/or managerial measures that, when used singly or in combination, reduce the downstream quality and quantity impacts of storm water. Also, SCM means a permit condition used in place of or in conjunction with effluent limitations to prevent or control the discharge of pollutants. This may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. SCMs may include, but are not limited to, treatment requirements; operating procedures; practices to control plant site runoff, spillage, leaks, sludge, or waste disposal; or drainage from raw material storage. See “best management practices (BMPs).”

“Storm Water Facility” means a constructed component of a storm water drainage system, designed or constructed to perform a particular function or multiple functions. Storm water facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention basins, retention basins, constructed wetlands, infiltration devices, catch basins, oil/water separators, sediment basins, and modular pavement.

“Storm Water Management Practice” or “Storm Water Management Control” means practices that manage storm water, including structural and vegetative components of a storm water system.

“Storm Water Management Project” means a project that takes into account the effects on the water quality of the receiving waters and whether a structural storm water control device can be retrofitted to control water quality.

“Storm Water Management Program (SWMP)” refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system. For the purposes of this Permit, the SWMP consists of the actions and activities conducted by the Permittees as required by this Permit and described in the Permittees’ SWMP documentation. A “SWMP document” is the written summary describing the unique and/or cooperative means by which an individual Permittee or entity implements the specific storm water management controls Permittee within their jurisdiction.

“Storm Water Pollution Prevention Plan (SWPPP)” means a site specific plan designed to describe the control of soil, raw materials, or other substances to prevent pollutants in storm water runoff; a SWPPP is generally developed for a construction site, or an industrial facility. For the purposes of this permit, a SWPPP means a written document that identifies potential sources of pollution, describes practices to reduce pollutants in storm water discharges from the site, and identifies procedures or controls that the operator will implement to reduce impacts to water quality and comply with applicable Permit requirements.

“Structural flood control device” means a device designed and installed for the purpose of storm drainage during storm events.

”Subwatershed” for the purposes of this Permit means a smaller geographic section of a larger watershed unit with a drainage area between 2 to 15 square miles and whose boundaries include all the land area draining to a point where two second order streams combine to form a third order stream. A subwatershed may be located entirely within the same political jurisdiction.

“TMDL” means Total Maximum Daily Load, an analysis of pollutant loading to a body of water detailing the sum of the individual waste load allocations for point sources and load allocations for non-point sources and natural background. See 40 CFR §130.2.

“Treatment control” storm water management means practices that ‘treat’ storm water after pollutants have been incorporated into the storm water.

“Urban Agriculture” and “Urban Agricultural Activities” means the growing, processing, and distribution of food and other products through intensive plant cultivation and animal husbandry in and around cities. For the purposes of this Permit, the term includes activities allowed and/or acknowledged by the Permittees through a local comprehensive plan ordinance, or other regulatory mechanism. For example, see: *Blueprint Boise* online at http://www.cityofboise.org/BluePrintBoise/pdf/Blueprint%20Boise/0_Blueprint_All.pdf, and/or *City of Boise Urban Agriculture ordinance amendment, ZOA11-00006*.

“Waters of the United States,” as defined in 40 CFR 122.2, means:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate "wetlands";
3. All other waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
 - a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

- c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs 1 through 4 of this definition;
6. The territorial sea; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs 1 through 6 of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds for steam electric generation stations per 40 CFR Part 423) which also meet the criteria of this definition are not waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

“Watershed” is defined as all the land area that is drained by a waterbody and its tributaries.

“Wetlands” means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

ATTACHMENT G-2



Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

NPDES General Permit No. NMR04A000

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"), except as provided in Part I.A.5 of this permit, operators of municipal separate storm sewer systems located in the area specified in Part I.A.1 are authorized to discharge pollutants to waters of the United States in accordance with the conditions and requirements set forth herein.

Only operators of municipal separate storm sewer systems in the general permit area who submit a Notice of Intent and a storm water management program document in accordance with Part I.A.6 of this permit are authorized to discharge storm water under this general permit.

This is a renewal NPDES permit issued for these portions of the small municipal separate storm sewer systems covered under the NPDES permit No NMR040000 and NMR040001 and the large municipal separate storm sewer systems covered under the NPDES permit No NMS000101.

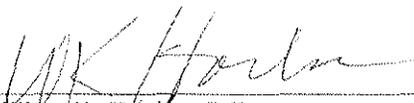
This permit is issued on and shall become effective on the date of publication in the Federal Register.

DEC 22 2014

This permit and the authorization to discharge shall expire at, midnight, December 19, 2019.

Signed by

Prepared by



William K. Honker, P.E.
Director
Water Quality Protection Division



Nelly Smith
Environmental Engineer
NPDES Permits and TMDLs Branch

MIDDLE RIO GRANDE WATERSHED BASED MUNICIPAL SEPARATE STORM SEWER
SYSTEM PERMIT

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PART I. INDIVIDUAL PERMIT CONDITIONS

A. DISCHARGES AUTHORIZED UNDER THIS PERMIT

1. **Permit Area.** This permit is available for MS4 operators within the Middle Rio Grande Sub-Watersheds described in Appendix A. This permit may authorize stormwater discharges to waters of the United States from MS4s within the Middle Rio Grande Watershed provided the MS4:
 - a. Is located fully or partially within the corporate boundary of the City of Albuquerque;
 - b. Is located fully or partially within the Albuquerque urbanized area as determined by the 2000 and 2010 Decennial Census. Maps of Census 2010 urbanized areas are available at: <http://water.epa.gov/polwaste/npdes/stormwater/Urbanized-Area-Maps-for-NPDES-MS4-Phase-II-Stormwater-Permits.cfm>;
 - c. Is designated as a regulated MS4 pursuant to 40 CFR 122.32; or
 - d. This permit may also authorize an operator of a MS4 covered by this permit for discharges from areas of a regulated small MS4 located outside an Urbanized Areas or areas designated by the Director provided the permittee complies with all permit conditions in all areas covered under the permit.
2. **Potentially Eligible MS4s.** MS4s located within the following jurisdictions and other areas, including any designated by the Director, are potentially eligible for authorization under this permit:
 - City of Albuquerque
 - AMAFCA (Albuquerque Metropolitan Arroyo Flood Control Authority)
 - UNM (University of New Mexico)
 - NMDOT (New Mexico Department of Transportation District 3)
 - Bernalillo County
 - Sandoval County
 - Village of Corrales
 - City of Rio Rancho
 - Los Ranchos de Albuquerque
 - KAFB (Kirtland Air Force Base)
 - Town of Bernalillo
 - EXPO (State Fairgrounds/Expo NM)
 - SSCAFCA (Southern Sandoval County Arroyo Flood Control Authority)
 - ESCAFCA (Eastern Sandoval County Arroyo Flood Control Authority)
 - Sandia Laboratories, Department of Energy (DOE)
 - Pueblo of Sandia
 - Pueblo of Isleta
 - Pueblo of Santa Ana
3. **Eligibility.** To be eligible for this permit, the operator of the MS4 must provide:
 - a. **Public Participation:** Prior submitting the Notice of Intent (NOI), the operator of the MS4 must follow the local notice and comment to procedures at Part I.D.5.h.(i).
 - b. **National Historic Preservation Act (NHPA) Eligibility Provisions**

In order to be eligible for coverage under this permit, the applicant must be in compliance with the National Historic Preservation Act. Discharges may be authorized under this permit only if:

- (i) Criterion A: storm water discharges, allowable non-storm water discharges, and discharge-related activities do not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior; or
- (ii) Criterion B: the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) (or equivalent tribal authority) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

Appendix C of this permit provides procedures and references to assist with determining permit eligibility concerning this provision. You must document and incorporate the results of your eligibility determination in your SWMP.

The permittee shall also comply with the requirements in Part IV.U.

4. **Authorized Non-Stormwater Discharges.** The following non-stormwater discharges need not be prohibited unless determined by the permittees, U.S. Environmental Protection Agency (EPA), or New Mexico Environment Department (NMED) to be significant contributors of pollutants to the municipal separate storm sewer system (MS4). Any such discharge that is identified as significant contributor pollutants to the MS4, or as causing or contributing to a water quality standards violation, must be addressed as an illicit discharge under the illicit discharge and improper disposal practices established pursuant to Part I.D.5.e of this permit. For all of the discharges listed below, not treated as illicit discharges, the permittee must document the reason these discharges are not expected to be significant contributors of pollutants to the MS4. This documentation may be based on either the nature of the discharge or any pollution prevention/treatment requirements placed on such discharges by the permittee.

- potable water sources, including routine water line flushing;
- lawn, landscape, and other irrigation waters provided all pesticides, herbicides and fertilizers have been applied in accordance with approved manufacturing labeling and any applicable permits for discharges associated with pesticide, herbicide and fertilizer application;
- diverted stream flows;
- rising ground waters;
- uncontaminated groundwater infiltration (as defined at 40 CFR §35.2005 (20));
- uncontaminated pumped groundwater;
- foundation and footing drains;
- air conditioning or compressor condensate;
- springs;
- water from crawl space pumps;
- individual residential car washing;
- flows from riparian habitats and wetlands;
- dechlorinated swimming pool discharges;
- street wash waters that do not contain detergents and where no un-remediated spills or leaks of toxic or hazardous materials have occurred;
- discharges or flows from fire fighting activities (does not include discharges from fire fighting training activities); and,
- other similar occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes, etc.)

5. **Limitations of Coverage.** This permit does not authorize:

- a. **Non-Storm Water:** Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are:
 - (i) In compliance with a separate NPDES permit; or
 - (ii) Exempt from permitting under the NPDES program; or

- (iii) Determined not to be a substantial contributor of pollutants to waters of the United States. See Part I.A.4.
- b. Industrial Storm Water: Storm water discharges associated with industrial activity as defined in 40 CFR §122.26(b)(14)(i)-(ix) and (xi).
 - c. Construction Storm Water: Storm water discharges associated with construction activity as defined in 40 CFR §122.26(b)(14)(x) or 40 CFR §122.26(b)(15).
 - d. Currently Permitted Discharges: Storm water discharges currently covered under another NPDES permit.
 - e. Discharges Compromising Water Quality: Discharges that EPA, prior to authorization under this permit, determines will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. Where such a determination is made prior to authorization, EPA may notify you that an individual permit application is necessary in accordance with Part IV.M. However, EPA may authorize your coverage under this permit after you have included appropriate controls and implementation procedures in your SWMP designed to bring your discharge into compliance with water quality standards.
 - f. Discharges Inconsistent with a TMDL: You are not eligible for coverage under this permit for discharges of pollutants of concern to waters for which there is an applicable total maximum daily load (TMDL) established or approved by EPA unless you incorporate into your SWMP measures or controls that are consistent with the assumptions and requirements of such TMDL. To be eligible for coverage under this general permit, you must incorporate documentation into your SWMP supporting a determination of permit eligibility with regard to waters that have an EPA-established or approved TMDL. If a wasteload allocation has been established that would apply to your discharge, you must comply with the requirements established in Part I.C.2.b.(i). Where an EPA-approved or established TMDL has not specified a wasteload allocation applicable to municipal storm water discharges, but has not specifically excluded these discharges, adherence to a SWMP that meets the requirements in Part I.C.2.b.(ii) of this general permit will be presumed to be consistent with the requirements of the TMDL. If the EPA-approved or established TMDL specifically precludes such discharges, the operator is not eligible for coverage under this general permit.

6. Authorization Under This General Permit

a. Obtaining Permit Coverage.

- (i) An MS4 operator seeking authorization to discharge under this general permit must submit electronically a complete notice of intent (NOI) to the e-mail address provided in Part I.B.3 (see suggested EPA R6 MS4 NOI format located in EPA website at <http://epa.gov/region6/water/npdes/sw/ms4/index.htm>), in accordance with the deadlines in Part I.B.1 of this permit. The NOI must include the information and attachments required by Parts I.B.2, Part I.A.3, Part I.D.5.h.(i), and I.A.5.f of this permit. By submitting a signed NOI, the applicant certifies that all eligibility criteria for permit coverage have been met. If EPA notifies a discharger (either directly, by public notice, or by making information available on the Internet) of other NOI options that become available at a later date, such as electronic submission of forms or information, the MS4 operator may take advantage of those options to satisfy the NOI submittal requirements.
- (ii) If an operator changes or a new operator is added after an NOI has been submitted, the operator must submit a new or revised NOI to EPA.
- (iii) An MS4 operator who submits a complete NOI and meets the eligibility requirements in Part I of this permit is authorized to discharge storm water from the MS4 under the terms and conditions of this general permit only upon written notification by the Director. After review of the NOI and any public comments on the NOI, EPA may condition permit coverage on correcting any deficiencies or on including a schedule to respond to any public comments. (See also Parts I.A.3 and Part I.D.5.h.(i).)

- (iv) If EPA notifies the MS4 operator of deficiencies or inadequacies in any portion of the NOI (including the SWMP), the MS4 operator must correct the deficient or inadequate portions and submit a written statement to EPA certifying that appropriate changes have been made. The certification must be submitted within the time-frame specified by EPA and must specify how the NOI has been amended to address the identified concerns.
- (v) The NOI must be signed and certified in accordance with Parts IV.H.1 and 4. Signature for the NOI, which effectively takes the place of an individual permit application, may not be delegated to a lower level under Part IV.H.2

b. Terminating Coverage.

- (i) A permittee may terminate coverage under this general permit by submitting a notice of termination (NOT). Authorization to discharge terminates at midnight on the day the NOT is post-marked for delivery to EPA.
- (ii) A permittee must submit an NOT to EPA within 30 days after the permittee:
 - (a) Ceases discharging storm water from the MS4,
 - (b) Ceases operations at the MS4, or
 - (c) Transfers ownership of or responsibility for the facility to another operator.
- (iii) The NOT will consist of a letter to EPA and must include the following information:
 - (a) Name, mailing address, and location of the MS4 for which the notification is submitted;
 - (b) The name, address and telephone number of the operator addressed by the NOT;
 - (c) The NPDES permit number for the MS4;
 - (d) An indication of whether another operator has assumed responsibility for the MS4, the discharger has ceased operations at the MS4, or the storm water discharges have been eliminated; and
 - (e) The following certification:

I certify under penalty of law that all storm water discharges from the identified MS4 that are authorized by an NPDES general permit have been eliminated, or that I am no longer the operator of the MS4, or that I have ceased operations at the MS4. I understand that by submitting this Notice of Termination I am no longer authorized to discharge storm water under this general permit, and that discharging pollutants in storm water to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by an NPDES permit. I also understand that the submission of this Notice of Termination does not release an operator from liability for any violations of this permit or the Clean Water Act.
 - (f) NOTs, signed in accordance with Part IV.H.1 of this permit, must be sent to the e-mail address in Part I.B.3. Electronic submittal of the NOT required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

B. NOTICE OF INTENT REQUIREMENTS

1. Deadlines for Notification.

- a. Designations: Small MS4s automatically designated under 40 CFR 122.32(a)(1), large MS4s located within the corporate boundary of the COA including the COA and former co-permittees under the NPDES permit No

NMS000101, and MS4s designated under 40 CFR 122.26(a)(1)(v), 40 CFR 122.26(a)(9)(i)(C) or (D), or 40 CFR 122.32(a)(2) are required to submit individual NOIs by the dates listed in Table 1. Any MS4 designated as needing a permit after issuance of this permit will be given an individualized deadline for NOI submittal by the Director at the time of designation.

In lieu of creating duplicate program elements for each individual permittee, implementation of the SWMP, as required in Part I.D, may be achieved through participation with other permittees, public agencies, or private entities in cooperative efforts to satisfy the requirements of Part D. For these programs with cooperative elements, the permittee may submit individual NOIs as established in Table 1. See also "Permittees with Cooperative Elements in their SWMP" under Part I.B.4 and "Shared Responsibilities and Cooperative Programs" under Part I.D.3.

Table 1 Deadlines to Submit NOI

Permittee Class Type	NOI Deadlines
Class A: MS4s within the Cooperate Boundary of the COA including former co-permittees under the NPDES permit No NMS000101	90 days from effective date of the permit or 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class B: MS4s designated under 40 CFR 122.32(a)(1). Based on 2000 Decennial Census Map	90 days from effective date of the permit or 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class C: MS4s designated under 40 CFR 122.26(a)(1)(v), 40 CFR 122.26(a)(9)(i)(C) or (D), or 40 CFR 122.32(a)(2) or MS4s newly designated under 122.32(a)(1) based on 2010 Decennial Census Map	180 days from effective date of the permit or notice of designation, unless the notice of designation grants a later date or; 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.
Class D: MS4s within Indian Country Lands designated under 40 CFR 122.26(a)(1)(v), 122.26(a)(9)(i)(C) or (D), 122.32(a)(1), or 122.32(a)(2)	180 days from effective date of the permit or notice of designation, unless the notice of designation grants a later date or; 180 days from effective date of the permit if participating in cooperative programs for one or more program elements.

See Appendix A for list of potential permittees in the Middle Rio Grande Watershed

- b. New Operators. For new operators of all or a part of an already permitted MS4 (due to change on operator or expansion of the MS4) who will take over implementation of the existing SWMP covering those areas, the NOI must be submitted 30 days prior to taking over operational control of the MS4. Existing permittees who are expanding coverage of their MS4 area (e.g., city annexes part of unincorporated county MS4) are not required to submit a new NOI, but must comply with Part I.D.6.d.
- c. Submitting a Late NOI. MS4s not able to meet the NOI deadline in Table 1 and Part I.B.1.b due to delays in determining eligibility should notify EPA of the circumstance and progress to date at the address in Part I.B.3 and then proceed with a late NOI. MS4 operators are not prohibited from submitting an NOI after the dates provided in Table 1 and Part I.B.1.b. If a late NOI is submitted, the authorization is only for discharges that occur after permit coverage is effective. The permitting authority reserves the right to take appropriate enforcement actions for any unpermitted discharges.
- d. End of Administrative Continued Coverage under Previous Permit. Administrative continuance is triggered by a timely reapplication. Discharges submitting an NOI for coverage under this permit are considered to have met

the timely reapplication requirement if NOI is submitted by the deadlines included in Table 1 of Part I.B.1. For MS4s previously covered under either NMS000101 or NMR040000, continued coverage under those permits ends: a) the day after the applicable deadline for submittal of an NOI if a complete NOI has not been submitted or b) upon notice of authorization under this permit if a complete and timely NOI is submitted.

2. **Contents of Notice of Intent.** An MS4 operator eligible for coverage under this general permit must submit an NOI to discharge under this general permit. The NOI will consist of a letter to EPA containing the following information (see suggested EPA R6 MS4 NOI Format located in EPA website at <http://www.epa.gov/region6/water/npdes/sw/ms4/index.htm>) and must be signed in accordance with Part IV.H of this permit:
 - a. The legal name of the MS4 operator and the name of the urbanized area and core municipality (or Indian reservation/pueblo) in which the operator's MS4 is located;
 - b. The full facility mailing address and telephone number;
 - c. The name and phone number of the person or persons responsible for overall coordination of the SWMP;
 - d. An attached location map showing the boundaries of the MS4 under the applicant's jurisdiction. The map must include streets or other demarcations so that the exact boundaries can be located;
 - e. The area of land served by the applicant's MS4 (in square miles);
 - f. The latitude and longitude of the approximate center of the MS4;
 - g. The name(s) of the waters of the United States that receive discharges from the system.
 - h. If the applicant is participating in a cooperative program element or is relying on another entity to satisfy one or more permit obligations (see Part I.D.3), identify the entity(ies) and the element(s) the entity(ies) will be implementing;
 - i. Information on each of the storm water minimum control measures in Part I.D.5 of this permit and how the SWMP will reduce pollutants in discharges to the Maximum Extent Practicable. For each minimum control measure, include the following:
 - (i) Description of the best management practices (BMPs) that will be implemented;
 - (ii) Measurable goals for each BMP; and
 - (iii) Time frames (i.e., month and year) for implementing each BMP;
 - j. Based on the requirements of Part I.A.3.b describe how the eligibility criteria for historic properties have been met;
 - k. Indicate whether or not the MS4 discharges to a receiving water for which EPA has approved or developed a TMDL. If so, describe how the eligibility requirements of Part I.A.5.f and Part I.C.2 have been met.

Note: If an individual permittee or a group of permittees seeks an alternative sub-measurable goal for TMDL controls under Part I.C.2.b.(i).(c).B, the permittee or a group of permittees must submit a preliminary proposal with the NOI. This proposal shall include, but is not limited to, the elements included in Appendix B under Section B.2.
 - l. Signature and certification by an appropriate official (see Part IV.H). The NOI must include the certification statement from Part IV.H.4.

3. **Where to Submit.** The MS4 operator must submit the signed NOI to EPA via e-mail at R6_MS4Permits@epa.gov (note: there is an underscore between R6 and MS4) and NMED to the address provided in Part III.D.4. See also Part III.D.4 to determine if a copy must be provided to a Tribal agency.

The following MS4 operators: AMAFCA, Sandoval County, Village of Corrales, City of Rio Rancho, Town of Bernalillo, SSCAFCA, and ESCAFCA must submit the signed NOI to the Pueblo of Sandia to the address provided in Part III.D.4.

Note: See suggested EPA R6 MS4 NOI Format located in EPA website at <http://www.epa.gov/region6/water/npdes/sw/ms4/index.htm>. A complete copy of the signed NOI should be maintained on site. Electronic submittal of the documents required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

4. **Permittees with Cooperative Elements in their SWMP.** Any MS4 that meets the requirements of Part I.A of this general permit may choose to partner with one or more other regulated MS4 to develop and implement a SWMP or SWMP element. The partnering MS4s must submit separate NOIs and have their own SWMP, which may incorporate jointly developed program elements. If responsibilities are being shared as provided in Part I.D.3 of this permit, the SWMP must describe which permittees are responsible for implementing which aspects of each of the minimum measures. All MS4 permittees are subject to the provisions in Part I.D.6.

Each individual MS4 in a joint agreement implementing a permit condition will be independently assessed for compliance with the terms of the joint agreement. Compliance with that individual MS4s obligations under the joint agreement will be deemed compliance with that permit condition. Should one or more individual MS4s fail to comply with the joint agreement, causing the joint agreement program to fail to meet the requirements of the permit, the obligation of all parties to the joint agreement is to develop within 30 days and implement within 90 days an alternative program to satisfy the terms of the permit.

C. SPECIAL CONDITIONS

1. **Compliance with Water Quality Standards.** Pursuant to Clean Water Act §402(p)(3)(B)(iii) and 40 CFR §122.44(d)(1), this permit includes provisions to ensure that discharges from the permittee's MS4 do not cause or contribute to exceedances of applicable surface water quality standards, in addition to requirements to control discharges to the maximum extent practicable (MEP) set forth in Part I.D. Permittees shall address stormwater management through development of the SWMP that shall include the following elements and specific requirements included in Part VI.
 - a. Permittee's discharges shall not cause or contribute to an exceedance of surface water quality standards (including numeric and narrative water quality criteria) applicable to the receiving waters. In determining whether the SWMP is effective in meeting this requirement or if enhancements to the plan are needed, the permittee shall consider available monitoring data, visual assessment, and site inspection reports.
 - b. Applicable surface water quality standards for discharges from the permittees' MS4 are those that are approved by EPA and any other subsequent modifications approved by EPA upon the effective date of this permit found at New Mexico Administrative Code §20.6.4. Discharges from various portions of the MS4 also flow downstream into waters with Pueblo of Isleta and Pueblo of Sandia Water Quality Standards;
 - c. The permittee shall notify EPA and the Pueblo of Isleta in writing as soon as practical but not later than thirty (30) calendar days following each Pueblo of Isleta water quality standard exceedance at an in-stream sampling location. In the event that EPA determines that a discharge from the MS4 causes or contributes to an exceedance of applicable surface water quality standards and notifies the permittee of such an exceedance, the permittee shall, within sixty (60) days of notification, submit to EPA, NMED, Pueblo of Isleta (upon request) and Pueblo of Sandia (upon request), a report that describes controls that are currently being implemented and additional controls that will be implemented to prevent pollutants sufficient to ensure that the discharge will no longer cause or contribute to an exceedance of applicable surface water quality standards. The permittee shall implement such additional controls upon notification by EPA and shall incorporate such measures into their SWMP as described in Part I.D of this permit. NMED or the affected Tribe may provide information

documenting exceedances of applicable water quality standards caused or contributed to by the discharges authorized by this permit to EPA Region 6 and request EPA take action under this paragraph.

- d. Phase I Dissolved Oxygen Program (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit): Within one year from effective date of the permit, the permittees shall revise the May 1, 2012 Strategy to continue taking measures to address concerns regarding discharges to the Rio Grande by implementing controls to eliminate conditions that cause or contribute to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. The permittees shall:
- (i) Continue identifying structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;
 - (ii) Continue implementing controls, and updating/revising as necessary, to eliminate structural elements or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the United States;
 - (iii) To verify the remedial action in the North Diversion Channel Embayment, the COA and AMAFCA shall continue sampling for DO and temperature until the data indicate the discharge does not exceed applicable dissolved oxygen water quality standards in waters of the United States; and
 - (iv) Submit a revised strategy to FWS for consultation and EPA for approval from a year of effective date of the permit and progress reports with the subsequent Annual Reports. Progress reports to include:
 - (a) Summary of data.
 - (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. Including summary of findings of the assessment required in Part I.C.1.d.(i).
 - (c) Conclusions drawn, including support for any determinations.
 - (d) Activities undertaken to eliminate MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States.
 - (e) Account of stakeholder involvement.
- e. PCBs (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit and Bernalillo County): The permittee shall address concerns regarding PCBs in channel drainage areas specified in Part I.C.1.e.(vi) by developing or continue updating/revising and implementing a strategy to identify and eliminate controllable sources of PCBs that cause or contribute to exceedances of applicable water quality standards in waters of the United States. Bernalillo County shall submit the proposed PCB strategy to EPA within two (2) years from the effective date of the permit and submit a progress report with the third and with subsequent Annual Reports. COA and AMAFCA shall submit a progress report with the first and with the subsequent Annual Reports. The progress reports shall include:
- (i) Summary of data.
 - (ii) Findings regarding controllable sources of PCBs in the channel drainages area specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the United States via the discharge of municipal stormwater.
 - (iii) Conclusions drawn, including supporting information for any determinations.

(iv) Activities undertaken to eliminate controllable sources of PCBs in the drainage areas specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the United States via the discharge of municipal stormwater including proposed activities that extend beyond the five (5) year permit term.

(v) Account of stakeholder involvement in the process.

(vi) Channel Drainage Areas: The PCB strategy required in Part I.C.1.e is only applicable to:

COA and AMAFCA Channel Drainage Areas:

- San Jose Drain
- North Diversion Channel

Bernalillo County Channel Drainage Areas:

- Adobe Acres Drain
- Alameda Outfall Channel
- Paseo del Norte Outfall Channel
- Sanchez Farm Drainage Area

A cooperative strategy to address PCBs in the COA, AMAFCA and Bernalillo County's drainage areas may be developed between Bernalillo County, AMAFCA, and the COA. If a cooperative strategy is developed, the cooperative strategy shall be submitted to EPA within three (3) years from the effective date of the permit and submit a progress report with the fourth and with subsequent Annual Reports,

Note: COA and AMAFCA must continue implementing the existing PCB strategy until a new Cooperative PCB Strategy is submitted to EPA.

- f. Temperature (Applicable only to the COA and AMAFCA as a continuation of program in 2012 NMS000101 individual permit): The permittees must continue assessing the potential effect of stormwater discharges in the Rio Grande by collecting and evaluating additional data. If the data indicates there is a potential of stormwater discharges contributing to exceedances of applicable temperature water quality standards in waters of the United States, within thirty (30) days such as findings, the permittees must develop and implement a strategy to eliminate conditions that cause or contribute to these exceedances. The strategy must include:
- (i) Identify structural controls, post construction design standards, or pollutants contributing to raised temperatures in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;
 - (ii) Develop and implement controls to eliminate structural controls, post construction design standards, or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for temperature in waters of the United States; and
 - (iii) Provide a progress report with the first and with subsequent Annual Reports. The progress reports shall include:
 - (a) Summary of data.
 - (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States.
 - (c) Conclusions drawn, including supporting information for any determinations.
 - (d) Activities undertaken to reduce MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States.
 - (e) Accounting of stakeholder involvement.

2. **Discharges to Impaired Waters with and without approved TMDLs.** Impaired waters are those that have been identified pursuant to Section 303(d) of the Clean Water Act as not meeting applicable surface water quality standards. This may include both waters with EPA-approved Total Maximum Daily Loads (TMDLs) and those for which a TMDL has not yet been approved. For the purposes of this permit, the conditions for discharges to impaired waters also extend to controlling pollutants in MS4 discharges to tributaries to the listed impaired waters in the Middle Rio Grande watershed boundary identified in Appendix A.
 - a. Discharges of pollutant(s) of concern to impaired water bodies for which there is an EPA approved total maximum daily load (TMDL) are not eligible for this general permit unless they are consistent with the approved TMDL. A water body is considered impaired for the purposes of this permit if it has been identified, pursuant to the latest EPA approved CWA §303(d) list, as not meeting New Mexico Surface Water Quality Standards.
 - b. The permittee shall control the discharges of pollutant(s) of concern to impaired waters and waters with approved TMDLs as provided in sections (i) and (ii) below, and shall assess the success in controlling those pollutants.
 - (i) **Discharges to Water Quality Impaired Water Bodies with an Approved TMDL**

If the permittee discharges to an impaired water body with an approved TMDL (see Appendix B), where stormwater has the potential to cause or contribute to the impairment, the permittee shall include in the SWMP controls targeting the pollutant(s) of concern along with any additional or modified controls required in the TMDL and this section. The SWMP and required annual reports must include information on implementing any focused controls required to reduce the pollutant(s) of concern as described below:

 - (a) Targeted Controls: The SWMP submitted with the first annual report must include a detailed description of all targeted controls to be implemented, such as identifying areas of focused effort or implementing additional Best Management Practices (BMPs) that will be implemented to reduce the pollutant(s) of concern in the impaired waters.
 - (b) Measurable Goals: For each targeted control, the SWMP must include a measurable goal and an implementation schedule describing BMPs to be implemented during each year of the permit term. Where the impairment is for bacteria, the permittee must, at minimum comply with the activities and schedules described in Table 1.a of Part I.C.2.(iii).
 - (c) Identification of Measurable Goal: The SWMP must identify a measurable goal for the pollutant(s) of concern. The value of the measurable goal must be based on one of the following options:
 - A. If the permittee is subject to a TMDL that identifies an aggregate Waste Load Allocation (WLA) for all or a class of permitted MS4 stormwater sources, then the SWMP may identify such WLA as the measurable goal. Where an aggregate WLA measurable goal is used, all affected MS4 operators are jointly responsible for progress in meeting the measurable goal and shall (jointly or individually) develop a monitoring/assessment plan. This program element may be coordinated with the monitoring required in Part III.A.
 - B. Alternatively, if multiple permittees are discharging into the same impaired water body with an approved TMDL (which has an aggregate WLA for all permitted stormwater MS4s), the MS4s may combine or share efforts, in consultation with/and the approval of NMED, to determine an alternative sub-measurable goal derived from the WLA for the pollutant(s) of concern (e.g., bacteria) for their respective MS4. The SWMP must clearly define this alternative approach and must describe how the sub-measurable goals would cumulatively support the aggregate WLA. Where an aggregate WLA measurable goal has been broken into sub-measurable goals for individual MS4s, each permittee is only responsible for progress in meeting its WLA sub-measurable goal.

- C. If the permittee is subject to an individual WLA specifically assigned to that permittee, the measurable goal must be the assigned WLA. Where WLAs have been individually assigned, or where the permittee is the only regulated MS4 within the urbanized area that is discharging into the impaired watershed with an approved TMDL, the permittee is only responsible for progress in meeting its WLA measurable goal.
- (d) Annual Report: The annual report must include an analysis of how the selected BMPs have been effective in contributing to achieving the measurable goal and shall include graphic representation of pollutant trends, along with computations of annual percent reductions achieved from the baseline loads and comparisons with the target loads.
- (e) Impairment for Bacteria: If the pollutant of concern is bacteria, the permittee shall include focused BMPs addressing the five areas below, as applicable, in the SWMP and implement as appropriate. If a TMDL Implementation Plan (a plan created by the State or a Tribe) is available, the permittee may refer to the TMDL Implementation Plan for appropriate BMPs. The SWMP and annual report must include justification for not implementing a particular BMP included in the TMDL Implementation Plan. The permittee may not exclude BMPs associated with the minimum control measures required under 40 CFR §122.34 from their list of proposed BMPs. The BMPs shall, as appropriate, address the following:
- A. Sanitary Sewer Systems
 - Make improvements to sanitary sewers;
 - Address lift station inadequacies;
 - Identify and implement operation and maintenance procedures;
 - Improve reporting of violations; and
 - Strengthen controls designed to prevent over flows
 - B. On-site Sewage Facilities (for entities with appropriate jurisdiction)
 - Identify and address failing systems; and
 - Address inadequate maintenance of On-Site Sewage Facilities (OSSFs).
 - C. Illicit Discharges and Dumping
 - Place additional effort to reduce waste sources of bacteria; for example, from septic systems, grease traps, and grit traps.
 - D. Animal Sources
 - Expand existing management programs to identify and target animal sources such as zoos, pet waste, and horse stables.
 - E. Residential Education: Increase focus to educate residents on:
 - Bacteria discharging from a residential site either during runoff events or directly;
 - Fats, oils, and grease clogging sanitary sewer lines and resulting overflows;
 - Decorative ponds; and
 - Pet waste.
- (f) Monitoring or Assessment of Progress: The permittee shall monitor or assess progress in achieving measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A. The permittee may use the following methods either individually or in conjunction to evaluate progress towards the measurable goal and improvements in water quality as follows:
- A. Evaluating Program Implementation Measures: The permittee may evaluate and report progress towards the measurable goal by describing the activities and BMPs implemented, by identifying the appropriateness of the identified BMPs, and by evaluating the success of implementing the measurable goals. The permittee may assess progress by using program implementation indicators

such as: (1) number of sources identified or eliminated; (2) decrease in number of illegal dumping; (3) increase in illegal dumping reporting; (4) number of educational opportunities conducted; (5) reductions in SSOs; or, 6) increase in illegal discharge detection through dry screening, etc.; and

B. Assessing Improvements in Water Quality: The permittee may assess improvements in water quality by using available data for segment and assessment units of water bodies from other reliable sources, or by proposing and justifying a different approach such as collecting additional instream or outfall monitoring data, etc. Data may be acquired from NMED, local river authorities, partnerships, and/or other local efforts as appropriate. Progress towards achieving the measurable goal shall be reported in the annual report. Annual reports shall report the measurable goal and the year(s) during the permit term that the MS4 conducted additional sampling or other assessment activities.

(g) Observing no Progress towards the Measurable Goal: If, by the end of the third year from the effective date of the permit, the permittee observes no progress toward the measurable goal either from program implementation or water quality assessments, the permittee shall identify alternative focused BMPs that address new or increased efforts towards the measurable goal. As appropriate, the MS4 may develop a new approach to identify the most significant sources of the pollutant(s) of concern and shall develop alternative focused BMPs (this may also include information that identifies issues beyond the MS4's control). These revised BMPs must be included in the SWMP and subsequent annual reports.

Where the permittee originally used a measurable goal based on an aggregated WLA, the permittee may combine or share efforts with other MS4s discharging to the same impaired stream segment to determine an alternative sub-measurable goal for the pollutant(s) of concern for their respective MS4s, as described in Part I.C.2.b.(i).(c).B above. Permittees must document, in their SWMP for the next permit term, the proposed schedule for the development and subsequent adoption of alternative sub-measurable goals for the pollutant(s) of concern for their respective MS4s and associated assessment of progress in meeting those individual goals.

(ii) Discharges Directly to Water Quality Impaired Water Bodies without an Approved TMDL:

The permittee shall also determine whether the permitted discharge is directly to one or more water quality impaired water bodies where a TMDL has not yet been approved by NMED and EPA. If the permittee discharges directly into an impaired water body without an approved TMDL, the permittee shall perform the following activities:

(a) Discharging a Pollutant of Concern: The permittee shall:

A. Determine whether the MS4 may be a source of the pollutant(s) of concern by referring to the CWA §303(d) list and then determining if discharges from the MS4 would be likely to contain the pollutant(s) of concern at levels of concern. The evaluation of CWA §303(d) list parameters should be carried out based on an analysis of existing data (e.g., Illicit Discharge and Improper Disposal Program) conducted within the permittee's jurisdiction.

B. Ensure that the SWMP includes focused BMPs, along with corresponding measurable goals, that the permittee will implement, to reduce, the discharge of pollutant(s) of concern that contribute to the impairment of the water body. (note: Only applicable if the permittee determines that the MS4 may discharge the pollutant(s) of concern to an impaired water body without a TMDL. The SWMP submitted with the first annual report must include a detailed description of proposed controls to be implemented along with corresponding measurable goals.

C. Amend the SWMP to include any additional BMPs to address the pollutant(s) of concern.

(b) Impairment for Bacteria: Where the impairment is for bacteria, the permittee shall identify potential significant sources and develop and implement targeted BMPs to control bacteria from those sources (see Part I.C.2.b.(i).(e).A through E.. The permittee must, at minimum comply with the activities and

schedules described in Table 1.a of Part I.C.2.(iii). The annual report must include information on compliance with this section, including results of any sampling conducted by the permittee.

Note: Probable pollutant sources identified by permittees should be submitted to NMED on the following form: <ftp://ftp.nmenv.state.nm.us/www/swqb/Surveys/PublicProbableSourceIDSurvey.pdf>

- (c) Impairment for Nutrients: Where the impairment is for nutrients (e.g., nitrogen or phosphorus), the permittee shall identify potential significant sources and develop and implement targeted BMPs to control nutrients from potential sources. The permittee must, at minimum comply with the activities and schedules described in Table 1.b of Part I.C.2, (iii). The annual report must include information on compliance with this section, including results of any sampling conducted by the permittee.
- (d) Impairment for Dissolved Oxygen: See Endangered Species Act (ESA) Requirements in Part I.C.3. These program elements may be coordinated with the monitoring required in Part III.A.

(iii) Program Development and Implementation Schedules: Where the impairment is for nutrient constituent (e.g., nitrogen or phosphorus) or bacteria, the permittee must at minimum comply with the activities and schedules in Table 1.a and Table 1.b.

Table 1.a. Pre-TMDL Bacteria Program Development and Implementation Schedules

Activity	Class Permittee				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Identify potential significant sources of the pollutant of concern entering your MS4	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a public education program to reduce the discharge of bacteria in municipal storm water contributed by (if applicable) by pets, recreational and exhibition livestock, and zoos.	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit	Fourteen (14) months from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of bacteria in municipal storm water contributed by areas within your MS4 served by on-site wastewater treatment systems.	Fourteen (14) months from effective date of permit	Fourteen (14) months from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Review results to date from the Illicit Discharge Detection and Elimination program (see Part I.D.5.e) and modify as necessary to prioritize the detection and elimination of discharges contributing bacteria to the MS4	Fourteen (14) months from effective date of permit	Fourteen (14) months from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit

Develop (or modify an existing program ***) and implement a program to reduce the discharge of bacteria in municipal storm water contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.c)	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit	Eighteen (18) months from effective date of permit	Twenty (20) months from effective date of permit
Include in the Annual Reports progress on program implementation and reducing the bacteria and updates their measurable goals as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs

(**) or MS4s designated by the Director

(***) Permittees previously covered under permit NMS000101 or NMR040000

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

Table 1.b. Pre-TMDL Nutrient Program Development and Implementation Schedules

Activity	Class Permittee				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Identify potential significant sources of the pollutant of concern entering your MS4	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a public education program to reduce the discharge of pollutant of concern in municipal storm water contributed by residential and commercial use of fertilizer	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by fertilizer use at municipal operations (e.g., parks, roadways, municipal facilities)	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit

Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by municipal and private golf courses within your jurisdiction	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Develop (or modify an existing program ***) and implement a program to reduce the discharge of the pollutant of concern in municipal storm water contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.e)	One (1) year from effective date of permit	One (1) year from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Include in the Annual Reports progress on program implementation and reducing the nutrient pollutant of concern and updates their measurable goals	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs

(**) or MS4s designated by the Director

(***) Permittees previously covered under permit NMS000101 or NMR040000

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

These program elements may be coordinated with the monitoring required in Part III.A.

3. **Endangered Species Act (ESA) Requirements.** Consistent with U.S. FWS Biological Opinion dated August 21, 2014 to ensure actions required by this permit are not likely to jeopardize the continued existence of any currently listed as endangered or threatened species or adversely affect its critical habitat, permittees shall meet the following requirements and include them in the SWMP:

a. Dissolved Oxygen Strategy in the Receiving Waters of the Rio Grande:

- (i) The permittees must identify (or continue identifying if previously covered under permit NMS000101) structural controls, natural or man-made topographical and geographical formations, MS4 operations, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. The permittees shall implement controls, and update/revise as necessary, to eliminate discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the Rio Grande. The permittees shall submit a summary of findings and a summary of activities undertaken under Part I.C.3.a.(i) with each Annual Report. The SWMP submitted with the first and fourth annual reports must include a detailed description of controls implemented (or/and proposed control to be implemented) along with corresponding measurable goals. (Applicable to all permittees).
- (ii) As required in Part I.C.I.d, the COA and AMAFCA shall revise the May 1, 2012 Strategy for dissolved oxygen to address dissolved oxygen at the North Diversion Channel Embayment and/or other MS4 locations. The permittees shall submit the revised strategy to FWS and EPA for approval within a year of permit issuance and progress reports with the subsequent Annual Reports (see also Part I.C.I.d.(iv)). The permittees shall ensure that actions to reduce pollutants or remedial activities selected for the North Diversion Channel Embayment and its watershed are implemented such that there is a reduction in

frequency and magnitude of all low oxygen storm water discharge events that occur in the Embayment or downstream in the MRG as indicated in Table 1.c. Actions to meet the year 3 measurable goals must be taken within 2 years from the effective date of the permit. Actions to meet the year 5 measurable goals must be taken within 4 years from the effective date of the permit.

Table 1.c Measurable Goals of Anoxic and Hypoxia Levels Measured by Permit Year

<i>Permit Year</i>	<i>Anoxic Events*, max</i>	<i>Hypoxic Events**, max</i>
<i>Year 1</i>	<i>18</i>	<i>36</i>
<i>Year 2</i>	<i>18</i>	<i>36</i>
<i>Year 3</i>	<i>9</i>	<i>18</i>
<i>Year 4</i>	<i>9</i>	<i>18</i>
<i>Year 5</i>	<i>4</i>	<i>9</i>

Notes:

- * Anoxic Events: See Appendix G, for oxygen saturation and dissolved oxygen concentrations at various water temperatures and atmospheric pressures for the North Diversion Channel area that are considered anoxic and associated with the Rio Grande Silvery minnow lethality.
- ** Hypoxic Events: See Appendix for G, for oxygen saturation and dissolved oxygen concentrations at various water temperatures and atmospheric pressures for the North Diversion Channel area that are considered hypoxic and associated with the Rio Grande silvery minnow harassment.

(a) The revised strategy shall include:

- A. A Monitoring Plan describing all procedures necessary to continue conducting continuous monitoring of dissolved oxygen (DO) and temperature in the North Diversion Channel Embayment and at one (1) location in the Rio Grande downstream of the mouth of the North Diversion Channel within the action area (e.g., Central Bridge). The monitoring plan to be developed will describe the methodology used to assure its quality, and will identify the means necessary to address any gaps that occur during monitoring, in a timely manner (that is, within 24 to 48 hours).
- B. A Quality Assurance and Quality Control (QA/QC) Plan describing all standard operating procedures, quality assurance and quality control plans, maintenance, and implementation schedules that will assure timely and accurate collection and reporting of water temperature, dissolved oxygen, oxygen saturation, and flow. The QA/QC plan should include all procedures for estimating oxygen data when any oxygen monitoring equipment fail. Until a monitoring plan with quality assurance and quality control is submitted by EPA, any data, including any provisional or incomplete data from the most recent measurement period (e.g. if inoperative monitoring equipment for one day, use data from previous day) shall be used as substitutes for all values in the calculations for determinations of incidental takes. Given the nature of the data collected as surrogate for incidental take, all data, even provisional data (e.g., oxygen/water temperature data, associated metadata such as flows, date, times), shall be provided to the Service in a spreadsheet or database format within two weeks after formal request.

(b) Reporting: The COA and AMAFCA shall provide

- A. An Annual Incidental Take Report to EPA and the Service that includes the following information: beginning and end date of any qualifying stormwater events, dissolved oxygen values and water temperature in the North Diversion Channel Embayment, dissolved oxygen values and water temperature at a downstream monitoring station in the MRG, flow rate in the North Diversion Channel, mean daily flow rate in the MRG, evaluation of oxygen and temperature data

as either anoxic or hypoxic using Table 2 of the BO, and estimate the number of silvery minnows taken based on Appendix A of the BO. Electronic copy of The Annual Incidental Take Report should be provided with the Annual Report required under Part III.B no later than December 1 for the proceeding calendar year.

- B. A summary of data and findings with each Annual Report to EPA and the Service. All data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report. If additional data is requested by EPA or the Service, The COA and AMAFCA shall provide such as information within two weeks upon request,

The revised strategy required under Part I.C.3.a.(ii), the Annual Incidental Take Reports required under Part I.C.3.a.(ii).(b).A, and Annual Reports required under Part III.B can be submitted to FWS via e-mail nmesfo@fws.gov and joel_lusk@fws.gov, or by mail to the New Mexico Ecological Services field office, 2105 Osuna Road NE, Albuquerque, New Mexico 87113. (Only Applicable to the COA and AMAFCA)

- b. Sediment Pollutant Load Reduction Strategy (Applicable to all permittees): The permittee must develop, implement, and evaluate a sediment pollutant load reduction strategy to assess and reduce pollutant loads associated with sediment (e.g., metals, etc. adsorbed to or traveling with sediment, as opposed to clean sediment) into the receiving waters of the Rio Grande. The strategy must include the following elements:
- (i) Sediment Assessment: The permittee must identify and investigate areas within its jurisdiction that may be contributing excessive levels (e.g., levels that may contribute to exceedance of applicable Water Quality Standards) of pollutants in sediments to the receiving waters of the Rio Grande as a result of stormwater discharges. The permittee must identify structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, and areas indicated as potential sources of sediments pollutants in the receiving waters of the Rio Grande. At the time of assessment, the permittee shall record any observed erosion of soil or sediment along ephemeral channels, arroyos, or stream banks, noting the scouring or sedimentation in streams. The assessment should be made using available data from federal, state, or local studies supplemented as necessary with collection of additional data. The permittee must describe, in the first annual report, all standard operating procedures, quality assurance plans to assure that accurate data are collected, summarized, evaluated and reported.
 - (ii) Estimate Baseline Loading: Based on the results of the sediment pollutants assessment required in Part I.C.3.b.(i) above the permittee must provide estimates of baseline total sediment loading and relative potential for contamination of those sediments by urban activities for drainage areas, sub-watersheds, Impervious Areas (IAs), and/or Directly Connected Impervious Area (DCIAs) draining directly to a surface waterbody or other feature used to convey waters of the United States. Sediment loads may be provided for targeted areas in the entire Middle Rio Grande Watershed (see Appendix A) using an individual or cooperative approach. Any data available and/or preliminary numeric modeling results may be used in estimating loads.
 - (iii) Targeted Controls: Include a detailed description of all proposed targeted controls and BMPs that will be implemented to reduce sediment pollutant loads calculated in Part I.C.3.b.(ii) above during the next ten (10) years of permit issuance. For each targeted control, the permittee must include interim measurable goals (e.g., interim sediment pollutant load reductions) and an implementation and maintenance schedule, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions. Any data available and/or preliminary numeric modeling results may be used in establishing the targeted controls, BMPs, and interim measurable goals. The permittee must prioritize pollutant load reduction efforts and target areas (e.g. drainage areas, sub-watersheds, IAs, DCIAs) that generate the highest annual average pollutant loads.
 - (iv) Monitoring and Interim Reporting: The permittee shall monitor or assess progress in achieving interim measurable goals and determining the effectiveness of BMPs, and shall include documentation of this

monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A.

- (v) **Progress Evaluation and Reporting:** The permittee must assess the overall success of the Sediment Pollutant Load Reduction Strategy and document both direct and indirect measurements of program effectiveness in a Progress Report to be submitted with the fifth Annual Report. Data must be analyzed, interpreted, and reported so that results can be applied to such purposes as documenting effectiveness of the BMPs and compliance with the ESA requirements specified in Part I.C.3.b. The Progress Report must include:
- (a) A list of species likely to be within the action area;
 - (b) Type and number of structural BMPs installed;
 - (c) Evaluation of pollutant source reduction efforts;
 - (d) Any recommendation based on program evaluation;
 - (e) Description of how the interim sediment load reduction goals established in Part I.C.3.b.(iii) were achieved; and
 - (f) Future planning activities needed to achieve increase of sediment load reduction required in Part I.C.3.d.(ii).
- (vi) **Critical Habitat (Applicable to all permittees):** Verify that the installation of stormwater BMPs will not occur in or adversely affect currently listed endangered or threatened species critical habitat by reviewing the activities and locations of stormwater BMP installation within the location of critical habitat of currently listed endangered or threatened species at the U.S. Fish and Wildlife service website <http://criticalhabitat.fws.gov/crithab/>.

D. STORMWATER MANAGEMENT PROGRAM (SWMP)

1. **General Requirements.** The permittee must develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from a MS4 to the maximum extent practicable (MEP), to protect water quality (including that of downstream state or tribal waters), and to satisfy applicable surface water quality standards. The permittees shall continue implementation of existing SWMPs, and where necessary modify or revise existing elements and/or develop new elements to comply with all discharges from the MS4 authorized in Part I.A. The updated SWMP shall satisfy all requirements of this permit, and be implemented in accordance with Section 402(p)(3)(B) of the Clean Water Act (Act), and the Stormwater Regulations (40 CFR §122.26 and §122.34). This permit does not extend any compliance deadlines set forth in the previous permits (NMS000101 with effective date March 1, 2012 and permits No: NM NMR040000 and NMR040001 with effective date July 1, 2007).

If a permittee is already in compliance with one or more requirements in this section because it is already subject to and complying with a related local, state, or federal requirement that is at least as stringent as this permit's requirement, the permittee may reference the relevant requirement as part of the SWMP and document why this permit's requirement has been satisfied. Where this permit has additional conditions that apply, above and beyond what is required by the related local, state, or federal requirement, the permittee is still responsible for complying with these additional conditions in this permit.

2. **Legal Authority.** Each permittee shall implement the legal authority granted by the State or Tribal Government to control discharges to and from those portions of the MS4 over which it has jurisdiction. The difference in each co-permittee's jurisdiction and legal authorities, especially with respect to third parties, may be taken into account in developing the scope of program elements and necessary agreements (i.e. Joint Powers Agreement, Memorandum of Agreement, Memorandum of Understanding, etc.). Permittees may use a combination of statute, ordinance, permit, contract, order, interagency or inter-jurisdictional agreement(s) with other permittees to:

- a. Control the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity (applicable only to MS4s located within the corporate boundary of the COA);
- b. Control the discharge of stormwater and pollutants associated with land disturbance and development activities, both during the construction phase and after site stabilization has been achieved (post-construction), consistent with Part I.D.5.a and Part I.D.5.b;
- c. Prohibit illicit discharges and sanitary sewer overflows to the MS4 and require removal of such discharges consistent with Part I.D.5.e;
- d. Control the discharge of spills and prohibit the dumping or disposal of materials other than stormwater (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;
- e. Control, through interagency or inter-jurisdictional agreements among permittees, the contribution of pollutants from one (1) portion of the MS4 to another;
- f. Require compliance with conditions in ordinances, permits, contracts and/or orders; and
- g. Carry out all inspection, surveillance and monitoring procedures necessary to maintain compliance with permit conditions.

3. **Shared Responsibility and Cooperative Programs.**

- a. The SWMP, in addition to any interagency or inter-jurisdictional agreement(s) among permittees, (e.g., the Joint Powers Agreement to be entered into by the permittees), shall clearly identify the roles and responsibilities of each permittee.
- b. Implementation of the SWMP may be achieved through participation with other permittees, public agencies, or private entities in cooperative efforts to satisfy the requirements of Part I.D in lieu of creating duplicate program elements for each individual permittee.
 - (i) Implementation of one or more of the control measures may be shared with another entity, or the entity may fully take over the measure. A permittee may rely on another entity only if:
 - (a) the other entity, in fact, implements the control measure;
 - (b) the control measure, or component of that measure, is at least as stringent as the corresponding permit requirement; or,
 - (c) the other entity agrees to implement the control measure on the permittee's behalf. Written acceptance of this obligation is expected. The permittee must maintain this obligation as part of the SWMP description. If the other entity agrees to report on the minimum measure, the permittee must supply the other entity with the reporting requirements in Part III.D of this permit. The permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the control measure component.
- c. Each permittee shall provide adequate finance, staff, equipment, and support capabilities to fully implement its SWMP and all requirements of this permit.

4. **Measurable Goals.** The permittees shall control the discharge of pollutants from its MS4. The permittee shall implement the provisions set forth in Part I.D.5 below, and shall at a minimum incorporate into the SWMP the control measures listed in Part I.D.5 below. The SWMP shall include measurable goals, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions and the frequency of the action.

5. Control Measures.

a. Construction Site Stormwater Runoff Control.

- (i) The permittee shall develop, revise, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. **Permittees previously covered under permit NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit.** (Note: Highway Departments and Flood Control Authorities may only apply the construction site stormwater management program to the permittees's own construction projects)
- (ii) The program must include the development, implementation, and enforcement of, at a minimum:
 - (a) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal or local law;
 - (b) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices (both structural and non-structural);
 - (c) Requirements for construction site operators to control waste such as, but not limited to, discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality (see EPA guidance at <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=117>);
 - (d) Procedures for site plan review which incorporate consideration of potential water quality impacts. The site plan review must be conducted prior to commencement of construction activities, and include a review of the site design, the planned operations at the construction site, the planned control measures during the construction phase (including the technical criteria for selection of the control measures), and the planned controls to be used to manage runoff created after the development;
 - (e) Procedures for receipt and consideration of information submitted by the public;
 - (f) Procedures for site inspection (during construction) and enforcement of control measures, including provisions to ensure proper construction, operation, maintenance, and repair. The procedures must clearly define who is responsible for site inspections; who has the authority to implement enforcement procedures; and the steps utilized to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and the quality of the receiving water. If a construction site operator fails to comply with procedures or policies established by the permittee, the permittee may request EPA enforcement assistance. The site inspection and enforcement procedures must describe sanctions and enforcement mechanism(s) for violations of permit requirements and penalties with detail regarding corrective action follow-up procedures, including enforcement escalation procedures for recalcitrant or repeat offenders. Possible sanctions include non-monetary penalties (such as stop work orders and/or permit denials for non-compliance), as well as monetary penalties such as fines and bonding requirements;
 - (g) Procedures to educate and train permittee personnel involved in the planning, review, permitting, and/or approval of construction site plans, inspections and enforcement. Education and training shall also be provided for developers, construction site operators, contractors and supporting personnel, including requiring a stormwater pollution prevention plan for construction sites within the permittee's jurisdiction;
 - (h) Procedures for keeping records of and tracking all regulated construction activities within the MS4, i.e. site reviews, inspections, inspection reports, warning letters and other enforcement documents. A

summary of the number and frequency of site reviews, inspections (including inspector's checklist for oversight of sediment and erosion controls and proper disposal of construction wastes) and enforcement activities that are conducted annually and cumulatively during the permit term shall be included in each annual report; and

- (iii) Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres within the MS4 jurisdiction. Site inspections are to be followed by any necessary compliance or enforcement action. Follow-up inspections are to be conducted to ensure corrective maintenance has occurred; and, all projects must be inspected at completion for confirmation of final stabilization.
- (iv) The permittee must coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area to ensure that the construction stormwater runoff controls eliminate erosion and maintain sediment on site. Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.
- (v) The site plan review required in Part I.D.5.a.(ii)(d) must include an evaluation of opportunities for use of GI/LID/Sustainable practices and when the opportunity exists, encourage project proponents to incorporate such practices into the site design to mimic the pre-development hydrology of the previously undeveloped site. For purposes of this permit, pre-development hydrology shall be met according to Part I.D.5.b of this permit. (consistent with any limitations on that capture). Include a reporting requirement of the number of plans that had opportunities to implement these practices and how many incorporated these practices.
- (vi) The permittee must include in the SWMP a description of the mechanism(s) that will be utilized to comply with each of the elements required in Part I.D.5.a.(i) throughout Part I.D.5.a.(v), including description of each individual BMP (both structural or non-structural) or source control measures and its corresponding measurable goal.
- (vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report. The permittee must include in each annual report:
 - (a) A summary of the frequency of site reviews, inspections and enforcement activities that are conducted annually and cumulatively during the permit term.
 - (b) The number of plans that had the opportunity to implement GI/LID/Sustainable practices and how many incorporated the practices.

Program Flexibility Elements

- (viii) The permittee may use storm water educational materials locally developed or provided by the EPA (refer to <http://water.epa.gov/polwaste/npdes/swbmp/index.cfm>, <http://www.epa.gov/smartgrowth/parking.htm>, <http://www.epa.gov/smartgrowth/stormwater.htm>), the NMED, environmental, public interest or trade organizations, and/or other MS4s.
- (ix) The permittee may develop or update existing construction handbooks (e.g., the COA NPDES Stormwater Management Guidelines for Construction and Industrial Activities Handbook) to be consistent with promulgated construction and development effluent limitation guidelines.
- (x) The construction site inspections required in Part I.D.5.a.(iii) may be carried out in conjunction with the permittee's building code inspections using a screening prioritization process.

Table 2. Construction Site Stormwater Runoff Control - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of the permit
Develop requirements and procedures as required in Part I.D.5.a.(ii)(b) through in Part I.D.5.a.(ii)(h)	Ten (10) months from effective date of permit	Thirteen (13) months from effective date of permit	Sixteen (16) months from effective date of permit	Sixteen (16) months from effective date of permit	Eighteen (18) months from effective date of permit
Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.5.a.(iii)	Ten (10) months from effective date of permit	Start Thirteen (13) months from effective date of permit and annually thereafter	Start Sixteen (16) months from effective date of permit and annually thereafter	Start eighteen (18) months from effective date of permit and thereafter	Start two (2) years from effective date of permit and thereafter
Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.a.(iv)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.5.a.(v)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.a.(vi) and in Part I.D.5.a.(vii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include program elements in Part I.D.5.a.(viii) through Part I.D.5.a.(x)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

b. Post-Construction Stormwater Management in New Development and Redevelopment

(i) The permittee must develop, revise, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit.** (Note: Highway Departments and Flood Control Authorities may only apply the post-construction stormwater management program to the permittee's own construction projects)

(ii) The program must include the development, implementation, and enforcement of, at a minimum:

(a) Strategies which include a combination of structural and/or non-structural best management practices (BMPs) to control pollutants in stormwater runoff.

(b) An ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law. The ordinance or policy must:

Incorporate a stormwater quality design standard that manages on-site the 90th percentile storm event discharge volume associated with new development sites and 80th percentile storm event discharge volume associated with redevelopment sites, through stormwater controls that infiltrate, evapotranspire the discharge volume, except in instances where full compliance cannot be achieved, as provided in Part I.D.5.b.(v). The stormwater from rooftop discharge may be harvested and used on-site for non-commercial use. Any controls utilizing impoundments that are also used for flood control that are located in areas where the New Mexico Office of the State Engineer requirements at NMAC 19.26.2.15 (see also Section 72-5-32 NMSA) apply must drain within 96 hours unless the state engineer has issued a waiver to the owner of the impoundment.

Options to implement the site design standard include, but not limited to: management of the discharge volume achieved by canopy interception, soil amendments, rainfall harvesting, rain tanks and cisterns, engineered infiltration, extended filtration, dry swales, bioretention, roof top disconnections, permeable pavement, porous concrete, permeable pavers, reforestation, grass channels, green roofs and other appropriate techniques, and any combination of these practices, including implementation of other stormwater controls used to reduce pollutants in stormwater (e.g., a water quality facility).

Estimation of the 90th or 80th percentile storm event discharge volume is included in EPA Technical Report entitled "*Estimating Predevelopment Hydrology in the Middle Rio Grande Watershed, New Mexico*, EPA Publication Number 832-R-14-007". Permittees can also estimate:

Option A: a site specific 90th or 80th percentile storm event discharge volume using methodology specified in the referenced EPA Technical Report.

Option B: a site specific pre-development hydrology and associated storm event discharge volume using methodology specified in the referenced EPA technical Report.

(c) The permittee must ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with preconstruction BMP design; failure to construct BMPs

in accordance with the agreed upon pre-construction design; and ineffective post-construction operation and maintenance of BMPs;

- (d) The permittee must ensure that the post-construction program requirements are constantly reviewed and revised as appropriate to incorporate improvements in control techniques;
 - (e) Procedure to develop and implement an educational program for project developers regarding designs to control water quality effects from stormwater, and a training program for plan review staff regarding stormwater standards, site design techniques and controls, including training regarding GI/LID/Sustainability practices. Training may be developed independently or obtained from outside resources, i.e. federal, state, or local experts;
 - (f) Procedures for site inspection and enforcement to ensure proper long-term operation, maintenance, and repair of stormwater management practices that are put into place as part of construction projects/activities. Procedure(s) shall include the requirement that as-built plans be submitted within ninety (90) days of completion of construction projects/activities that include controls designed to manage the stormwater associated with the completed site (post-construction stormwater management). Procedure(s) may include the use of dedicated funds or escrow accounts for development projects or the adoption by the permittee of all privately owned control measures. This may also include the development of maintenance contracts between the owner of the control measure and the permittee. The maintenance contract shall include verification of maintenance practices by the owner, allows the MS4 owner/operator to inspect the maintenance practices, and perform maintenance if inspections indicate neglect by the owner;
 - (g) Procedures to control the discharge of pollutants related to commercial application and distribution of pesticides, herbicides, and fertilizers where permittee(s) hold jurisdiction over lands not directly owned by that entity (e.g., incorporated city). The procedures must ensure that herbicides and pesticides applicators doing business within the permittee's jurisdiction have been properly trained and certified, are encouraged to use the least toxic products, and control use and application rates according to the applicable requirements; and
 - (h) Procedure or system to review and update, as necessary, the existing program to ensure that stormwater controls or management practices for new development and redevelopment projects/activities continue to meet the requirements and objectives of the permit.
- (iii) The permittee must coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private new development and redevelopment projects/activities within the permit area to ensure the hydrology associated with new development and redevelopment sites mimic to the extent practicable the pre-development hydrology of the previously undeveloped site, except in instances where the pre-development hydrology requirement conflicts with applicable water rights appropriation requirements. For purposes of this permit, pre-development hydrology shall be met by capturing the 90th percentile storm event runoff (consistent with any limitations on that capture) which under undeveloped natural conditions would be expected to infiltrate or evapotranspire on-site and result in little, if any, off-site runoff. (Note: This permit does not prevent permittees from requiring additional controls for flood control purposes.) Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.
- (iv) The permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices. The assessment shall include a list of the identified impediments, necessary regulation changes, and recommendations and proposed schedules to incorporate policies and standards to relevant documents and procedures to maximize infiltration, recharge, water harvesting, habitat improvement, and hydrological management of stormwater runoff as allowed under the applicable water rights appropriation requirements. The permittee must develop a report of the assessment findings, which is to be used to provide information to the permittee, of the regulation changes necessary to remove impediments and allow implementation of these practices.

- (v) Alternative Compliance for Infeasibility due to Site Constraints:
- (a) Infeasibility to manage the design standard volume specified in Part I(D)(5)(b)(ii)(b), or a portion of the design standard volume, onsite may result from site constraints including the following:
 - A. too small a lot outside of the building footprint to create the necessary infiltrative capacity even with amended soils;
 - B. soil instability as documented by a thorough geotechnical analysis;
 - C. a site use that is inconsistent with capture and reuse of storm water;
 - D. other physical conditions; or,
 - E. to comply with applicable requirements for on-site flood control structures leaves insufficient area to meet the standard.
 - (b) A determination that it is infeasible to manage the design standard volume specified in Part I.D.5.b.(ii)(b), or a portion of the design standard volume, on site may not be based solely on the difficulty or cost of implementing onsite control measures, but must include multiple criteria that rule out an adequate combination of the practices set forth in Part I.D.5.b.(v).
 - (c) This permit does not prevent imposition of more stringent requirements related to flood control. Where both the permittee's site design standard ordinance or policy and local flood control requirements on site cannot be met due to site conditions, the standard may be met through a combination of on-site and off-site controls.
 - (d) Where applicable New Mexico water law limits the ability to fully manage the design standard volume on site, measures to minimize increased discharge consistent with requirements under New Mexico water law must still be implemented.
 - (e) In instances where an alternative to compliance with the standard on site is chosen, technical justification as to the infeasibility of on-site management of the entire design standard volume, or a portion of the design standard volume, is required to be documented by submitting to the permittee a site-specific hydrologic and/or design analysis conducted and endorsed by a registered professional engineer, geologist, architect, and/or landscape architect.
 - (f) When a Permittee determines a project applicant has demonstrated infeasibility due to site constraints specified in Part I.D.5.b.(v) to manage the design standard volume specified in Part I.D.5.b.(ii)(b) or a portion of the design standard volume on-site, the Permittee shall require one of the following mitigation options:
 - A. *Off-site mitigation.* The off-site mitigation option only applies to redevelopment sites and cannot be applied to new development. Management of the standard volume, or a portion of the volume, may be implemented at another location within the MS4 area, approved by the permittee. The permittee shall identify priority areas within the MS4 in which mitigation projects can be completed. The permittee shall determine who will be responsible for long-term maintenance on off-site mitigation projects.
 - B. *Ground Water Replenishment Project:* Implementation of a project that has been determined to provide an opportunity to replenish regional ground water supplies at an offsite location.
 - C. *Payment in lieu.* Payment in lieu may be made to the permittee, who will apply the funds to a public stormwater project. MS4s shall maintain a publicly accessible database of approved projects for which these payments may be used.

D. *Other.* In a situation where alternative options A through C above are not feasible and the permittee wants to establish another alternative option for projects, the permittee may submit to the EPA for approval, the alternative option that meets the standard.

- (vi) The permittee must estimate the number of acres of impervious area (IA) and directly connected impervious area (DCIA). For the purpose of this part, IA includes conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops. DCIA is the portion of IA with a direct hydraulic connection to the permittee's MS4 or a waterbody via continuous paved surfaces, gutters, pipes, and other impervious features. DCIA typically does not include isolated impervious areas with an indirect hydraulic connection to the MS4 (e.g., swale or detention basin) or that otherwise drain to a pervious area.
- (vii) The permittee must develop an inventory and priority ranking of MS4-owned property and infrastructure (including public right-of-way) that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges to and from its MS4. In determining the potential for retrofitting, the permittee shall consider factors such as the complexity and cost of implementation, public safety, access for maintenance purposes, subsurface geology, depth to water table, proximity to aquifers and subsurface infrastructure including sanitary sewers and septic systems, and opportunities for public use and education under the applicable water right requirements and restrictions. In determining its priority ranking, the permittee shall consider factors such as schedules for planned capital improvements to storm and sanitary sewer infrastructure and paving projects; current storm sewer level of service and control of discharges to impaired waters, streams, and critical receiving water (drinking water supply sources);
- (viii) The permittee must incorporate watershed protection elements into relevant policy and/or planning documents as they come up for regular review. If a relevant planning document is not scheduled for review during the term of this permit, the permittee must identify the elements that cannot be implemented until that document is revised, and provide to EPA and NMED a schedule for incorporation and implementation not to exceed five years from the effective date of this permit. As applicable to each permittee's MS4 jurisdiction, policy and/or planning documents must include the following:
 - (a) A description of master planning and project planning procedures to control the discharge of pollutants to and from the MS4.
 - (b) Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each watershed, by controlling the unnecessary creation, extension and widening of impervious parking lots, roads and associated development. The permittee may evaluate the need to add impervious surface on a case-by-case basis and seek to identify alternatives that will meet the need without creating the impervious surface.
 - (c) Identify environmentally and ecologically sensitive areas that provide water quality benefits and serve critical watershed functions within the MS4 and ensure requirements to preserve, protect, create and/or restore these areas are developed and implemented during the plan and design phases of projects in these identified areas. These areas may include, but are not limited to critical watersheds, floodplains, and areas with endangered species concerns and historic properties. Stakeholders shall be consulted as appropriate.
 - (d) Implement stormwater management practices that minimize water quality impacts to streams, including disconnecting direct discharges to surface waters from impervious surfaces such as parking lots.
 - (e) Implement stormwater management practices that protect and enhance groundwater recharge as allowed under the applicable water rights laws.
 - (f) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.

- (g) Develop and implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.
- (h) The program must be specifically tailored to address local community needs (e.g. protection to drinking water sources, reduction of water quality impacts) and must be designed to attempt to maintain pre-development runoff conditions.
- (ix) The permittee must update the SWMP as necessary to include a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.b.(i) throughout Part I.D.5.b.(viii) as well as the citations and descriptions of design standards for structural and non-structural controls to control pollutants in stormwater runoff, including discussion of the methodology used during design for estimating impacts to water quality and selecting structural and non-structural controls. Description of measurable goals for each BMP (structural or non-structural) or each stormwater control must be included in the SWMP.
- (x) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report. The following information must be included in each annual report:
 - (a) Include a summary and analysis of all maintenance, inspections and enforcement, and the number and frequency of inspections performed annually.
 - (b) A cumulative listing of the annual modifications made to the Post-Construction Stormwater Management Program during the permit term, and a cumulative listing of annual revisions to administrative procedures made or ordinances enacted during the permit term.
 - (c) According to the schedule presented in the Program Development and Implementation Schedule in Table 3, the permittee must
 - A. Report the number of MS4-owned properties and infrastructure that have been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. The permittee may also include in its annual report non-MS4 owned property that has been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges.
 - B. As required in Part I.D.5.b.(vi), report the tabulated results for IA and DCIA and its estimation methodology. In each subsequent annual report, the permittee shall estimate the number of acres of IA and DCIA that have been added or removed during the prior year. The permittee shall include in its estimates the additions and reductions resulting from development, redevelopment, or retrofit projects undertaken directly by the permittee; or by private developers and other parties in a voluntary manner or in compliance with the permittee's regulations.

Program Flexibility Elements:

- (xi) The permittee may use storm water educational materials locally developed or provided by EPA (refer to <http://water.epa.gov/polwaste/npdes/swbmp/index.cfm>, <http://www.epa.gov/smartgrowth/parking.htm>, and <http://www.epa.gov/smartgrowth/stormwater.htm>); the NMED; environmental, public interest or trade organizations; and/or other MS4s.
- (xii) When choosing appropriate BMPs, the permittee may participate in locally-based watershed planning efforts, which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, the permittee may adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures.

- (xiii) The permittee may incorporate the following elements in the Post-Construction Stormwater Management in New Development and Redevelopment program required in Part I.D.5.b.(ii)(b):
- (a) Provide requirements and standards to direct growth to identified areas to protect environmentally and ecologically sensitive areas such as floodplains and/or other areas with endangered species and historic properties concerns;
 - (b) Include requirements to maintain and/or increase open space/buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; and
 - (c) Encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure.

Table 3. Post-Construction Stormwater Management in New Development and Redevelopment - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Development of strategies as required in Part I.D.5.b.(ii).(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Twelve (12) months from effective date of permit	Twelve (12) months from effective date of permit	Fourteen (14) months from effective date of permit
Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii).(b)	Twenty (24) months from effective date of permit	Thirty (30) months from effective date of permit	Thirty six (36) months from effective date of permit	Thirty six (36) months from effective date of permit	Thirty six (36) months from effective date of permit
Implementation and enforcement, via the ordinance or other regulatory mechanism, of site design standards as required in Part I.D.5.b.(ii).(b)	Within thirty six (36) months from effective date of the permit	Within forty two (42) months from the effective date of the permit	Within forty eight (48) months from effective date of the permit	Within forty eight (48) months from effective date of the permit	Within forty eight (48) months from effective date of the permit
Ensure appropriate implementation of structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop procedures as required in Part I.D.5.b.(ii).(e), Part I.D.5.b.(ii).(f), Part I.D.5.b.(ii).(g), and Part I.D.5.b.(ii).(h)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit

Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.5.b.(iii)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	One (1) year from effective date of permit
As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit
As required in Part I.D.5.b.(iv), develop and submit a report of the assessment findings on GI/LID/Sustainable practices.	Eleven (11) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Twenty seven (27) months from effective date of permit
Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Inventory and priority ranking as required in section in Part I.D.5.b.(vii)	Within fifteen (15) months from effective date of the permit	Within twenty four (24) months from effective date of the permit	Within thirty six (36) months from effective date of the permit	Within thirty six (36) months from effective date of the permit	Within forty two (42) months from effective date of the permit
Incorporate watershed protection elements as required in Part I.D.5.b.(viii)	Ten (10) months from effective date of permit	One (1) year from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.b.(ix) and Part I.D.5.b.(x).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include program elements in Part I.D.5.b.(xi) and Part I.D.5.b.(xii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

c. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations.

- (i) The permittee must develop, revise and implement an operation and maintenance program that includes a training component and the ultimate goal of preventing or reducing pollutant runoff from municipal operations. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.** The program must include:
- (a) Development and implementation of an employee training program to incorporate pollution prevention and good housekeeping techniques into everyday operations and maintenance activities. The employee training program must be designed to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. The permittee must also develop a tracking procedure and ensure that employee turnover is considered when determining frequency of training;
 - (b) Maintenance activities, maintenance schedules, and long term inspections procedures for structural and non-structural storm water controls to reduce floatable, trash, and other pollutants discharged from the MS4.
 - (c) Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, snow disposal areas operated by the permittee, and waste transfer stations;
 - (d) Procedures for properly disposing of waste removed from the separate storm sewers and areas listed in Part I.D.5.c.(i).(c) (such as dredge spoil, accumulated sediments, floatables, and other debris); and
 - (e) Procedures to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices.

Note: The permittee may use training materials that are available from EPA, NMED, Tribe, or other organizations.

- (ii) The Pollution Prevention/Good Housekeeping program must include the following elements:
- (a) Develop or update the existing list of all stormwater quality facilities by drainage basin, including location and description;
 - (b) Develop or modify existing operational manual for de-icing activities addressing alternate materials and methods to control impacts to stormwater quality;
 - (c) Develop or modify existing program to control pollution in stormwater runoff from equipment and vehicle maintenance yards and maintenance center operations located within the MS4;
 - (d) Develop or modify existing street sweeping program. Assess possible benefits from changing frequency or timing of sweeping activities or utilizing different equipment for sweeping activities;
 - (e) A description of procedures used by permittees to target roadway areas most likely to contribute pollutants to and from the MS4 (i.e., runoff discharges directly to sensitive receiving water, roadway receives majority of de-icing material, roadway receives excess litter, roadway receives greater loads of oil and grease);
 - (f) Develop or revise existing standard operating procedures for collection of used motor vehicle fluids (at a minimum oil and antifreeze) and toxics (including paint, solvents, fertilizers, pesticides, herbicides,

- and other hazardous materials) used in permittee operations or discarded in the MS4, for recycle, reuse, or proper disposal;
- (g) Develop or revised existing standard operating procedures for the disposal of accumulated sediments, floatables, and other debris collected from the MS4 and during permittee operations to ensure proper disposal;
 - (h) Develop or revised existing litter source control programs to include public awareness campaigns targeting the permittee audience; and
 - (i) Develop or review and revise, as necessary, the criteria, procedures and schedule to evaluate existing flood control devices, structures and drainage ways to assess the potential of retrofitting to provide additional pollutant removal from stormwater. Implement routine review to ensure new and/or innovative practices are implemented where applicable.
 - (j) Enhance inspection and maintenance programs by coordinating with maintenance personnel to ensure that a target number of structures per basin are inspected and maintained per quarter;
 - (k) Enhance the existing program to control the discharge of floatables and trash from the MS4 by implementing source control of floatables in industrial and commercial areas;
 - (l) Include in each annual report, a cumulative summary of retrofit evaluations conducted during the permit term on existing flood control devices, structures and drainage ways to benefit water quality. Update the SWMP to include a schedule (with priorities) for identified retrofit projects;
 - (m) Flood management projects: review and revise, as necessary, technical criteria guidance documents and program for the assessment of water quality impacts and incorporation of water quality controls into future flood control projects. The criteria guidance document must include the following elements:
 - A. Describe how new flood control projects are assessed for water quality impacts.
 - B. Provide citations and descriptions of design standards that ensure water quality controls are incorporated in future flood control projects.
 - C. Include method for permittees to update standards with new and/or innovative practices.
 - D. Describe master planning and project planning procedures and design review procedures.
 - (n) Develop procedures to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied, by the permittee's employees or contractors, to public right-of-ways, parks, and other municipal property. The permittee must provide an updated description of the data monitoring system for all permittee departments utilizing pesticides, herbicides and fertilizers.
- (iii) Comply with the requirements included in the EPA Multi Sector General Permit (MSGP) to control runoff from industrial facilities (as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi)) owned or operated by the permittees and ultimately discharge to the MS4. The permittees must develop or update:
- (a) A list of municipal/permittee operations impacted by this program,
 - (b) A map showing the industrial facilities owned and operated by the MS4,
 - (c) A list of the industrial facilities (other than large construction activities defined as industrial activity) that will be included in the industrial runoff control program by category and by basin. The list must include the permit authorization number or a MSGP NOI ID for each facility as applicable.

- (iv) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.c.(i) throughout Part I.D.5.c.(iii) and its corresponding measurable goal.
- (v) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Table 4. Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
-Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit	Fourteen (14) months from effective date of the permit	Eighteen (18) months from effective date of the permit
-Enhance the program to include the elements in Part I.D.5.c.(ii)	Ten (10) months from effective date of the permit	One (1) year from effective date of the permit	Two (2) years from effective date of the permit	Two (2) years from effective date of the permit	Thirty (30) months from effective date of the permit
-Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit	One (1) year from effective date of the permit	Eighteen (18) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.c.(iv) and Part I.D.5.c.(v)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs (**)

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

d. Industrial and High Risk Runoff (Applicable only to Class A permittees)

- (i) The permittee must control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi). If no such industrial activities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.
- (ii) The permittee must continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report. The program shall include:
 - (a) A description of a program to identify, monitor, and control pollutants in stormwater discharges to the MS4 from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee(s) determines are contributing a substantial pollutant loading to the

MS4. (Note: If no such facilities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.); and

- (b) Priorities and procedures for inspections and establishing and implementing control measures for such discharges.
- (iii) Permittees must comply with the monitoring requirements specified in Part III.A.4;
- (iv) The permittee must modify the following as necessary:
 - (a) The list of the facilities included in the program, by category and basin;
 - (b) Schedules and frequency of inspection for listed facilities. Facility inspections may be carried out in conjunction with other municipal programs (e.g. pretreatment inspections of industrial users, health inspections, fire inspections, etc.), but must include random inspections for facilities not normally visited by the municipality;
 - (c) The priorities for inspections and procedures used during inspections (e.g. inspection checklist, review for NPDES permit coverage; review of stormwater pollution prevention plan; etc.); and
 - (d) Monitoring frequency, parameters and entity performing monitoring and analyses (MS4 permittees or subject facility). The monitoring program may include a waiver of monitoring for parameters at individual facilities based on a "no-exposure" certification;
- (v) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.d.(i) throughout Part I.D.5.d.(iv) and its corresponding measurable goal.
- (vi) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Program Flexibility Elements:

- (vii) The permittee may:
 - (a) Use analytical monitoring data, on a parameter-by-parameter basis, that a facility has collected to comply with or apply for a State or NPDES discharge permit (other than this permit), so as to avoid unnecessary cost and duplication of effort;
 - (b) Allow the facility to test only one (1) outfall and to report that the quantitative data also apply to the substantially identical outfalls if:
 - A. A Type 1 or Type 2 industrial facility has two (2) or more outfalls with substantially identical effluents, and
 - B. Demonstration by the facility that the stormwater outfalls are substantially identical, using one (1) or all of the following methods for such demonstration. The NPDES Stormwater Sampling Guidance Document (EPA 833-B-92-001), available on EPA's website at [provides detailed guidance on each of the three options: \(1\) submission of a narrative description and a site map; \(2\) submission of matrices; or \(3\) submission of model matrices.](#)
 - (c) Accept a copy of a "no exposure" certification from a facility made to EPA under 40 CFR §122.26(g), in lieu of analytic monitoring.

Table 5: Industrial and High Risk Runoff - Program Development and Implementation Schedules:

Activity	Permittee Class	
	A Phase I MS4s	Cooperative (*) Any Permittee with cooperative programs
Ordinance (or other control method) as required in Part I.D.5.d.(i)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Continue implementation and enforcement of the Industrial and High Risk Runoff program, assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the annual report as required in Part I.D.5.d.(ii)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Meet the monitoring requirements in Part I.D.5.d.(iii)	Ten (10) months from effective date of the permit	Twelve (12) months from effective date of the permit
Include requirements in Part I.D.5.d.(iv)	Ten (10) months from permit effective date of the permit	Twelve (12) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.d.(v) and Part I.D.5.d.(vi)	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.d.(vii)	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.
Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

e. Illicit Discharges and Improper Disposal

(i) The permittee shall develop, revise, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR 122.26(b)(2)) entering the MS4. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.** The permittee must:

- (a) Develop, if not already completed, a storm sewer system map, showing the names and locations of all outfalls as well as the names and locations of all waters of the United States that receive discharges from those outfalls. Identify all discharges points into major drainage channels draining more than twenty (20) percent of the MS4 area;
- (b) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-stormwater discharges into the MS4, and implement appropriate enforcement procedures and actions;
- (c) Develop and implement a plan to detect and address non-stormwater discharges, including illegal dumping, to the MS4. The permittee must include the following elements in the plan:
 - A. Procedures for locating priority areas likely to have illicit discharges including field test for selected pollutant indicators (ammonia, boron, chlorine, color, conductivity, detergents, *E. coli*, enterococci, total coliform, fluoride, hardness, pH, potassium, conductivity, surfactants), and visually screening outfalls during dry weather;

- B. Procedures for enforcement, including enforcement escalation procedures for recalcitrant or repeat offenders;
 - C. Procedures for removing the source of the discharge;
 - D. Procedures for program evaluation and assessment; and
 - E. Procedures for coordination with adjacent municipalities and/or state, tribal, or federal regulatory agencies to address situations where investigations indicate the illicit discharge originates outside the MS4 jurisdiction.
- (d) Develop an education program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials. The permittee shall inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.
 - (e) Establish a hotline to address complaints from the public.
 - (f) Investigate suspected significant/severe illicit discharges within forty-eight (48) hours of detection and all other discharges as soon as practicable; elimination of such discharges as expeditiously as possible; and, requirement of immediate cessation of illicit discharges upon confirmation of responsible parties.
 - (g) Review complaint records for the last permit term and develop a targeted source reduction program for those illicit discharge/improper disposal incidents that have occurred more than twice in two (2) or more years from different locations. (Applicable only to class A and B permittees)
 - (h) If applicable, implement the program using the priority ranking develop during last permit term
- (ii) The permittee shall address the following categories of non-stormwater discharges or flows (e.g., illicit discharges) only if they are identified as significant contributors of pollutants to the MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(90)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.

Note: Discharges or flows from fire fighting activities are excluded from the effective prohibitions against non-stormwater and need only be addressed where they are identified a significant sources of pollutants to water of the United States).
- (iii) The permittee must screen the entire jurisdiction at least once every five (5) years and high priority areas at least once every year. High priority areas include any area where there is ongoing evidence of illicit discharges or dumping, or where there are citizen complaints on more than five (5) separate events within twelve (12) months. The permittee must:
 - (a) Include in its SWMP document a description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected.
 - (b) Comply with the dry weather screening program established in Table 6 and the monitoring requirements specified in Part III.A.2.
 - (c) If applicable, implement the priority ranking system develop in previous permit term.

- (iv) **Waste Collection Programs:** The permittee must develop, update, and implement programs to collect used motor vehicle fluids (at a minimum, oil and antifreeze) for recycle, reuse, or proper disposal, and to collect household hazardous waste materials (including paint, solvents, fertilizers, pesticides, herbicides, and other hazardous materials) for recycle, reuse, or proper disposal. Where available, collection programs operated by third parties may be a component of the programs. Permittees shall enhance these programs by establishing the following elements as a goal in the SWMP:
- A. Increasing the frequency of the collection days hosted;
 - B. Expanding the program to include commercial fats, oils and greases; and
 - C. Coordinating program efforts between applicable permittee departments.
- (v) **Spill Prevention and Response.** The permittee must develop, update and implement a program to prevent, contain, and respond to spills that may discharge into the MS4. The permittees must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The Spill Prevention and Response program shall include:
- (a) Where discharge of material resulting from a spill is necessary to prevent loss of life, personal injury, or severe property damage, the permittee(s) shall take, or insure the party responsible for the spill takes, all reasonable steps to control or prevent any adverse effects to human health or the environment: and
 - (b) The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittee's municipal jurisdiction.
- (vi) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.e.(i) throughout Part I.D.5.e.(v) and its corresponding measurable goal. A description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected
- (vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.
- (viii) The permittee must expeditiously revise as necessary, within nine (9) months from the effective date of the permit, the existing permitting/certification program to ensure that any entity applying for the use of Right of Way implements controls in their construction and maintenance procedures to control pollutants entering the MS4. (Only applicable to NMDOT)

Program Flexibility Elements

- (ix) The permittee may:
- (a) Divide the jurisdiction into assessment areas where monitoring at fewer locations would still provide sufficient information to determine the presence or absence of illicit discharges within the larger area;
 - (b) Downgrade high priority areas after the area has been screened at least once and there are citizen complaints on no more than five (5) separate events within a twelve (12) month period;
 - (c) Rely on a cooperative program with other MS4s for detection and elimination of illicit discharges and illegal dumping;

- (d) If participating in a cooperative program with other MS4s, required detection program frequencies may be based on the combined jurisdictional area rather than individual jurisdictional areas and may use assessment areas crossing jurisdictional boundaries to reduce total number of screening locations (e.g., a shared single screening location that would provide information on more than one jurisdiction); and
- (e) After screening a non-high priority area once, adopt an “in response to complaints only” IDDE for that area provided there are citizen complaints on no more than two (2) separate events within a twelve (12) month period.
- (f) Enhance the program to utilize procedures and methodologies consistent with those described in “Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments.”

Table 6. Illicit Discharges and Improper Disposal - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census ***)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Mapping as required in Part I.D.5.e.(i)(a)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	Fourteen (14) months from effective date of permit
Ordinance (or other control method) as required in Part I.D.5.e.(i)(b)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop and implement a IDDE plan as required in Part I.D.5.e.(i)(c)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop an education program as required in Part I.D.5.e.(i)(d)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Establish a hotline as required in Part I.D.5.e.(i)(e)	Update as necessary	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i)(f)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i)(g)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	N/A	N/A	One (1) year from effective date of permit

Screening of system as required in Part I.D.5.e.(iii) as follows:	1 / year	1 / year	1 / year	1 / year	1 / year
a.) High priority areas**					
b.) Whole system	-Screen 20% of the MS4 per year	- Screen 20% of the MS4 per year	-Years 1 – 2: develop procedures as required in Part I.D.5.e.(i)(c) -Year 3: screen 30% of the MS4 -Year 4: screen 20% of the MS4 -Year 5: screen 50% of the MS4	-Years 1 – 2: develop procedures as required Part I.D.5.e.(i)(c) -Year 3: screen 30% of the MS4 -Year 4: screen 20% of the MS4 -Year 5: screen 50% of the MS4	-Years 1 – 3: develop procedures as require in Part I.D.5.e.(i)(c) -Year 4: screen 30% of the MS4 -Year 5: screen 70% of the MS4
Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv)	Ten (10) months from effective date of permit	Eighteen (18) months from effective date of permit	Two (2) years from effective date of permit	Two (2) years from effective date of permit	Thirty (30) months from effective date of permit
Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v)	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	One (1) year from effective date of permit	One (1) year from effective date of permit	Eighteen (18) months from effective date of permit
Update the SWMP document and annual report as required in Part I.D.5.e.(iii), Part I.D.5.e.(vi), and Part I.D.5.e.(vii).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.e.(ix)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) High priority areas include any area where there is ongoing evidence of illicit discharges or dumping, or where there are citizen complaints on more than five (5) separate events within twelve (12) months

(***) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

f. Control of Floatables Discharges

- (i) The permittee must develop, update, and implement a program to address and control floatables in discharges into the MS4. The floatables control program shall include source controls and, where necessary, structural controls. **Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.** The following elements must be included in the program:

- (a) Develop a schedule for implementation of the program to control floatables in discharges into the MS4 (Note: AMAFCA and the City of Albuquerque should update the schedule according to the findings of the 2005 AMAFCA/COA Floatable and Gross Pollutant Study and other studies); and
 - (b) Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type.
- (ii) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.f.(i).
- (iii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.

Table 7. Control of Floatables Discharges - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
- Develop a schedule to implement the program as required in Part I.D.5.f.(i)(a)	Ten (10) months from the effective date of the permit	Ten (10) months from the effective date of the permit	One (1) year from the effective date of the permit	One (1) year from the effective date of the permit	Eighteen (18) months from the effective date of the permit
-Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i)(b)	Ten (10) months from the effective date of the permit	One (1) year from the effective date of the permit	Two (2) years from the effective date of the permit	Two (2) years from the effective date of the permit	Thirty (30) months from the effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.f.(ii) and Part I.D.5.f.(iii).	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

g. Public Education and Outreach on Stormwater Impacts

- (i) The permittee shall, individually or cooperatively, develop, revise, implement, and maintain a comprehensive stormwater program to educate the community, employees, businesses, and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that stormwater discharges on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater. **Permittees previously covered under NMS000101 and NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit.**
- (ii) The permittee must implement a public education program to distribute educational knowledge to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The permittee must:

- (a) Define the goals and objectives of the program based on high priority community-wide issues;
 - (b) Develop or utilize appropriate educational materials, such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, and websites;
 - (c) Inform individuals and households about ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes;
 - (d) Inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups;
 - (e) Use tailored public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed cleanups; and
 - (f) Use materials or outreach programs directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant stormwater impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permittee may tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children. The permittee must make information available for non-English speaking residents, where appropriate.
- (iii) The permittee must include the following information in the Stormwater Management Program (SWMP) document:
- (a) A description of a program to promote, publicize, facilitate public reporting of the presence of illicit discharges or water quality associated with discharges from municipal separate storm sewers;
 - (b) A description of the education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and
 - (c) A description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.g.(i) and Part I.D.5.g.(ii) and its corresponding measurable goal.
- (iv) The permittee must assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the Annual Report.

Program Flexibility Elements

- (v) Where necessary to comply with the Minimum Control Measures established in Part I.D.5.g.(i) and Part I.D.5.g.(ii), the permittee should develop a program or modify/revise an existing education and outreach program to:
 - (a) Promote, publicize, and facilitate the use of Green Infrastructure (GI)/Low Impact Development (LID)/Sustainability practices; and
 - (b) Include an integrated public education program (including all permittee departments and programs within the MS4) regarding litter reduction, reduction in pesticide/herbicide use, recycling and proper

disposal (including yard waste, hazardous waste materials, and used motor vehicle fluids), and GI/LID/Sustainable practices (including xeriscaping, reduced water consumption, water harvesting practices allowed by the New Mexico State Engineer Office).

- (vi) The permittee may collaborate or partner with other MS4 operators to maximize the program and cost effectiveness of the required outreach.
- (vii) The education and outreach program may use citizen hotlines as a low-cost strategy to engage the public in illicit discharge surveillance.
- (viii) The permittee may use stormwater educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The permittee may also integrate the education and outreach program with existing education and outreach programs in the Middle Rio Grande area. Example of existing programs include:
 - (a) Classroom education on stormwater;
 - A. Develop watershed map to help students visualize area impacted.
 - B. Develop pet-specific education
 - (b) Establish a water committee/advisor group;
 - (c) Contribute and participate in Stormwater Quality Team;
 - (d) Education/outreach for commercial activities;
 - (e) Hold regular employee trainings with industry groups
 - (f) Education of lawn and garden activities;
 - (g) Education on sustainable practices;
 - (h) Education/outreach of pet waste management;
 - (i) Education on the proper disposal of household hazardous waste;
 - (j) Education/outreach programs aimed at minority and disadvantaged communities and children;
 - (k) Education/outreach of trash management;
 - (l) Education/outreach in public events;
 - A. Participate in local events—brochures, posters, etc.
 - B. Participate in regional events (i.e., State Fair, Balloon Fiesta).
 - (m) Education/outreach using the media (e.g. publish local newsletters);
 - (n) Education/outreach on water conservation practices designed to reduce pollutants in storm water for home residences.

Table 8. Public Education and Outreach on Stormwater Impacts - Program Development and Implementation Schedules

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii)	Ten (10) months from the effective date of the permit	Eleven (11) months from the effective date of the permit	Twelve (12) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.g.(iii) and Part I.D.5.g.(iv)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

h. Public Involvement and Participation

- (i) The permittee must provide local public notice of and make available for public review a copy of the complete NOI and attachments (see Part I.B.2). Local public notice may be made by newspaper notice, notice at a council meeting, posting on the internet, or other method consistent with state/tribal/local public notice requirements.

The permittee must consider all public comments received during the public notice period and modify the NOI, or include a schedule to modify the SWMP, as necessary, or as required by the Director modify the NOI or/and SWMP in response to such comments. The Permittees must include in the NOI any unresolved public comments and the MS4's response to these comments. Responses provided by the MS4 will be considered as part of EPA's decision-making process. See also Appendix E Providing Comments or Requesting a Public Hearing on an Operator's NOI.

- (ii) The permittee shall develop, revise, implement and maintain a plan to encourage public involvement and provide opportunities for participation in the review, modification and implementation of the SWMP; develop and implement a process by which public comments to the plan are received and reviewed by the person(s) responsible for the SWMP; and, make the SWMP available to the public and to the operator of any MS4 or Tribal authority receiving discharges from the MS4. **Permittee previously covered under NMS000101 or NMR040000 must continue existing public involvement and participation programs while updating those programs, as necessary, to comply with the requirements of this permit.**

- (iii) The plan required in Part I.D.5.h.(ii) shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The permittee must include the following elements in the plan:
- (a) A detailed description of the general plan for informing the public of involvement and participation opportunities, including types of activities; target audiences; how interested parties may access the SWMP; and how the public was involved in development of the SWMP;
 - (b) The development and implementation of at least one (1) assessment of public behavioral change following a public education and/or participation event;
 - (c) A process to solicit involvement by environmental groups, environmental justice communities, civic organizations or other neighborhoods/organizations interested in water quality-related issues, including but not limited to the Middle Rio Grande Water Quality Work Group, the Middle Rio Grande Bosque Initiative, the Middle Rio Grande Endangered Species Act Collaborative Program, the Middle Rio Grande-Albuquerque Reach Watershed Group, the Pueblos of Santa Ana, Sandia and Isleta, Albuquerque Bernalillo County Water Utility Authority, UNM Colleges and Schools, and Chartered Student Organizations; and
 - (d) An evaluation of opportunities to utilize volunteers for stormwater pollution prevention activities and awareness throughout the area.
- (iv) The permittee shall comply with State, Tribal and local public notice requirements when implementing a public involvement/ participation program.
- (v) The public participation process must reach out to all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts.
- (vi) The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Parts I.D.5.h.(i) throughout Part I.D.5.h.(iv) and its corresponding measurable goal.
- (vii) The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.
- (viii) The permittee must provide public accessibility of the Storm Water Management Program (SWMP) document and Annual Reports online via the Internet and during normal business hours at the MS4 operator's main office, a local library, posting on the internet and/or other readily accessible location for public inspection and copying consistent with any applicable federal, state, tribal, or local open records requirements. Upon a showing of significant public interest, the MS4 operator is encouraged to hold a public meeting (or include in the agenda of in a regularly scheduled city council meeting, etc.) on the NOI, SWMP, and Annual Reports. (See Part III B)

Program Flexibility Elements

- (ix) The permittee may integrate the public Involvement and participation program with existing education and outreach programs in the Middle Rio Grande area. Example of existing programs include: Adopt-A-Stream Programs; Attitude Surveys; Community Hotlines (e.g. establishment of a "311"-type number and system established to handle storm-water-related concerns, setting up a public tracking/reporting

system, using phones and social media); Revegetation Programs; Storm Drain Stenciling Programs; Stream cleanup and Monitoring program/events.

Table 9. Public Involvement and Participation - *Program Development and Implementation Schedules*

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii) and Part I.D.5.h.(iii)	Ten (10) months from effective date of the permit	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit
Comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	Twelve (12) months from effective date of the permit	Twelve (12) months from effective date of the permit	Fourteen (14) months from effective date of the permit
Include elements as required in Part I.D.5.h.(v)	Ten (10) months from effective date of the permit	Eleven (11) months from effective date of the permit	One (1) year from effective date of the permit	One (1) year from effective date of the permit	Eighteen (18) months from effective date of the permit
Update the SWMP document and annual report as required in Part I.D.5.h.(vi), Part I.D.5.h.(vii), and Part I.D.5.h.(viii)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary
Enhance the program to include requirements in Part I.D.5.h.(ix)	Update as necessary	Update as necessary	Update as necessary	Update as necessary	Update as necessary

(*) During development of cooperative programs, the permittee must continue to implement existing programs.

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

6. **Stormwater Management Program Review and Modification.**

- a. **Program Review.** Permittee shall participate in an annual review of its SWMP in conjunction with preparation of the annual report required in Part III.B. Results of the review shall be discussed in the annual report and shall include an assessment of:
 - (i) SWMP implementation, progress in achieving measurable goals, and compliance with program elements and other permit conditions;
 - (ii) the effectiveness of its SWMP, and any necessary modifications, in complying with the permit, including requirements to control the discharge of pollutants, and comply with water quality standards and any applicable approved TMDLs; and the adequacy of staff, funding levels, equipment, and support capabilities to fully implement the SWMP and comply with permit conditions.

- (a) Project staffing requirements, in man hours, for the implementation of the MS4 program during the upcoming year.
 - (b) Staff man hours used during the previous year for implementing the MS4 program. Man hours may be estimated based on staff assigned, assuming a forty (40) hour work week.
- b. Program Modification. The permittee(s) may modify its SWMP with prior notification or request to the EPA and NMED in accordance with this section.
 - (i) Modifications adding, but not eliminating, replacing, or jeopardizing fulfillment of any components, controls, or requirements of its SWMP may be made by the permittee(s) at any time upon written notification to the EPA.
 - (ii) Modifications replacing or eliminating an ineffective or unfeasible component, control or requirement of its SWMP, including monitoring and analysis requirements described in Parts III.A and V, may be requested in writing at any time. If request is denied, the EPA will send a written explanation of the decision. Modification requests shall include the following:
 - (a) a description of why the SWMP component is ineffective, unfeasible (including cost prohibitions), or unnecessary to support compliance with the permit;
 - (b) expectations on the effectiveness of the proposed replacement component; and
 - (c) an analysis of how the proposed replacement component is expected to achieve the goals of the component to be replaced.
 - (iii) Modifications resulting from schedules contained in Part VI may be requested following completion of an interim task or final deadline.
 - (iv) Modification requests or notifications shall be made in writing, signed in accordance with Part IV.H.
- c. Program Modifications Required by EPA. Modifications requested by EPA shall be made in writing, set forth the time schedule for the permittee(s) to develop the modifications, and offer the permittee(s) the opportunity to propose alternative program modifications to meet the objective of the requested modification. The EPA may require changes to the SWMP as needed to:
 - (i) Address impacts on receiving water quality caused, or contributed to, by discharges from the MS4;
 - (ii) Include more stringent requirements necessary to comply with new State or Federal statutory or regulatory requirements;
 - (iii) Include such other conditions deemed necessary by the EPA to comply with the goals and requirements of the Clean Water Act; or
 - (iv) If, at any time, EPA determines that the SWMP does not meet permit requirements.
- d. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation: The permittee(s) shall implement the SWMP:
 - (i) On all new areas added to their portion of the MS4 (or for which they become responsible for implementation of stormwater quality controls) as expeditiously as possible, but not later than one (1) year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately;

- (ii) Within ninety (90) days of a transfer of ownership, operational authority, or responsibility for SWMP implementation, the permittee(s) shall have a plan for implementing the SWMP on all affected areas. The plan may include schedules for implementation; and information on all new annexed areas and any resulting updates required to the SWMP shall be submitted in the annual report.
7. **Retention of Program Records.** The permittee shall retain SWMP records developed in accordance with Part I.D, Part IV.P, and Part VI for at least five (5) years after coverage under this permit terminates.
 8. **Qualifying State, Tribal or Local Program.** The permittee may substitute the BMPs and measurable goals of an existing storm water pollution control program to qualify for compliance with one or more of the minimum control measures if the existing measure meets the requirements of the minimum control measure as established in Part I.D.5

PART II. NUMERIC DISCHARGE LIMITATIONS

A. DISCHARGE LIMITATIONS. Reserved

PART III. MONITORING, ASSESSMENT, AND REPORTING REQUIREMENTS:

A. MONITORING AND ASSESSMENT

The permittee must develop, in consultation with NMED and EPA (and affected Tribes if monitoring locations would be located on Tribal lands), and implement a comprehensive monitoring and assessment program designed to meet the following objectives:

- Assess compliance with this permit;
- Assess the effectiveness of the permittee's stormwater management program;
- Assess the impacts to receiving waters resulting from stormwater discharges;
- Characterize stormwater discharges;
- Identify sources of elevated pollutant loads and specific pollutants;
- Detect and eliminate illicit discharges and illegal connections to the MS4; and
- Assess the overall health and evaluate long-term trends in receiving water quality.

The permittee shall select specific monitoring locations sufficient to assess effects of storm water discharges on receiving waters. The monitoring program may take advantage of monitoring stations/efforts utilized by the permittees or others in previous stormwater monitoring programs or other water quality monitoring efforts. Data collected by others at such stations may be used to satisfy part, or all, of the permit monitoring requirements provided the data collection by that party meets the requirements established in Part III.A.1 throughout Part III.A.5. The comprehensive monitoring and assessment program shall be described in the SWMP document and the results must be provided in each annual report.

Implementation of the comprehensive monitoring and assessment program may be achieved through participation with other permittees to satisfy the requirements of Part III.A.1 throughout Part III.A.5 below in lieu of creating duplicate program elements for each individual permittee.

1. **Wet Weather Monitoring:** The permittees shall conduct wet weather monitoring to gather information on the response of receiving waters to wet weather discharges from the MS4 during both wet season (July 1 through October 31) and dry Season (November 1 through June 30). Wet Weather Monitoring shall be conducted at outfalls, internal sampling stations, and/or in-stream monitoring locations at each water of the US that runs in each entity or entities' jurisdiction(s). Permittees may choose either Option A or Option B below:

- a. *Option A:* Individual monitoring

- (i) Class A: Perform wet weather monitoring at a location coming into the MS4 jurisdictional area (upstream) and leaving the MS4 jurisdictional area (downstream), see Appendix D. Monitor for TSS, TDS, COD, BOD₅, DO, oil and grease, *E.coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Phase I permittees must include additional parameters from monitoring conducted under permit NMS000101 (from last 10 years) whose mean values are at or above a WQS. Permittee must sample these pollutants a minimum of 10 events during the permit term with at least 5 events in wet season and 4 events in dry season.
- (ii) Class B, C, and D: Perform wet weather monitoring at a location coming into the MS4 jurisdictional area (upstream) and leaving the MS4 jurisdictional area (downstream), see Appendix D. Monitor for TSS, TDS, COD, BOD₅, DO, oil and grease, *E.coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and gross alpha. Monitoring of temperature shall be also

conducted at outfalls and/or Rio Grande monitoring locations. If applicable, include additional parameters from monitoring conducted under permits NMR040000 or/and NMR040001 whose mean values are at or above a WQS; sample these pollutants a minimum of 8 events per location during the permit term with at least 4 events in wet season and 2 events in dry season.

b. *Option B: Cooperative Monitoring Program*

Develop a cooperative wet weather monitoring program with other permittees in the Middle Rio Grande watershed (see map in Appendix A). The program will monitor waters coming into the watershed (upstream) and leaving the watershed (downstream), see suggested sampling locations in Appendix D. The program must include sampling for TSS, TDS, COD, BOD5, DO, oil and grease, *E. coli*, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and Gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Permittees must include additional parameters from monitoring conducted under permits NMS000101, NMR040000 or/and NMR040001 whose mean values are at or above a WQS. The monitoring program must sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 events wet season and 2 events in dry season.

Note: Seasonal monitoring periods are: Wet Season: July 1 through October 31; Dry Season: November 1 through June 30.

- c. Wet weather monitoring shall be performed only when the predicted (or actual) rainfall magnitude of a storm event is greater than 0.25 inches and an antecedent dry period of at least forty-eight (48) hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology will consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of fifteen (15) minutes each (or a flow weighted automatic composite, see Part III.A.5.a.(i)). Individual grab samples shall be preserved and delivered to the laboratory where samples will be combined into a single composite sample from each monitoring location.
- d. Monitoring methodology at each MS4 monitoring location shall be collected during any portion of the monitoring location's discharge hydrograph (i.e. first flush, rising limb, peak, and falling limb) after a discernible increase in flow at the tributary inlet.
- e. The permittee must comply with the schedules contained in Table 10. The results of the Wet Weather Monitoring must be provided in each annual report.
- f. DO, pH, conductivity, and temperature shall be analyzed in the field within fifteen (15) minutes of sample collection.
- g. Alternate wet weather monitoring locations established in Part III.A.1.a or Part III.A.1.b may be substituted for just cause during the term of the permit. Requests for approval of alternate monitoring locations shall be made to the EPA and NMED in writing and include the rationale for the requested monitoring station relocation. Unless disapproved by the EPA, use of an alternate monitoring location (except for those with numeric effluent limitations) may commence thirty (30) days from the date of the request. For monitoring locations where numeric effluent limitations have been established, the permit must be modified prior to substitution of alternate monitoring locations. At least six (6) samples shall be collected during the first year of monitoring at substitute monitoring locations. If there are less than six sampleable events, this should be documented for reporting purposes.

- h. Response to monitoring results: The monitoring program must include a contingency plan for collecting additional monitoring data within the MS4 or at additional appropriate instream locations should monitoring results indicate that MS4 discharges may be contributing to instream exceedances of WQS. The purpose of this additional monitoring effort would be to identify sources of elevated pollutant loadings so they could be addressed by the SWMP.

Table 10. Wet Weather Monitoring Program Implementation Schedules:

Activity	Permittee Class				
	A Phase I MS4s	B Phase II MS4s (2000 Census)	C New Phase II MS4s (2010 Census **)	D MS4s within Indian Lands	Cooperative (*) Any Permittee with cooperative programs
Submit wet weather monitoring preference to EPA (i.e., individual monitoring program vs. cooperative monitoring program) with NOI submittals	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)	NOI submittal Deadline (see Table 1)
Submit a detailed description of the monitoring scheme to EPA and NMED for approval. The monitoring scheme should include: a list of pollutants; a description of monitoring sites with an explanation of why those sites were selected; and a detailed map of all proposed monitoring sites	Ten (10) months from effective date of permit	Ten (10) months from effective date of permit	Eleven (11) months from effective date of permit	Eleven (11) months from effective date of permit	Twelve (12) months from effective date of permit
Submit certification that all wet weather monitoring sites are operational and begin sampling	March 22, 2016	March 22, 2016	May 21, 2016	May 21, 2016	June 21, 2016
Update SWMP document and submit annual reports	Annually	Annually	Annually	Annually	Annually

(**) or MS4s designated by the Director

Note: The deadlines established in this table may be extended by the Director for any MS4 designated as needing a permit after issuance of this permit to accommodate expected date of permit coverage.

2. **Dry Weather Discharge Screening of MS4:** Each permittee shall identify, investigate, and address areas within its jurisdiction that may be contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System as a result of dry weather discharges (i.e., discharges from separate storm sewers that occur without the direct influence of runoff from storm events, e.g. illicit discharges, allowable non-stormwater, groundwater infiltration, etc.). Due to the arid and semi-arid conditions of the area, the dry weather discharges screening program may be carried out during both wet season (July 1 through October 31) and dry Season (November 1 through June 30). Results of the assessment

shall be provided in each annual report. This program may be coordinated with the illicit discharge detection and elimination program required in Part I.D.5.e. The dry weather screening program shall be described in the SWMP and comply with the schedules contained in Part I.D.5.e.(iii). The permittee shall

- a. Include sufficient screening points to adequately assess pollutant levels from all areas of the MS4.
 - b. Screen for, at a minimum, BOD₅, sediment or a parameter addressing sediment (e.g., TSS or turbidity), E. coli, Oil and Grease, nutrients, any pollutant that has been identified as cause of impairment of a waterbody receiving discharges from that portion of the MS4, including temperature.
 - c. Specify the sampling and non-sampling techniques to be issued for initial screening and follow-up purposes. Sample collection and analysis need not conform to the requirements of 40 CFR Part 136; and
 - d. Perform monitoring only when an antecedent dry period of at least seventy-two (72) hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology shall consist of collecting a minimum of four (4) grab samples spaced at a minimum interval of fifteen (15) minutes each. Grab samples will be combined into a single composite sample from each station, preserved, and delivered to the laboratory for analysis. A flow weighted automatic composite sample may also be used.
3. **Floatable Monitoring:** The permittees shall establish locations for monitoring/assessing floatable material in discharges to and/or from their MS4. Floatable material shall be monitored at least twice per year at priority locations and at minimum of two (2) stations except as provided in Part III.A.3. below. The amount of collected material shall be estimated in cubic yards.
- a. One (1) station should be located in the North Diversion (only applicable to the COA and AMAFCA).
 - b. Non-traditional MS4 as defined in Part VII shall sample/assess at one (1) station.
 - c. Phase II MS4s shall sample/assess at one (1) station within their jurisdiction or participate in a cooperative floatable monitoring plan addressing impacts on perennial waters of the US on a larger watershed basis.

A cooperative monitoring program may be established in partnership with other MS4s to monitor and assess floatable material in discharges to and/or from a joint jurisdictional area or watershed basis.

4. **Industrial and High Risk Runoff Monitoring** (Applicable only to Class A permittees): The permittees shall monitor stormwater discharges from Type 1 and 2 industrial facilities which discharge to the MS4 provided such facilities are located in their jurisdiction. (Note: if no such facilities are in the permittee's jurisdiction, the permittee must certify that this program element does not apply). The permittee shall:
- a. Conduct analytical monitoring of Type 1 facilities that discharge to the MS4. Type 1 facilities are municipal landfills; hazardous waste treatment, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and industrial facilities the permittee(s) determines are contributing a substantial pollutant loading to the MS4.
 - (i) The following parameters shall be monitored:
 - any pollutants limited in an existing NPDES permit to a subject facility;

- oil and grease;
 - chemical oxygen demand (COD);
 - pH;
 - biochemical oxygen demand, five-day (BOD₅);
 - total suspended solids (TSS);
 - total phosphorous;
 - total Kjeldahl nitrogen (TKN);
 - nitrate plus nitrite nitrogen;
 - any discharge information required under 40 CFR §122.21(g)(7)(iii) and (iv);
 - total cadmium;
 - total chromium;
 - total copper;
 - total lead;
 - total nickel;
 - total silver;
 - total zinc; and,
 - PCBs.
- (ii) Frequency of monitoring shall be established by the permittee(s), but may not be less than once per year;
- (iii) In lieu of the above parameter list, the permittee(s) may alter the monitoring requirement for any individual Type 1 facility:
- (a) To coincide with the corresponding industrial sector-specific monitoring requirements of the 2008 Multi-Sector General Stormwater Permit or any applicable general permit issued after September 2008. This exception is not contingent on whether a particular facility is actually covered by the general permit; or
 - (b) To coincide with the monitoring requirements of any individual permit for the stormwater discharges from that facility, and
 - (c) Any optional monitoring list must be supplemented by pollutants of concern identified by the permittee(s) for that facility.
- b. Conduct appropriate monitoring (e.g. analytic, visual), as determined by the permittee(s), at Type 2 facilities that discharge to the MS4. Type 2 facilities are other municipal waste treatment, storage, or disposal facilities (e.g. POTWs, transfer stations, incinerators) and industrial or commercial facilities the permittee(s) believed contributing pollutants to the MS4. The permittee shall include in each annual report, a list of parameters of concern and monitoring frequencies required for each type of facility.
- c. May use analytical monitoring data, on a parameter-by-parameter basis, that a facility has collected to comply with or apply for a State or NPDES discharge permit (other than this permit), so as to avoid unnecessary cost and duplication of effort;
- d. May allow the facility to test only one (1) outfall and to report that the quantitative data also apply to the substantially identical outfalls if:
- (i) A Type 1 or Type 2 industrial facility has two (2) or more outfalls with substantially identical effluents, and

(ii) Demonstration by the facility that the stormwater outfalls are substantially identical, using one (1) or all of the following methods for such demonstration. The NPDES Stormwater Sampling Guidance Document (EPA 833-B-92-001), available on EPA's website at provides detailed guidance on each of the three options: (1) submission of a narrative description and a site map; (2) submission of matrices; or (3) submission of model matrices.

b. May accept a copy of a "no exposure" certification from a facility made to EPA under 40 CFR §122.26(g), in lieu of analytic monitoring.

5. **Additional Sample Type, Collection and Analysis:**

a. **Wet Weather (or Storm Event) Discharge Monitoring:** If storm event discharges are collected to meet the objectives of the Comprehensive Monitoring and Assessment Program required in Part III.A (e.g., assess compliance with this permit; assess the effectiveness of the permittee's stormwater management program; assess the impacts to receiving waters resulting from stormwater discharges), the following requirements apply:

(i) **Composite Samples:** Flow-weighted composite samples shall be collected as follows:

(a) **Composite Method –** Flow-weighted composite samples may be collected manually or automatically. For both methods, equal volume aliquots may be collected at the time of sampling and then flow-proportioned and composited in the laboratory, or the aliquot volume may be collected based on the flow rate at the time of sample collection and composited in the field.

(b) **Sampling Duration –** Samples shall be collected for at least the first three (3) hours of discharge. Where the discharge lasts less than three (3) hours, the permittee should report the value. .

(c) **Aliquot Collection –** A minimum of three (3) aliquots per hour, separated by at least fifteen (15) minutes, shall be collected. Where more than three (3) aliquots per hour are collected, comparable intervals between aliquots shall be maintained (e.g. six aliquots per hour, at least seven (7) minute intervals).

(ii) **Grab Samples:** Grab samples shall be taken during the first two (2) hours of discharge.

b. **Analytical Methods:** Analysis and collection of samples shall be done in accordance with the methods specified at 40 CFR §136. Where an approved 40 CFR §136 method does not exist, any available method may be used unless a particular method or criteria for method selection (such as sensitivity) has been specified in the permit. The minimum quantification levels (MQLs) in Appendix F are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

Screening level tests may utilize less expensive "field test kits" using test methods not approved by EPA under 40 CFR 136, provided the manufacturers published detection ranges are adequate for the illicit discharge detection purposes.

EPA Method 1668 shall be utilized when PCB water column monitoring is conducted to determine compliance with permit requirements. For purposes of sediment sampling in dry weather as part of a screening program to identify area(s) where PCB control/clean-up efforts may need to be focused, either the Arochlor test (EPA Method 8082) or USGS test method (8093) may be utilized, but must use EPA Method 1668 (latest revision) for confirmation and determination of specific PCB levels at that location.

EPA Method 900.0 shall be utilized when gross alpha water column monitoring is conducted to determine compliance with permit requirements.

B. ANNUAL REPORT

The permittees shall submit an annual report to be submitted by no later than **December 1st**. See suggested form at <http://epa.gov/region6/water/npdes/sw/ms4/index.htm>. The report shall cover the previous year from **July 1st to June 30rd** and include the below separate sections. Additionally, the year one (1) and year four (4) annual report shall include submittal of a complete SWMP revision.

At least forty five (45) days prior to submission of each Annual Report, the permittee must provide public notice of and make available for public review and comment a draft copy of the Annual Report. All public input must be considered in preparation of the final Annual Reports and any changes to the SWMP.

Note: A complete copy of the signed Annual Report should be maintained on site.

1. **SWMP(s) status of implementation:** shall include the status of compliance with all schedules established under this permit and the status of actions required in Parts I, III, and VI.
2. **SWMP revisions:** shall include revisions, if necessary, to the assessments of controls or BMPs reported in the permit application (or NOI for coverage under this permit) under 40 CFR §122.26(d)(2)(v) and §122.34(d)(1)(i) are to be included, as well as a cumulative list of all SWMP revisions during the permit term.

Class A permittees shall include revisions, if necessary, to the fiscal analysis reported in the permit application (or NOI for coverage under this permit) under §122.26(d)(2)(vi).

3. **Performance assessment:** shall include:
 - a. an assessment of performance in terms of measurable goals, including, but not limited to, a description of the number and nature of enforcement actions and inspections, public education and public involvement efforts;
 - b. a summary of the data, including monitoring data, that is accumulated throughout the monitoring year (July 1 to June 30); actual values of representative monitoring results shall be included, if results are above minimum quantification level (MQL); and
 - c. an identification of water quality improvements or degradation.
4. **Annual expenditures:** for the reporting period, with a breakdown for the major elements of the stormwater management program and the budget for the year following each annual report. (Applicable only to Class A permittees)
5. **Annual Report Responsibilities for Cooperative Programs:** preparation of a system-wide report with cooperative programs may be coordinated among cooperating MS4s and then used as part of individual Annual Reports. The report of a cooperative program element shall indicate which, if any, permittee(s) have failed to provide the required information on the portions of the MS4 for which they are responsible to the cooperation permittees.
 - a. Joint responsibility for reports covering cooperative programs elements shall be limited to participation in preparation of the overview for the entire system and inclusion of the identity of any permittee who failed to provide input to the annual report.

- b. Individual permittees shall be individually responsible for content of the report relating to the portions of the MS4 for which they are responsible and for failure to provide information for the system-wide annual report no later than July 31st of each year.
6. **Public Review and Comment:** a brief summary of any issues raised by the public on the draft Annual Report, along with permittee's responses to the public comments.
7. **Signature on Certification of Annual Reports:** The annual report shall be signed and certified, in accordance with Part IV.H and include a statement or resolution that the permittee's governing body or agency (or delegated representative) has reviewed or been apprised of the content of the Annual Report. Annual report shall be due no later than December 1st of each year. A complete copy of the signed Annual Report should be maintained on site.

C. CERTIFICATION AND SIGNATURE OF RECORDS.

All reports required by the permit and other information requested by the EPA shall be signed and certified in accordance with Part IV.H.

D. REPORTING: WHERE AND WHEN TO SUBMIT

1. Monitoring results (Part III.A.1, Part III.A.3, Part III.A.5.a) obtained during the reporting period running from July 1st to June 30th shall be submitted on discharge monitoring report (DMR) forms along with the annual report required by Part III.B. A separate DMR form is required for each monitoring period (season) specified in Part III.A.1. If any individual analytical test result is less than the minimum quantification level (MQL) listed for that parameter, then a value of zero (0) may be used for that test result for the discharge monitoring report (DMR) calculations and reporting requirements. The annual report shall include the actual value obtained, if test result is less than the MQL (See Appendix F).
2. Signed copies of DMRs required under Part III, the Annual Report required by Part III.B, and all other reports required herein, shall be submitted in electronic form to R6_MS4Permits@epa.gov (note: there is an underscore between R6 and MS4).

Copy of a suggested Annual Report Format is located in EPA R6 website:

<http://epa.gov/region6/water/npdes/sw/ms4/index.htm>.

Electronic submittal of the documents required in the permit using a compatible Integrated Compliance Information System (ICIS) format would be allowed if available.

3. Requests for SWMP updates, modifications in monitoring locations, or application for an individual permit shall, be submitted to:

U.S. EPA, Region 6
Water Quality Protection Division
Operations Support Office (6WQ-O)
1445 Ross Avenue
Dallas, Texas 75202-2733

4. Additional Notification. Permittee(s) shall also provide copies of NOIs, DMRs, annual reports, NOTs, requests for SWMP updates, items for compliance with permit requirements for Compliance with Water Quality Standards in Part I.C.1, TMDL's reports established in Part I.C.2, monitoring scheme, reports, and certifications required in Part III.A.1, programs or changes in monitoring locations, and all other reports required herein, to:

New Mexico Environment Department
Attn: Bruce Yurdin, Program Manager
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

Pueblo of Sandia Environment Department
Attn: Scott Bulgrin, Water Quality Manager
481 Sandia Loop
Bernalillo, NM 87004
(Note: Only those MS4s with discharges upstream of or to waters under the jurisdictional of the Pueblo of Sandia: AMAFCA, Sandoval County, Village of Corrales, City of Rio Rancho, Town of Bernalillo, SSCAFCA, and ESCAFCA)

Pueblo of Isleta
Attn: Ramona M. Montoya, Environment Division Manager
P.O. Box 1270
Isleta NM 87022

(Notes: Only the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), New Mexico Department of Transportation (NMDOT) District 3, KAFB (Kirtland Air Force Base), Sandia Labs (DOE), and Bernalillo County). All parties submitting an NOI or NOT shall notify the Pueblo of Isleta in writing that a NOI or NOT has been submitted to EPA

Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004
(Note: Only those MS4s with discharges upstream of or to waters under the jurisdictional of the Pueblo of Santa Ana)

PART IV. STANDARD PERMIT CONDITIONS

A. DUTY TO COMPLY.

The permittee(s) must comply with all conditions of this permit insofar as those conditions are applicable to each permittee, either individually or jointly. Any permit noncompliance constitutes a violation of the Clean Water Act (The Act) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

B. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS.

The EPA will adjust the Civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (Federal Register: Dec. 31, 1996, Volume 61, No. 252, pages 69359-69366, as corrected, March 20, 1997, Volume 62, No. 54, pages 13514-13517) as mandated by the Debt Collection Improvement Act of 1996 for inflation on a periodic basis. This rule allows EPA's penalties to keep pace with inflation. The Agency is required to review its penalties at least once every four years thereafter and to adjust them as necessary for inflation according to a specified formula. The civil and administrative penalties listed below were adjusted for inflation starting in 1996.

1. Criminal Penalties.

- a. **Negligent Violations:** The Act provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than one (1) year, or both.
- b. **Knowing Violations:** The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than three (3) years, or both.
- c. **Knowing Endangerment:** The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than \$250,000, or by imprisonment for not more than fifteen (15) years, or both.
- d. **False Statement:** The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two (2) years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four (4) years, or by both. (See Section 309(c)(4) of the Act).

2. **Civil Penalties.** The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed \$27,500 per day for each violation.

3. **Administrative Penalties.** The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

- a. **Class I penalty:** Not to exceed \$11,000 per violation nor shall the maximum amount exceed \$27,500.

- b. Class II penalty: Not to exceed \$11,000 per day for each day during which the violation continues nor shall the maximum amount exceed \$137,500.
- C. **DUTY TO REAPPLY.** If the permittee wishes to continue an activity regulated by this permit after the permit expiration date, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days prior to expiration of this permit. The EPA may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR §122.6 and any subsequent amendments.
- D. **NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- E. **DUTY TO MITIGATE.** The permittee(s) shall take all reasonable steps to control or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- F. **DUTY TO PROVIDE INFORMATION.** The permittee(s) shall furnish to the EPA, within a time specified by the EPA, any information which the EPA may request to determine compliance with this permit. The permittee(s) shall also furnish to the EPA upon request copies of records required to be kept by this permit.
- G. **OTHER INFORMATION.** When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in any report to the EPA, he or she shall promptly submit such facts or information.
- H. **SIGNATORY REQUIREMENTS.** For a municipality, State, or other public agency, all DMRs, SWMPs, reports, certifications or information either submitted to the EPA or that this permit requires be maintained by the permittee(s), shall be signed by either a:
 1. Principal executive officer or ranking elected official; or
 2. Duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the EPA.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
 3. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new written authorization satisfying the requirements of this paragraph must be submitted to the EPA prior to or together with any reports, information, or applications to be signed by an authorized representative.
 4. Certification: Any person signing documents under this section shall make the following certification: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

- I. PENALTIES FOR FALSIFICATION OF MONITORING SYSTEMS.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by fines and imprisonment described in Section 309 of the Act.
- J. OIL AND HAZARDOUS SUBSTANCE LIABILITY.** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Act or section 106 of CERCLA.
- K. PROPERTY RIGHTS.** The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
- L. SEVERABILITY.** The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.
- M. REQUIRING A SEPARATE PERMIT.**
1. The EPA may require any permittee authorized by this permit to obtain a separate NPDES permit. Any interested person may petition the EPA to take action under this paragraph. The Director may require any permittee authorized to discharge under this permit to apply for a separate NPDES permit only if the permittee has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form (as necessary), a statement setting a deadline for the permittee to file the application, and a statement that on the effective date of the separate NPDES permit, coverage under this permit shall automatically terminate. Separate permit applications shall be submitted to the address shown in Part III.D. The EPA may grant additional time to submit the application upon request of the applicant. If an owner or operator fails to submit, prior to the deadline of the time extension, a separate NPDES permit application as required by the EPA, then the applicability of this permit to the permittee is automatically terminated at the end of the day specified for application submittal.
 2. Any permittee authorized by this permit may request to be excluded from the coverage of this permit by applying for a separate permit. The permittee shall submit a separate application as specified by 40 CFR §122.26(d) for Class A permittees and by 40 CFR §122.33(b)(2) for Class B, C, and D permittees, with reasons supporting the request to the Director. Separate permit applications shall be submitted to the address shown in Part III.D.3. The request may be granted by the issuance of a separate permit if the reasons cited by the permittee are adequate to support the request.
 3. When an individual NPDES permit is issued to a discharger otherwise subject to this permit, or the permittee is authorized to discharge under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to an operator otherwise subject to this permit, or the operator is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the date of such denial, unless otherwise specified by the permitting authority.
- N. STATE / ENVIRONMENTAL LAWS.**
1. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by section 510 of the Act.

2. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.

O. PROPER OPERATION AND MAINTENANCE. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of stormwater management programs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the conditions of the permit.

P. MONITORING AND RECORDS.

1. The permittee must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES permit, and records of all data used to complete the NOI for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the permitting authority at any time.
2. The permittee must submit its records to the permitting authority only when specifically asked to do so. The permittee must retain a description of the SWMP required by this permit (including a copy of the permit language) at a location accessible to the permitting authority. The permittee must make its records, including the NOI and the description of the SWMP, available to the public if requested to do so in writing.
3. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The initials or name(s) of the individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The time(s) analyses were initiated;
 - e. The initials or name(s) of the individual(s) who performed the analyses;
 - f. References and written procedures, when available, for the analytical techniques or methods used; and
 - g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.
4. The permittee must maintain, for the term of the permit, copies of all information and determinations used to document permit eligibility under Parts I.A.5.f and Part I.A.3.b.

Q. MONITORING METHODS. Monitoring must be conducted according to test procedures approved under 40 CFR §136, unless other test procedures have been specified in this permit. The minimum quantification levels (MQLs) in Appendix F are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

R. INSPECTION AND ENTRY. The permittee shall allow the EPA or an authorized representative of EPA, or the State, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;

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3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substance or parameters at any location.
- S. PERMIT ACTIONS.** This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- T. ADDITIONAL MONITORING BY THE PERMITTEE(S).** If the permittee monitors more frequently than required by this permit, using test procedures approved under 40 CFR §136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased monitoring frequency shall also be indicated on the DMR.
- U. ARCHEOLOGICAL AND HISTORIC SITES** (Applicable to areas within the corporate boundary of the City of Albuquerque and Tribal lands). This permit does not authorize any stormwater discharges nor require any controls to control stormwater runoff which are not in compliance with any historic preservation laws.
1. In accordance with the Albuquerque Archaeological Ordinance (Section 2-12-2, 14-16-5, and 14-14-3-4), an applicant for either:
 - a. A preliminary plan for any subdivision that is five acres or more in size; or
 - b. A site development plan or master development plan for a project that is five acres or more in size on property that is zoned SU-1 Special Use, IP Industrial Park, an SU-2 zone that requires site plan review, PC Planned Community with a site, or meets the Zoning Code definition of a Shopping Center must first obtain either a Certificate of No Effect or a Certificate of Approval from the City Archaeologist. Details of the requirements for a Certificate of No Effect or a Certificate of Approval are described in the ordinance. Failure to obtain a certificate as required by ordinance shall subject the property owner to the penalties of §1-1-99 ROA 1994.
 2. If municipal excavation and/or construction projects implementing requirements of this permit will result in the disturbance of previously undisturbed land, and the project is not required to have a separate NPDES permit (e.g. general permit for discharge of stormwater associated with construction activity), then the permittee may seek authorization for stormwater discharges from such sites of disturbance by:
 - a. Submitting, thirty (30) days prior to commencing land disturbance, the following to the State Historic Preservation Officer (SHPO) and to appropriate Tribes and Tribal Historic Preservation Officers for evaluation of possible effects on properties listed or eligible for listing on the National Register of Historic Places:
 - (i) A description of the construction or land disturbing activity and the potential impact that this activity may have upon the ground, and
 - (ii) A copy of a USGS topographic map outlining the location of the project and other ancillary impact areas.
 - (iii) The addresses of the SHPO, Sandia Pueblo, and Isleta Pueblo are:

State Historic Preservation Officer
New Mexico Historic Preservation Division

Bataan Memorial Building
407 Galisteo Street, Ste. 236
Santa Fe, New Mexico 87501

Pueblo of Sandia Environment Department
Attn: Frank Chaves, Environment Director
481 Sandia Loop
Bernalillo, New Mexico 87004

Pueblo of Isleta
Department of Cultural and Historic Preservation
Attn: Daniel Waseta, Director
P.O. Box 1270
Isleta NM 87022

Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004

3. If the permittee receives a request for an archeological survey or notice of adverse effects from the SHPO, the permittee shall delay such activity until:
 - a. A cultural resource survey report has been submitted to the SHPO for a review and a determination of no effect or no adverse effect has been made, and
 - b. If an adverse effect is anticipated, measures to minimize harm to historic properties have been agreed upon between the permittee and the SHPO.
 4. If the permittee does not receive notification of adverse effects or a request for an archeological survey from the SHPO within thirty (30) days, the permittee may proceed with the activity.
 5. Alternately, the permittee may obtain authorization for stormwater discharges from such sites of disturbance by applying for a modification of this permit. The permittee may apply for a permit modification by submitting the following information to the Permitting Authority 180 days prior to commencing such discharges:
 - a. A letter requesting a permit modification to include discharges from activities subject to this provision, in accordance with the signatory requirements in Part IV.H.
 - b. A description of the construction or land disturbing activity and the potential impact that this activity may have upon the ground; County in which the facility will be constructed; type of facility to be constructed; size area (in acres) that the facility will encompass; expected date of construction; and whether the facility is located on land owned or controlled by any political subdivision of New Mexico; and
 - c. A copy of a USGS topographic map outlining the location of the project and other ancillary impact areas.
- V. **CONTINUATION OF THE EXPIRED GENERAL PERMIT.** If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:

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1. Reissuance or replacement of this permit, at which time the permittee must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or
 2. Issuance of an individual permit for your discharges; or
 3. A formal permit decision by the permitting authority not to reissue this general permit, at which time the permittee must seek coverage under an alternative general permit or an individual permit.
- W. **PERMIT TRANSFERS:** This permit is not transferable to any person except after notice to the permitting authority. The permitting authority may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.
- X. **ANTICIPATED NONCOMPLIANCE.** The permittee must give advance notice to the permitting authority of any planned changes in the permitted small MS4 or activity which may result in noncompliance with this permit. (see
- Y. **PROCEDURES FOR MODIFICATION OR REVOCATION:** Permit modification or revocation will be conducted according to 40 CFR 122.62, 122.63, 122.64 and 124.5.

PART V. PERMIT MODIFICATION

A. MODIFICATION OF THE PERMIT. The permit may be reopened and modified, in accordance with 40 CFR §122.62, §122.63, and §124.5, during the life of the permit to address:

1. Changes in the State's Water Quality Management Plan, including Water Quality Standards;
2. Changes in applicable water quality standards, statutes or regulations;
3. A new permittee who is the owner or operator of a portion of the MS4;
4. Changes in portions of the SWMP that are considered permit conditions;
5. Construction activities implementing requirements of this permit that will result in the disturbance of previously undisturbed land and not required to have a separate NPDES permit; or
6. Other modifications deemed necessary by the EPA to meet the requirements of the Act.

B. MODIFICATION OF THE SWMP(s). Only those portions of the SWMPs specifically required as permit conditions shall be subject to the modification requirements of 40 CFR §124.5. Addition of components, controls, or requirements by the permittee(s); replacement of an ineffective or infeasible control implementing a required component of the SWMP with an alternate control expected to achieve the goals of the original control; and changes required as a result of schedules contained in Part VI shall be considered minor changes to the SWMP and not modifications to the permit. (See also Part I.D.6)

C. CHANGES IN REPRESENTATIVE MONITORING SITES. Changes in monitoring sites, other than those with specific numeric effluent limitations (as described in Part III.A.1.g), shall be considered minor modifications to the permit and shall be made in accordance with the procedures at 40 CFR §122.63.

PART VI. SCHEDULES FOR IMPLEMENTATION AND COMPLIANCE.

- A. IMPLEMENTATION AND AUGMENTATION OF THE SWMP(s).** The permittee(s) shall comply with all elements identified in Parts I and III for SWMP implementation and augmentation, and permit compliance. The EPA shall have sixty (60) days from receipt of a modification or augmentation made in compliance with Part VI to provide comments or request revisions. During the initial review period, EPA may extend the time period for review and comment. The permittee(s) shall have thirty (30) days from receipt of the EPA's comments or required revisions to submit a response. All changes to the SWMP or monitoring plans made to comply with schedules in Parts I and III must be approved by EPA prior to implementation.
- B. COMPLIANCE WITH EFFLUENT LIMITATIONS.** Reserved.
- C. REPORTING COMPLIANCE WITH SCHEDULES.** No later than fourteen (14) days following a date for a specific action (interim milestone or final deadline) identified in the Part VI schedule(s), the permittee(s) shall submit a written notice of compliance or noncompliance to the EPA in accordance with Part III.D.
- D. MODIFICATION OF THE SWMP(s).** The permittee(s) shall modify its SWMP, as appropriate, in response to modifications required in Part VI.A. Such modifications shall be made in accordance with Part V.B.

PART VII. DEFINITIONS

All definitions contained in Section 502 of the Act shall apply to this permit and are incorporated herein by reference. Unless otherwise specified, additional definitions of words or phrases used in this permit are as follows:

- (1) **Baseline Load** means the load for the pollutant of concern which is present in the waterbody before BMPs or other water quality improvement efforts are implemented.
- (2) **Best Management Practices (BMPs)** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- (3) **Bioretention** means the water quality and water quantity stormwater management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from stormwater runoff.
- (4) **Canopy Interception** means the interception of precipitation, by leaves and branches of trees and vegetation that does not reach the soil.
- (5) **Contaminated Discharges:** The following discharges are considered contaminated:
 - Has had a discharge resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at any time since November 16, 1987; or
 - Has had a discharge resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
 - Contributes to a violation of an applicable water quality standard.
- (6) **Controls or Control Measures or Measures** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or control the pollution of waters of the United States. Controls also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- (7) **Controllable Sources:** Sources, private or public, which fall under the jurisdiction of the MS4.
- (8) **CWA or The Act** means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.
- (9) **Co-permittee** means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.
- (10) **Composite Sample** means a sample composed of two or more discrete samples. The aggregate sample will reflect the average water quality covering the compositing or sample period.
- (11) **Core Municipality** means, for the purpose of this permit, the municipality whose corporate boundary (unincorporated area for counties and parishes) defines the municipal separate storm sewer system. (ex. City of Dallas for the Dallas Municipal Separate Storm Sewer System, Harris County for unincorporated Harris County).
- (12) **Direct Connected Impervious Area (DCIA)** means the portion of impervious area with a direct hydraulic connection to the permittee's municipal separate storm sewer system or a waterbody via continuous paved surfaces, gutters, pipes, and other impervious features. Direct connected impervious area typically does not include isolated impervious areas with an indirect hydraulic connection to the municipal separate storm sewer system (e.g., swale or detention basin) or that otherwise drain to a pervious area.
- (13) **Director** means the Regional Administrator or an authorized representative.
- (14) **Discharge** for the purpose of this permit, unless indicated otherwise, means discharges from the municipal separate storm sewer system.
- (15) **Discharge-related activities** include: activities which cause, contribute to, or result in storm water point source pollutant discharges; and measures to control storm water discharges, including the siting, construction and operation of best management practices (BMPs) to control, reduce or prevent storm water pollution.
- (16) **Engineered Infiltration** means an underground device or system designed to accept stormwater and slowly exfiltrates it into the underlying soil. This device or system is designed based on soil tests that define the exfiltration rate.
- (17) **Evaporation** means rainfall that is changed or converted into a vapor.
- (18) **Evapotranspiration** means the sum of evaporation and transpiration of water from the earth's surface to the atmosphere. It includes evaporation of liquid or solid water plus the transpiration of plants.
- (19) **Extended Filtration** means a structural stormwater practice which filters stormwater runoff through vegetation and engineered soil media. A portion of the stormwater runoff drains into an underdrain system which slowly releases it after the storm is over.

- (20) **Facility** means any NPDES "point source" or any other facility (including land or appurtenances thereto) that is subject to regulation under the NPDES program.
- (21) **Flood Control Projects** mean major drainage projects developed to control water quantity rather than quality, including channelization and detention.
- (22) **Flow-weighted composite sample** means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.
- (23) **Grab Sample** means a sample which is taken from a wastestream on a one-time basis without consideration of the flow rate of the wastestream and without consideration of time.
- (24) **Green Infrastructure** means an array of products, technologies, and practices that use natural systems -- or engineered systems that mimic natural processes -- to enhance overall environmental quality and provide utility services. As a general principal, Green Infrastructure techniques use soils and vegetation to infiltrate, evapotranspire, and/or recycle stormwater runoff. When used as components of a stormwater management system, Green Infrastructure practices such as green roofs, porous pavement, rain gardens, and vegetated swales can produce a variety of environmental benefits. In addition to effectively retaining and infiltrating rainfall, these technologies can simultaneously help filter air pollutants, reduce energy demands, mitigate urban heat islands, and sequester carbon while also providing communities with aesthetic and natural resource benefits.
- (25) **Hydromodification** means the alteration of the natural flow of water through a landscape, and often takes the form of channel straightening, widening, deepening, or relocating existing, natural stream channels. It also can involve excavation of borrow pits or canals, building of levees, streambank erosion, or other conditions or practices that change the depth, width or location of waterways. Hydromodification usually results in water quality and habitat impacts.
- (26) **Illicit connection** means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.
- (27) **Illicit discharge** means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.
- (28) **Impervious Area (IA)** means conventional pavements, sidewalks, driveways, roadways, parking lots, and rooftops.
- (29) **Indian Country** means:
- All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
 - All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
 - All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.
- (30) **Individual Residence** means, for the purposes of this permit, single or multi-family residences. (e.g. single family homes and duplexes, town homes, apartments, etc.)
- (31) **Infiltration** means the process by which stormwater penetrates the soil.
- (32) **Land application unit** means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.
- (33) **Landfill** means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.
- (34) **Land Use** means the way in which land is used, especially in farming and municipal planning.
- (35) **Large or medium municipal separate storm sewer system** means all municipal separate storm sewers that are either: (i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendix F of 40 CFR §122); or (ii) located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers are located in the incorporated places, townships, or towns within such counties (these counties are listed in Appendices H and I of 40 CFR §122); or (iii) owned or operated by a municipality other than those described in Paragraph (i) or (ii) and that are designated by the Regional Administrator as part of the large or medium municipal separate storm sewer system.
- (36) **MEP** means maximum extent practicable, the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges. A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34. CWA section 402(p)(3)(B)(iii) requires that a municipal permit "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system design, and engineering methods, and other provisions such as the Administrator or the State determines appropriate for the control of such pollutants.
- (37) **Measurable Goal** means a quantitative measure of progress in implementing a component of storm water management program.

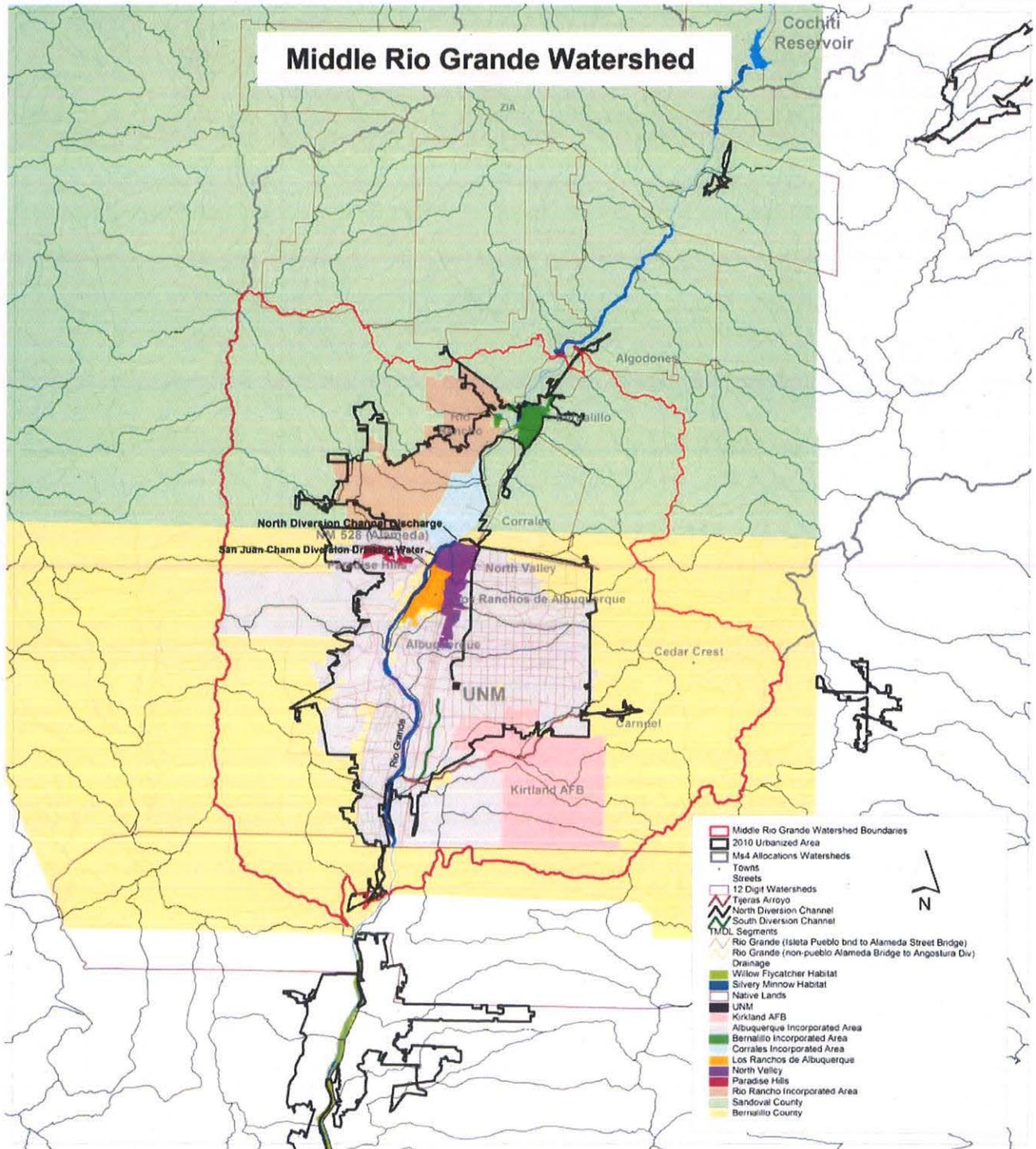
- (38) **Municipal Separate Storm Sewer (MS4)** means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to paragraphs 40 CFR §122.26(b)(4), (b)(7), and (b)(16), or designated under paragraph 40 CFR §122.26(a)(1)(v).
- (39) **Non-traditional MS4** means systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. 40 CFR 122.26(a)(16)(iii).
- (40) **NOI** means Notice of Intent to be covered by this permit (see Part I.B of this permit)
- (41) **NOT** means Notice of Termination.
- (42) **Outfall** means a *point source* as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.
- (43) **Percent load reduction** means the difference between the baseline load and the target load divided by the baseline load.
- (44) **Owner or operator** means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.
- (45) **Permittee** refers to any person (defined below) authorized by this NPDES permit to discharge to Waters of the United States.
- (46) **Permitting Authority** means EPA, Region 6.
- (47) **Person** means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.
- (48) **Point Source** means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.
- (49) **Pollutant** is defined at 40 CFR 122.2. Pollutant means dredged spoil, solid waste, incinerator residue, filter back-wash, sewage, garbage, sewage sludge, Munitions, chemical waste, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011), heat, wrecked or discarded equipment, rock sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.
- (50) **Pre-development Hydrology**, Predevelopment hydrology is generally the rain volume at which runoff would be produced when a site or an area is in its natural condition, prior to development disturbances. For the Middle Rio Grande area, EPA considers predevelopment conditions to be a mix of woods and desert shrub.
- (51) **Rainfall and Rainwater Harvesting** means the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses.
- (52) **Soil amendment** means adding components to in-situ or native soils to increase the spacing between soil particles so that the soil can absorb and hold more moisture. The amendment of soils changes various other physical, chemical and biological characteristics so that the soils become more effective in maintaining water quality.
- (53) **Storm drainage projects** include stormwater inlets, culverts, minor conveyances and a host of other structures or devices.
- (54) **Storm sewer**, unless otherwise indicated, means a municipal separate storm sewer.
- (55) **Stormwater** means stormwater runoff, snow melt runoff, and surface runoff and drainage.
- (56) **Stormwater Discharge Associated with Industrial Activity** means the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant (See 40 CFR §122.26(b)(14) for specifics of this definition).
- (57) **Target load** means the load for the pollutant of concern which is necessary to attain water quality goals (e.g. applicable water quality standards).
- (58) **Stormwater Management Program (SWMP)** means a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system. For the purposes of this permit, the Stormwater Management Program is considered a single document, but may actually consist of separate programs (e.g. "chapters") for each permittee.
- (59) **Targeted controls** means practices implemented to address particular pollutant of concern. For example litter program targets floatables.
- (60) **Time-weighted composite** means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.
- (61) **Total Maximum Daily Load (TMDL)** means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. A TMDL is the sum of individual wasteload allocations for point sources (WLA), load allocations for non-point sources and natural background (LA), and must consider seasonal variation and include a margin of safety. The TMDL comes in the form of a technical document or plan.

- (62) **Toxicity** means an LC50 of <100% effluent.
- (63) **Waste load allocation (WLA)** means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.
- (64) **Wetlands** means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.
- (65) **Whole Effluent Toxicity (WET)** means the aggregate toxic effect of an effluent measured directly by a toxicity test.

PART VIII PERMIT CONDITIONS APPLICABLE TO SPECIFIC AREAS OR INDIAN COUNTY LANDS

Reserved

Appendix A - Middle Rio Grande Watershed Jurisdictions and Potential Permittees



Middle Rio Grande Watershed Jurisdictions and Potential Permittees

Class A:

City of Albuquerque
AMAFCFA (Albuquerque Metropolitan Arroyo Flood Control Authority)
UNM (University of New Mexico)
NMDOT (New Mexico Department of Transportation District 3)

Class B:

Bernalillo County
Sandoval County
Village of Corrales
City of Rio Rancho
Los Ranchos de Albuquerque
KAFB (Kirtland Air Force Base)
Town of Bernalillo
EXPO (State Fairgrounds/Expo NM)
SSCAFCA (Southern Sandoval County Arroyo Flood Control Authority)
NMDOT (New Mexico Department of Transportation District 3)

Class C:

ESCAFCA (Eastern Sandoval County Arroyo Flood Control Authority)
Sandia Labs (DOE)

Class D:

Pueblo of Sandia
Pueblo of Isleta
Pueblo of Santa Ana

Note: There could be additional potential permittees.

NMDOT Dist. 3 falls into the Class A type permittee, if an individual program is developed or/and implemented. The timeliness for cooperative programs should be used, if NMDOT Dist. 3 cooperates with other permittees.

Appendix B - Total Maximum Daily Loads (TMDLs)

B.1. Approved Total Maximum Daily Loads (TMDLs) Tables

A bacteria TMDL for the Middle Rio Grande was approved by the New Mexico Water Quality Control Commission on April 13, 2010, and by EPA on June 30, 2010. The new TMDL modifies: 1) the indicator parameter for bacteria from fecal coliform to *E. coli*, and 2) the way the WLAs are assigned

Discharges to Impaired Waters – TMDL Waste Load Allocations (WLAs)² for *E. coli*: Rio Grande¹

Stream Segment	Stream Name	Permittee Class	FLOW CONDITIONS & ASSOCIATED WLA (cfu/day) ³				
			High	Moist	Mid-Range	Dray	Low
2105_50	Isleta Pueblo boundary to Alameda Street Bridge (based on flow at USGS Station NM08330000)	Class A ⁴	3.36x10 ¹⁰	8.41 x10 ¹⁰	5.66 x10 ¹⁰	2.09 x10 ¹⁰	4.67 x10 ⁹
		Class B ⁵ Class C ⁶	3.73 x10 ⁹	9.35 x10 ⁹	6.29 x10 ⁹	2.32 x10 ⁹	5.19 x10 ⁸
2105.1_00	non-Pueblo Alameda Bridge to Angostura Diversion (based on flow at USGS Station NM08329928)	Class A	5.25 x10 ¹⁰	1.52 x10 ¹⁰	—	5.43 x10 ⁹	2.80 x10 ⁹
		Class B Class C	2.62 x10 ¹¹	7.59 x10 ¹⁰	—	2.71 x10 ¹⁰	1.40 x10 ¹⁰

- 1 Total Maximum Daily Load for the Middle Rio Grande Watershed, NMED, 2010.
- 2 The WLAs for the stormwater MS4 permit was based on the percent jurisdiction area approach. Thus, the MS4 WLAs are a percentage of the available allocation for each hydrologic zone, where the available allocation = TMDL – WLA – MOS.
- 3 Flow conditions relate to percent of days the flow in the Rio Grande at a USGS Gauge exceeds a particular level: High 0-10%; Moist 10-40%; Mid-Range 40-60%; Dry 60-90%; and Low 90-100%. (Source: Figures 4.3 and 4.4 in 2010 Middle Rio Grande TMDL)
- 4 Phase I MS4s
- 5 Phase II MS4s (2000 Census)
- 6 New Phase II MS4s (2010 Census or MS4s designated by the Director)

Estimating Target Loadings for Particular Monitoring Location:

The Table in B.2 below provides a mechanism to calculate, based on acreage within a drainage area, a target loading value for a particular monitoring location.

B.2. Calculating Alternative Sub-measurable Goals

Individual permittees or a group of permittees seeking alternative sub-measurable goals under C.2.b.(i).(c).B should consult NMED. Preliminary proposals should be submitted with the Notice of Intent (NOI) under Part I.B.2.k according to the due dates specified in Part I.B.1.a of the permit. This proposal shall include, but is not limited to, the following items

B.2.1 Determine base loading for subwatershed areas consistent with TMDL

- a. Using the table below, the permittee must develop a target load consistent with the TMDL for any sampling point in the watershed (even if it includes area outside the jurisdictional area of the permit).

E. coli loading on a per area basis (cfu/sq mi/day)

	high	moist	mid	dry	low
Alameda to Isleta	1.79E+09	4.48E+08	3.02E+08	1.11E+08	2.58E+07
Angostura to Alameda	3.25E+09	9.41E+08	5.19E+08	3.37E+08	1.74E+08

- b. An estimation of the pertinent, subwatershed area that the permittee is responsible for and the basis for determining that area, including the means for excluding any tributary inholdings;
- c. Using the total loading for the watershed (from part a) and the percentage of the watershed area that is part of the permittee(s) jurisdiction (part b) to calculate a base WLA for this subwatershed.

B.2.2 Set Alternative subwatershed targets

- a. Permittee(s) may reallocate WLA within and between subwatershed based on factors including:
 - Population density within the pertinent watershed area;
 - Slope of the waterway;
 - Percent impervious surface and how that value was determined;
 - Stormwater treatment, installation of green infrastructure for the control or treatment of stormwater and stormwater pollution prevention and education programs within specific watersheds
- b. A proposal for an alternative subwatershed target must include the rationale for the factor(s) used

B.2.3 Ensure overall compliance with TMDL WLA allocation

The permittee(s) will provide calculations demonstrating the total WLA under the alternative proposed in (Part II) is consistent with the baseline calculated in (Part I) based on their total jurisdictional area. Permittee(s) will not be allowed to allocate more area within the watershed than is accorded to them under their jurisdictional area. For permittees that work cooperatively, WLA calculations may be combined and used where needed within the sub-watershed amongst the cooperating parties.

WLA calculations must be sent as part of the Notice of Intent to EPA via e-mail at R6_MS4Permits@epa.gov. These calculations must also be sent to:

Sarah Holcomb
 Industrial and Stormwater Team Leader
 NMED Surface Water Quality Bureau
 P.O. Box 5469,

Appendix C - Historic Properties Eligibility Procedures

MS4 operators must determine whether their MS4's storm water discharges, allowable non-storm water discharges, or construction of best management practices (BMPs) to control such discharges, have potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places.

For existing dischargers who do not need to construct BMPs for permit coverage, a simple visual inspection may be sufficient to determine whether historic properties are affected. However, for MS4s which are new storm water dischargers and for existing MS4s which are planning to construct BMPs for permit eligibility, MS4 operators should conduct further inquiry to determine whether historic properties may be affected by the storm water discharge or BMPs to control the discharge. In such instances, MS4 operators should first determine whether there are any historic properties or places listed on the National Register or if any are eligible for listing on the register (e.g., they are "eligible for listing").

Due to the large number of entities seeking coverage under this permit and the limited number of personnel available to State and Tribal Historic Preservation Officers nationwide to respond to inquiries concerning the location of historic properties, EPA suggests that MS4 operators first access the "National Register of Historic Places" information listed on the National Park Service's web page (www.nps.gov/nr/). Addresses for State Historic Preservation Officers and Tribal Historic Preservation Officers are listed in Parts II and III of this appendix, respectively. In instances where a Tribe does not have a Tribal Historic Preservation Officer, MS4 operators should contact the appropriate Tribal government office when responding to this permit eligibility condition. MS4 operators may also contact city, county or other local historical societies for assistance, especially when determining if a place or property is eligible for listing on the register. Tribes that do not currently reside in an area may also have an interest in cultural properties in areas they formerly occupied. Tribal contact information is available at <http://www.epa.gov/region06/6dra/oejta/tribalaffairs/index.html>

The following three scenarios describe how MS4 operators can meet the permit eligibility criteria for protection of historic properties under this permit:

- (1) If historic properties are not identified in the path of an MS4's storm water and allowable non-storm water discharges or where construction activities are planned to install BMPs to control such discharges (e.g., diversion channels or retention ponds), then the MS4 operator has met the permit eligibility criteria under Part I.A.3.b.(i).
- (2) If historic properties are identified but it is determined that they will not be affected by the discharges or construction of BMPs to control the discharge, the MS4 operator has met the permit eligibility criteria under Part I.A.3.b.(ii).
- (3) If historic properties are identified in the path of an MS4's storm water and allowable non-storm water discharges or where construction activities are planned to install BMPs to control such discharges, and it is determined that there is the potential to adversely affect the property, the MS4 operator can still meet the permit eligibility criteria under Part I.A.3.b.(ii) if he/she obtains and complies with a written agreement with the appropriate State or Tribal Historic Preservation Officer which outlines measures the MS4 operator will follow to mitigate or prevent those adverse effects. The operator should notify EPA before exercising this option.

The contents of such a written agreement must be included in the MS4's Storm Water Management Program.

In situations where an agreement cannot be reached between an MS4 operator and the State or Tribal Historic Preservation Officer, MS4 operators should contact EPA for assistance.

The term "adverse effects" includes but is not limited to damage, deterioration, alteration or destruction of the historic property or place. EPA encourages MS4 operators to contact the appropriate State or Tribal Historic Preservation Officer as soon as possible in the event of a potential adverse effect to a historic property.

MS4 operators are reminded that they must comply with applicable State, Tribal and local laws concerning the protection of historic properties and places.

I. Internet Information on the National Register of Historic Places

An electronic listing of the "National Register of Historic Places," as maintained by the National Park Service on its National Register Information System (NRIS), can be accessed on the Internet at www.nps.gov/nr/.

II. State Historic Preservation Officers (SHPO)
SHPO List for areas covered by the permit:

NEW MEXICO

Historic Preservation Div, Office of Cultural Affairs
Bataan Memorial Building, 407 Galisteo Street, Suite 236
Santa Fe, NM 87501
505-827-6320 FAX: 505-827-6338

**III. Tribal Historic Preservation Officers
(THPO)**

In instances where a Tribe does not have a Tribal Historic Preservation Officer, please contact the appropriate Tribal government office when responding to this permit eligibility condition.

Tribal Historic Preservation Officers:

Mescalero Apache Tribe
P.O. Box 227
Mescalero, New Mexico 88340

Pueblo of Sandia Environment Department
Attn: Frank Chaves, Environment Director
481 Sandia Loop
Bernalillo, New Mexico 87004

Pueblo of Isleta
Department of Cultural and Historic Preservation
Attn: Dr. Henry Walt, THPO
P.O. Box 1270
Isleta NM 87022

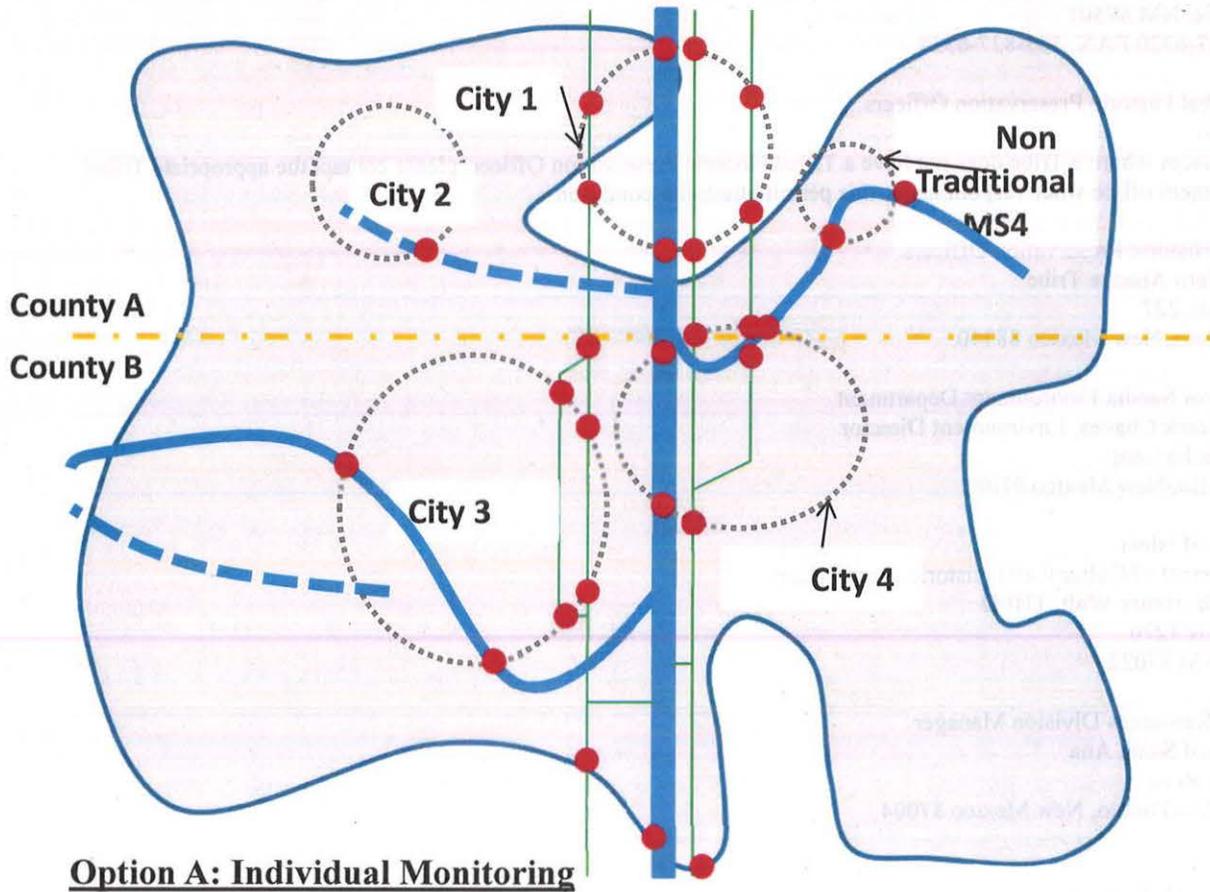
Water Resources Division Manager
Pueblo of Santa Ana
2 Dove Road
Santa Ana Pueblo, New Mexico 87004

For more information:

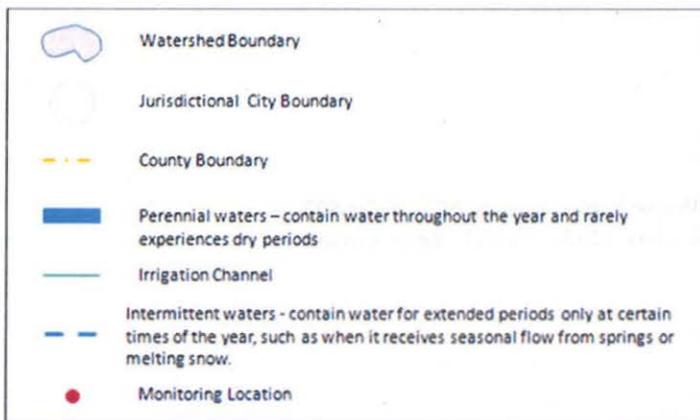
National Association of Tribal Historic
Preservation Officers
P.O. Box 19189
Washington, DC 20036-9189
Phone: (202) 628-8476
Fax: (202) 628-2241

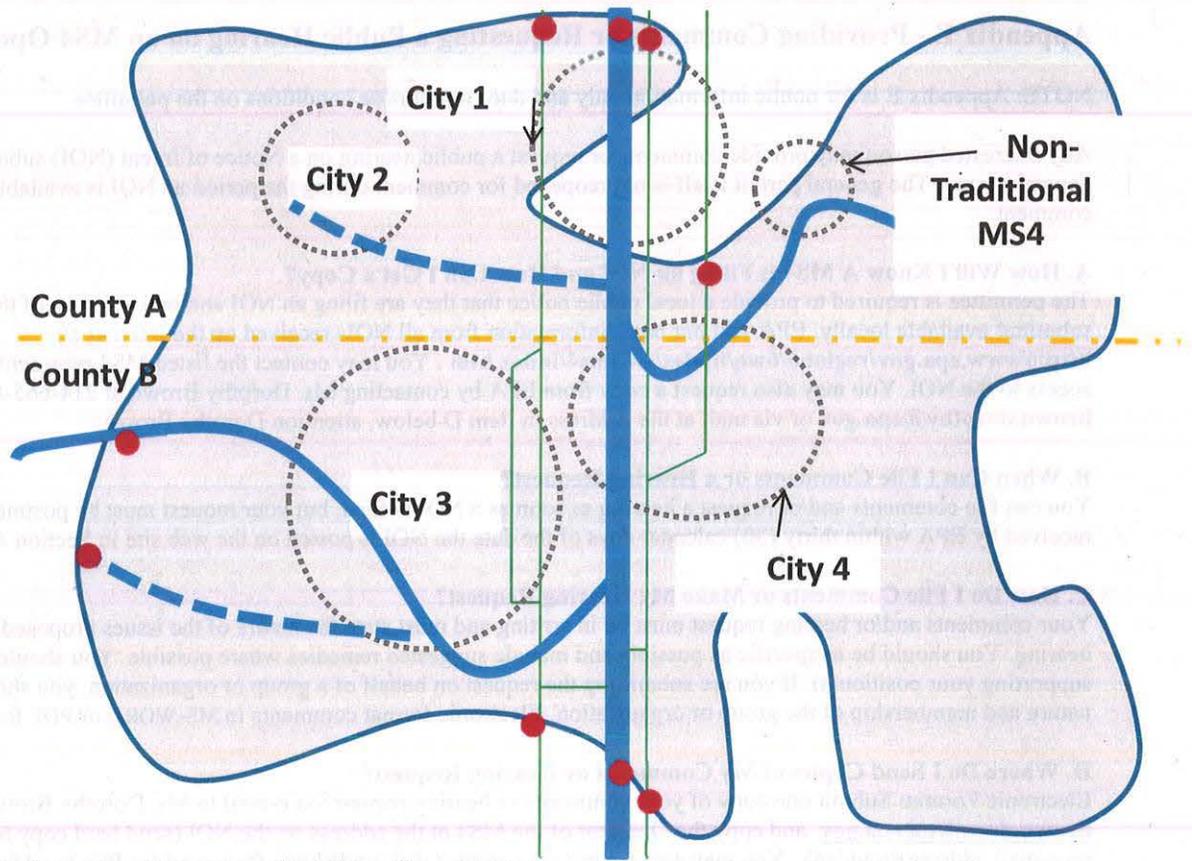
IV. Advisory Council on Historic Preservation
Advisory Council on Historic Preservation, 1100 Pennsylvania Avenue, NW., Suite 803,
Washington, DC 20004 Telephone: (202) 606-8503, Fax: (202) 606-8647/8672, E-mail:
achp@achp.gov

Appendix D - Suggested Initial Phase Sampling Location Concepts – Wet Weather Monitoring

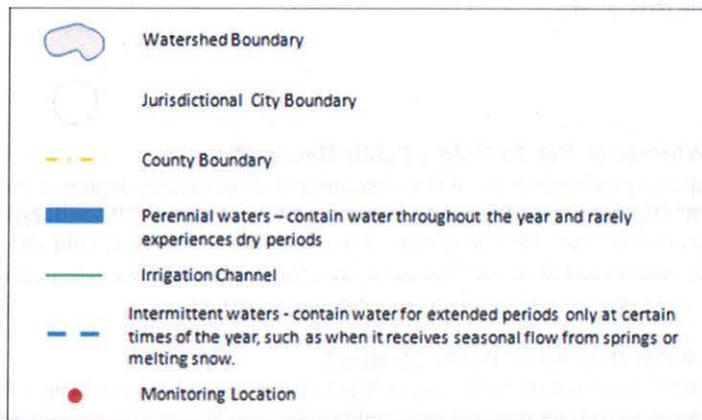


Option A: Individual Monitoring





Option B: Cooperative Monitoring



Appendix E - Providing Comments or Requesting a Public Hearing on an MS4 Operator's NOI

NOTE: Appendix E is for public information only and does not impose conditions on the permittee.

Any interested person may provide comments or request a public hearing on a Notice of Intent (NOI) submitted under this general permit. The general permit itself is not reopened for comment during the period an NOI is available for review and comment.

A. How Will I Know A MS4 is Filing an NOI and How Can I Get a Copy?

The permittee is required to provide a local public notice that they are filing an NOI and make a copy of the draft NOI submittal available locally. EPA will put basic information from all NOIs received on the Internet at: <http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm> . You may contact the listed MS4 representative for local access to the NOI. You may also request a copy from EPA by contacting Ms. Dorothy Brown at 214-665-8141 or brown.dorothy@epa.gov or via mail at the Address in Item D below, attention Dorothy Brown.

B. When Can I File Comments or a Hearing Request?

You can file comments and/or request a hearing as soon as a NOI is filed, but your request must be postmarked or physically received by EPA within thirty (30) calendar days of the date the NOI is posted on the web site in Section A.

C. How Do I File Comments or Make My Hearing Request?

Your comments and/or hearing request must be in writing and must state the nature of the issues proposed to be raised in the hearing. You should be as specific as possible and include suggested remedies where possible. You should include any data supporting your position(s). If you are submitting the request on behalf of a group or organization, you should describe the nature and membership of the group or organization. Electronic format comments in MS-WORD or PDF format are preferred.

D. Where Do I Send Copies of My Comments or Hearing Request?

Electronic Format: Submit one copy of your comments or hearing request via e-mail to Ms. Dorothy Brown at brown.dorothy@epa.gov and copy the Operator of the MS4 at the address on the NOI (send hard copy to MS4 Operator if no e-mail address provided). You may also submit via compact disk or diskette formatted for PCs to addresses for hard copy below. (Hard Copy: You must send an original and one copy of your comments or hearing request to EPA at the address below and a copy to the Operator of the MS4 at the address provided on the NOI)

U.S. EPA Region 6
Water Quality Protection Division (6WQ-NP)
Attn: Dorothy Brown
1445 Ross Ave., Suite 1200
Dallas, TX 75202

E. How Will EPA Determine Whether or Not To Hold a Public Hearing?

EPA will evaluate all hearing requests received on an NOI to determine if a significant degree of public interest exists and whether issues raised may warrant clarification of the MS4 Operator's NOI submittal. EPA will hold a public hearing if a significant amount of public interest is evident. EPA may also, at the Agency's discretion, hold either a public hearing or an informal public meeting to clarify issues related to the NOI submittal. EPA may hold a single public hearing or public meeting covering more than one MS4 (e.g., for all MS4s in an Urbanized Area, etc.).

F. How Will EPA Announce a Public Hearing or Public Meeting?

EPA will provide public notice of the time and place for any public hearing or public meeting in a major newspaper with local distribution and via the Internet at <http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm>.

G. What Will EPA Do With Comments on an NOI?

EPA will take all comments made directly or in the course of a public hearing or public meeting into consideration in determining whether or not the MS4 that submitted the NOI is appropriately covered under the general permit. The MS4 operator will have the opportunity to provide input on issues raised. The Director may require the MS4 operator to supplement or amend the NOI submittal in order to be authorized under the general permit or may direct the MS4 Operator to submit an individual permit application. A summary of issues raised and EPA's responses will be made available online at <http://www.epa.gov/region6/6wq/npdes/sw/sms4/index.htm>. A hard copy may also be requested by contacting Ms. Dorothy Brown (see paragraph D)

Appendix F - Minimum Quantification Levels (MQL's)

The following Minimum Quantification Levels (MQL's) are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
METALS, RADIOACTIVITY, CYANIDE and CHLORINE			
Aluminum	2.5	Molybdenum	10
Antimony	60	Nickel	0.5
Arsenic	0.5	Selenium	5
Barium	100	Silver	0.5
Beryllium	0.5	Thallium	0.5
Boron	100	Uranium	0.1
Cadmium	1	Vanadium	50
Chromium	10	Zinc	20
Cobalt	50	Cyanide	10
Copper	0.5	Cyanide, weak acid dissociable	10
Lead	0.5	Total Residual Chlorine	33
Mercury (*)	0.0005 0.005		
DIOXIN			
2,3,7,8-TCDD	0.00001		
VOLATILE COMPOUNDS			
Acrolein	50	1,3-Dichloropropylene	10
Acrylonitrile	20	Ethylbenzene	10
Benzene	10	Methyl Bromide	50
Bromoform	10	Methylene Chloride	20
Carbon Tetrachloride	2	1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10	Tetrachloroethylene	10
Chlorodibromomethane	10	Toluene	10
Chloroform	50	1,2-trans-Dichloroethylene	10
Dichlorobromomethane	10	1,1,2-Trichloroethane	10
1,2-Dichloroethane	10	Trichloroethylene	10
1,1-Dichloroethylene	10	Vinyl Chloride	10
1,2-Dichloropropane	10		
ACID COMPOUNDS			
2-Chlorophenol	10	2,4-Dinitrophenol	50
2,4-Dichlorophenol	10	Pentachlorophenol	5
2,4-Dimethylphenol	10	Phenol	10
4,6-Dinitro-o-Cresol	50	2,4,6-Trichlorophenol	10

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
BASE/NEUTRAL			
Acenaphthene	10	Dimethyl Phthalate	10
Anthracene	10	Di-n-Butyl Phthalate	10
Benzdine	50	2,4-Dinitrotoluene	10
Benzo(a)anthracene	5	1,2-Diphenylhydrazine	20
Benzo(a)pyrene	5	Fluoranthene	10
3,4-Benzofluoranthene	10	Fluorene	10
Benzo(k)fluoranthene	5	Hexachlorobenzene	5
Bis(2-chloroethyl)Ether	10	Hexachlorobutadiene	10
Bis(2-chloroisopropyl)Ether	10	Hexachlorocyclopentadiene	10
Bis(2-ethylhexyl)Phthalate	10	Hexachloroethane	20
Butyl Benzyl Phthalate	10	Indeno(1,2,3-cd)Pyrene	5
2-Chloronaphthalene	10	Isophorone	10
Chrysene	5	Nitrobenzene	10
Dibenzo(a,h)anthracene	5	n-Nitrosodimethylamine	50
1,2-Dichlorobenzene	10	n-Nitrosodi-n-Propylamine	20
1,3-Dichlorobenzene	10	n-Nitrosodiphenylamine	20
1,4-Dichlorobenzene	10	Pyrene	10
3,3'-Dichlorobenzidine	5	1,2,4-Trichlorobenzene	10
Diethyl Phthalate	10		
PESTICIDES AND PCBS			
Aldrin	0.01	Beta-Endosulfan	0.02
Alpha-BHC	0.05	Endosulfan sulfate	0.02
Beta-BHC	0.05	Endrin	0.02
Gamma-BHC	0.05	Endrin Aldehyde	0.1
Chlordane	0.2	Heptachlor	0.01
4,4'-DDT and derivatives	0.02	Heptachlor Epoxide	0.01
Dieldrin	0.02	PCBs **	0.2
Alpha-Endosulfan	0.01	Toxaphene	0.3

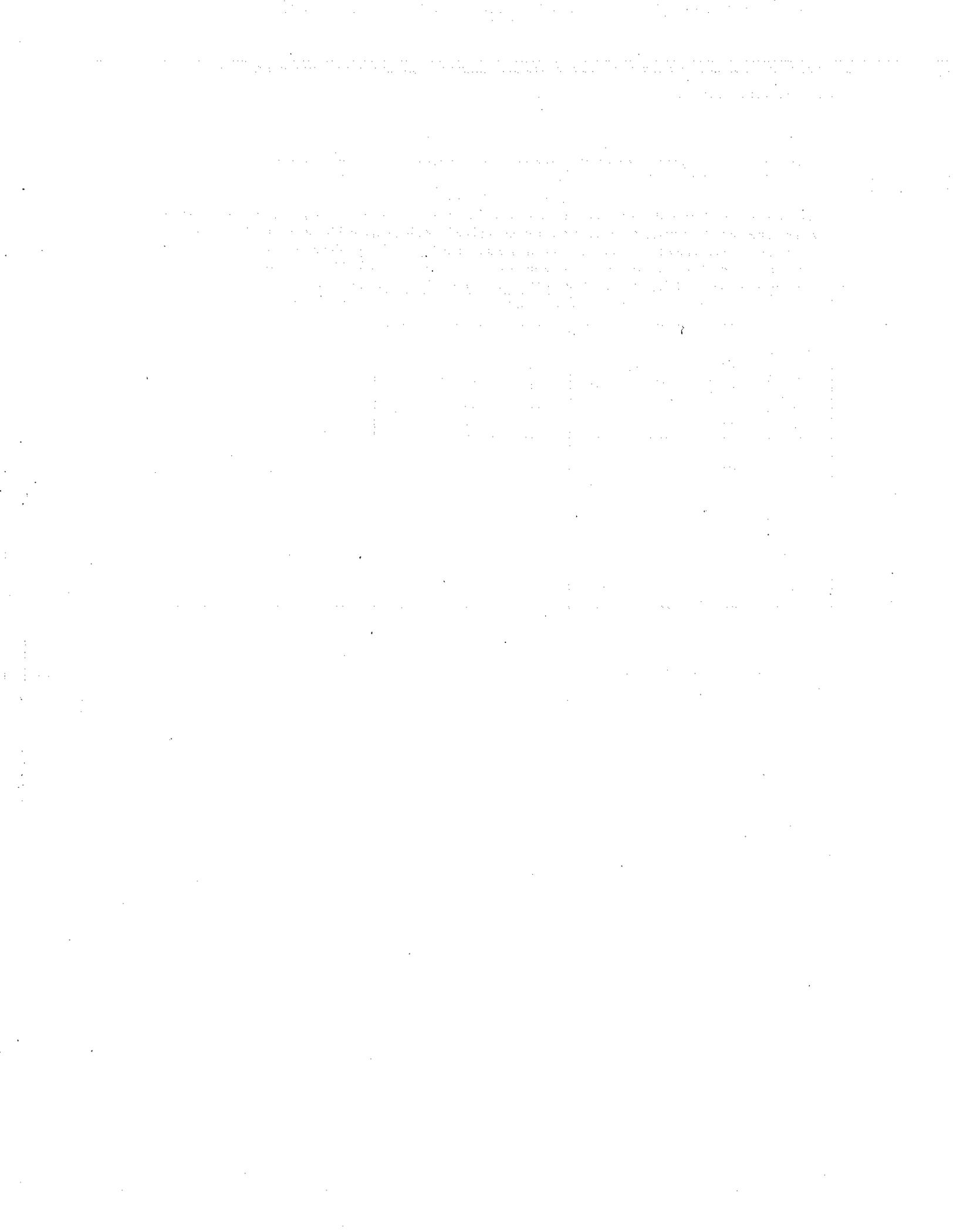
(MQL's Revised November 1, 2007)

- (*) Default MQL for Mercury is 0.005 unless Part I of your permit requires the more sensitive Method 1631 (Oxidation / Purge and Trap / Cold vapor Atomic Fluorescence Spectrometry), then the MQL shall be 0.0005.
- (**) EPA Method 1668 should be utilized when PCB water column monitoring is conducted to determine compliance with permit requirements. Either the Arochlor test (EPA Method 8082) or USGS test method (8093) may be utilized for purposes of sediment sampling as part of a screening program, but must use EPA Method 1668 (latest revision) for confirmation and determination of specific PCB levels at that location.

Appendix G – Oxygen Saturation and Dissolved Oxygen Concentrations North Diversion Channel Area

Concentrations of dissolved oxygen in water at various atmospheric pressures and temperatures with 100 percent oxygen saturation, 54.3 percent oxygen saturation (associated with hypoxia and harassment of silvery minnows), and 8.7 percent oxygen saturation (associated with anoxia and lethality of silvery minnows) at the North Diversion Channel (NDC) (based on USGS DO website <<http://water.usgs.gov/software/DOTABLES/>> for pressures between 628 to 648 millimeters of mercury (Hg)). Source: Biological Consultation Cons. #22420-2011-F-0024-R001

Water temp. (°C)	100% Oxygen Saturation at NDC			54.3% saturation = Harassmen			8.7% saturation = 50% Lethality		
	628mmHg	638mmHg	648mmHg	628mmHg	638mmHg	648mmHg	628mmHg	638mmHg	648mmHg
0	12.1	12.3	12.5	6.6	6.7	6.8	1.1	1.1	1.1
1	11.7	11.9	12.1	6.4	6.5	6.6	1.0	1.0	1.1
2	11.4	11.6	11.8	6.2	6.3	6.4	1.0	1.0	1.0
3	11.1	11.3	11.5	6.0	6.1	6.2	1.0	1.0	1.0
4	10.8	11	11.2	5.9	6.0	6.1	0.9	1.0	1.0
5	10.5	10.7	10.9	5.7	5.8	5.9	0.9	0.9	0.9
6	10.3	10.4	10.6	5.6	5.8	5.8	0.9	0.9	0.9
7	10	10.2	10.3	5.4	5.5	5.6	0.9	0.9	0.9
8	9.8	9.9	10.1	5.3	5.4	5.5	0.9	0.9	0.9
8	9.5	9.7	9.6	5.2	5.3	5.3	0.8	0.8	0.9
11	9.3	9.5	9.6	5.0	5.2	5.2	0.8	0.8	0.8
11	9.1	9.2	9.4	4.9	5.0	5.1	0.8	0.8	0.8
12	8.9	9	9.2	4.8	4.9	5.0	0.8	0.8	0.8
13	8.7	8.8	9	4.7	4.8	4.9	0.8	0.8	0.8
14	8.5	8.6	8.8	4.8	4.7	4.8	0.7	0.7	0.8
15	8.3	8.4	8.8	4.5	4.6	4.7	0.7	0.7	0.7
16	8.1	8.3	0.4	4.4	4.5	4.6	0.7	0.7	0.7
17	8	8.1	8.2	4.3	4.4	4.5	0.7	0.7	0.7
16	7.8	7.9	8	4.2	4.3	4.3	0.7	0.7	0.7
19	7.6	7.8	7.9	4.1	4.2	4.3	0.7	0.7	0.7
20	7.5	7.6	7.7	4.1	4.1	4.2	0.7	0.7	0.7
21	7.3	7.4	7.6	4.0	4.0	4.1	0.6	0.6	0.7
22	7.2	7.3	7.4	3.9	4.0	4.0	0.6	0.6	0.6
23	7	7.2	7.3	3.8	3.9	4.0	0.6	0.6	0.6
24	6.9	7	7.1	3.7	3.8	3.9	0.6	0.6	0.6
25	6.8	6.9	7	3.7	3.7	3.6	0.6	0.6	0.6
26	6.7	6.8	6.9	3.6	3.7	3.7	0.6	0.6	0.6
27	6.5	6.6	6.8	3.5	3.6	3.7	0.6	0.6	0.8
26	6.4	6.5	6.6	3.5	3.5	3.6	0.6	0.8	0.8
29	6.3	6.4	6.5	3.4	3.5	3.5	0.5	0.6	0.8
28	6.2	6.3	6.4	3.4	3.4	3.5	0.5	0.5	0.8
31	6.1	6.2	6.3	3.3	3.4	3.4	0.5	0.5	0.8
32	6	6.1	6.2	3.3	3.3	3.4	0.5	0.5	0.5
33	5.9	6	6.1	3.2	3.3	3.3	0.5	0.5	0.5
34	5.8	5.9	6	3.1	3.2	3.3	0.5	0.5	0.5
	5.7	5.6	5.9	3.1	3.1	3.2	0.5	0.5	0.5



ATTACHMENT G-3

MA MS4 General Permit

**United States Environmental Protection Agency (EPA)
National Pollutant Discharge Elimination System (NPDES)**

**GENERAL PERMITS FOR STORMWATER DISCHARGES FROM
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS
IN MASSACHUSETTS**

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act (CWA), as amended (33 U.S.C. §1251 *et seq.*), and the Massachusetts Clean Waters Act, as amended (M.G.L. Chap.21 §§ 26-53), any operator of a small municipal separate storm sewer system whose system:

- Is located in the areas described in part 1.1;
- Is eligible for coverage under part 1.2 and part 1.9; and
- Submits a complete and accurate Notice of Intent in accordance with part 1.7 of this permit and EPA issues a written authorization

is authorized to discharge in accordance with the conditions and the requirements set forth herein.

The following appendices are also included as part of these permits:

- Appendix A – Definitions, Abbreviations, and Acronyms;
- Appendix B – Standard permit conditions applicable to all authorized discharges;
- Appendix C – Endangered Species Act Eligibility Guidance;
- Appendix D – National Historic Preservation Act Eligibility Guidance;
- Appendix E – Information required for the Notice of Intent (NOI);
- Appendix F – Requirements for MA Small MS4s Subject to Approved TMDLs;
- Appendix G – Impaired Waters Monitoring Parameter Requirements;
- Appendix H – Requirements related to discharges to certain water quality limited waterbodies;

These permits become effective on **July 1, 2017**.

These permits and the authorization to discharge expire at midnight, **June 30, 2022**.

Signed this 4th day of April, 2016


Ken Moraff, Director
Office of Ecosystem Protection
United States Environmental Protection Agency
5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912

Signed this 4th day of April 2016


Douglas E. Fine
Assistant Commissioner for Water
Resources
Department of Environmental Protection
One Winter Street
Boston, Massachusetts 02108

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1.0. Introduction

This document consists of three (3) general permits listed in part 1.1. Each general permit is applicable to a particular type of municipal system within Massachusetts. Many of the permit terms and conditions are applicable across all regulated entities, and therefore are presented just once in parts 1-2, part 4, and Appendices A through E. Other conditions are applicable to a particular set of authorized entities; these terms and conditions are included in parts 3, and 5 and Appendices F through H. Throughout the permit, the terms “this permit” or “the permit” will refer to the three general permits.

1.1. Areas of Coverage

This permit covers small municipal separate storm sewer systems (MS4s) located in the Commonwealth of Massachusetts:

- Traditional Cities and Towns (NPDES Permit No. MAR041000)
- State, federal, county and other publicly owned properties (Non-traditional) (MAR042000)
- State transportation agencies (except for MassDOT- Highway Division) (MAR043000)

1.2. Eligibility

The MS4 shall meet the eligibility provisions described in part 1.2.1 and part 1.9 to be eligible for authorization under this permit.

1.2.1. Small MS4s Covered

This permit authorizes the discharge of stormwater from small MS4s as defined at 40 CFR § 122.26(b) (16). This includes MS4s described in 40 CFR §122.32(a) (1) and (a) (2). An MS4 is eligible for coverage under this permit if it is:

- A small MS4 within the Commonwealth of Massachusetts;
- Not a large or medium MS4 as defined in 40 CFR §§122.26(b)(4) or (7);
- Located either fully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census as of the effective date of this permit (the 2010 Census); or
- Located in a geographic area designated by EPA as requiring a permit.

If the small MS4 is not located entirely within an urbanized area, only the portion of the MS4 that is located within the urbanized area is regulated under 40 CFR §122.32(a) (1).

A small municipal separate storm sewer system means all separate storm sewers that are:

- Owned or operated by the United States, a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.
- Not defined as large or medium municipal separate storm sewer systems pursuant to 40 CFR § 122.26(b) (4) and (b) (7) or designated under 40 CFR § 122.26(a) (1) (v).
- This term includes systems similar to separate storm sewer systems in municipalities such as systems at military bases, large hospitals or prison complexes, and highways

and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

1.3. Limitations on Coverage

This permit does not authorize the following:

- a. Stormwater discharges mixed with sources of non-stormwater unless such non-stormwater discharges are:
 - Authorized under a separate NPDES permit; or
 - A non-stormwater discharge as listed in part 1.4.
- b. Stormwater discharges associated with industrial activity as defined in 40 CFR §122.26 (b) (14) (i)-(ix) and (xi).
- c. Stormwater discharges associated with construction activity as defined in 40 CFR §122.26(b) (14) (x) or (b) (15).
- d. Stormwater discharges currently authorized under another NPDES permit, including discharges covered under other regionally issued general permits.
- e. Stormwater discharges or discharge related activities that are likely to adversely affect any species that are listed as endangered or threatened under the Endangered Species Act (ESA) or result in the adverse modification or destruction of habitat that is designated as critical under the ESA. The permittee shall follow the procedures detailed in Appendix C to make a determination regarding eligibility. The permittee shall certify compliance with this provision on the submitted NOI.
- f. Stormwater discharges whose direct or indirect impacts do not prevent or minimize adverse effects on any Essential Fish Habitat.
- g. Stormwater discharges, or implementation of a stormwater management program, which adversely affects properties listed or eligible to be listed on the National Register of Historic Places. The permittee shall follow the procedures detailed in Appendix D to make a determination regarding eligibility. The permittee shall certify compliance with this provision on the submitted NOI.
- h. Stormwater discharges prohibited under 40 CFR § 122.4.
- i. Stormwater discharges to the subsurface subject to state Underground Injection Control (UIC) regulations. Although the permit includes provisions related to infiltration and groundwater recharge, structural controls that dispose of stormwater into the ground may be subject to UIC regulation requirements. Authorization for such discharges shall be obtained from Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Drinking Water Program, Underground Injection Control, One Winter Street, Boston, MA 02108 – phone 617-292-5859.
- j. Any non-traditional MS4 facility that is a “new discharger” as defined in part 5.1.4. and discharges to a waterbody listed in category 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b) due to nutrients (Total Nitrogen or (Total Phosphorus), metals (Cadmium, Copper, Iron, Lead or Zinc), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enterococcus or Fecal Coliform), chloride (Chloride) or oil and grease (Petroleum Hydrocarbons or Oil and Grease), or discharges to a waterbody with an approved TMDL for any of those pollutants.

1.4. Non-Stormwater Discharges

The following categories of non-stormwater discharges are allowed under this permit *unless* the permittee, EPA, or the MassDEP identifies any category or individual discharge of non-stormwater discharge in part 1.4.a-r as a significant contributor of pollutants to the MS4, then that category or individual discharge is not allowed under part 1.4, but rather shall be deemed an “illicit discharge” under part 2.3.4.1, and the permittee shall address that category or individual discharge as part of the Illicit Discharge Detection and Elimination (IDDE) Program described in part 2.3.4 of this permit.

- a. Water line flushing
- b. Landscape irrigation
- c. Diverted stream flows
- d. Rising ground water
- e. Uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20))
- f. Uncontaminated pumped ground water
- g. Discharge from potable water sources
- h. Foundation drains
- i. Air conditioning condensation
- j. Irrigation water, springs
- k. Water from crawl space pumps
- l. Footing drains
- m. Lawn watering
- n. Individual resident car washing
- o. Flows from riparian habitats and wetlands
- p. De-chlorinated swimming pool discharges
- q. Street wash waters
- r. Residential building wash waters without detergents

Discharges or flows from firefighting activities are allowed under this permit need only be addressed where they are identified as significant sources of pollutants to waters of the United States.

1.5. Permit Compliance

Non-compliance with any of the requirements of this permit constitutes a violation of the permit and the CWA and may be grounds for an enforcement action and may result in the imposition of injunctive relief and/or penalties.

1.6. Continuation of this Permit

If this permit is not reissued prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedure Act and remain in force and effect for discharges that were authorized prior to expiration. If a small MS4 was granted permit authorization prior to the expiration date of this permit, it will automatically remain authorized by this permit until the earliest of:

- Authorization under a reissued general permit following timely and appropriate submittal of a complete and accurate NOI requesting authorization to discharge under the reissued permit; or
- Issuance or denial of an individual permit for the MS4’s discharges; or
- Authorization or denial under an alternative general permit.

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If the MS4 operator does not submit a timely, appropriate, complete, and accurate NOI requesting authorization to discharge under the reissued permit or a timely request for authorization under an individual or alternative general permit, authorization under this permit will terminate on the due date for the NOI under the reissued permit unless otherwise specified in the reissued permit.

1.7. Obtaining Authorization to Discharge

1.7.1. How to Obtain Authorization to Discharge

To obtain authorization under this permit, a small MS4 shall:

- Be located in the areas listed in part 1.1 of this permit;
- Meet the eligibility requirements in part 1.2 and part 1.9;
- Submit a complete and accurate Notice of Intent (NOI) in accordance with the requirements of part 1.7.2; and
- EPA issues a written authorization.

1.7.2. Notice of Intent

- a. Operators of Small MS4s seeking authorization to discharge under the terms and conditions of this permit shall submit a Notice of Intent that contains the information identified in Appendix E. This includes operators of small MS4s that were previously authorized under the May 1, 2003 small MS4 general permit (MS4-2003 permit).
- b. The NOI shall be signed by an appropriate official (see Appendix B, Subparagraph B.11, Standard Conditions).
- c. The NOI shall contain the following certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print the name and title of the official, followed by signature and date.

- d. The NOI shall be submitted within 90 days of the effective date of the permit. If EPA notifies an MS4 that it is designated under 40 CFR § 122.32(a) (2) or (b), the NOI shall be submitted within 180 days of receipt of notice unless granted a longer period of time by EPA.

1.7.3. Submission of Notice of Intent

- a. All small MS4s shall submit a complete and accurate Notice of Intent (suggested form in Appendix E) to EPA-Region 1 at the following address:

United States Environmental Protection Agency
Stormwater and Construction Permits Section (OEP06-1)
Five Post Office Square, Suite 100
Boston, MA 02109

Or submitted electronically to EPA at the following email address: stormwater.reports@epa.gov

- b. All small MS4s shall also submit a copy of the NOI to the MassDEP at the following address:

Massachusetts Department of Environmental Protection
One Winter Street -5th Floor
Boston, Massachusetts 02108
ATTN: Frederick Civian, Stormwater Coordinator

- c. Late notification: A small MS4 is not prohibited from submitting a NOI after the dates provided in part 1.7.2.d. However, if a late NOI is submitted, authorization is only for discharges that occur after permit authorization is granted. EPA and MassDEP reserve the right to take enforcement actions for any unpermitted discharges. All NOIs submitted after December 21, 2020 must be submitted electronically.

1.7.4. Public Notice of NOI and Effective Date of Coverage

- a. EPA will provide a public notice and opportunity for comment on the contents of the submitted NOIs. The public comment period will be a minimum of 30 calendar days.
- b. Based on a review of a small MS4's NOI or other information, EPA may grant authorization, extend the public comment period, or deny authorization under this permit and require submission of an application for an individual or alternative NPDES permit. (See part 1.8) A small MS4 will be authorized to discharge under the terms and conditions of this permit upon receipt of notice of authorization from EPA.
- c. Permittees whose authorization to discharge under the MS4-2003 permit, which expired on May 1, 2008, has been administratively continued in accordance with the Administrative Procedure Act (5 U.S.C. § 558(c) and 40 CFR § 122.6, who wish to obtain coverage under this permit, must submit a new NOI requesting permit coverage in accordance with the requirements of part 1.7 of this permit to EPA within 90 days after the effective date of this permit. Permittees whose authorization to discharge under the expired MS4-2003 permit was administratively continued, who fail to submit a timely, complete and accurate NOI or an application for an individual NPDES permit within 90 after the effective date of this permit will be considered to be discharging without a permit (see 40 CFR § 122.28(b)(3)(iii)).

1.8. Individual Permits and Alternative General Permits

- a. EPA may require a small MS4 to apply for and obtain authorization under either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition EPA in accordance with the provisions of 40 CFR § 122.26(f) to require a small MS4 to apply for and/or obtain authorization under either an individual NPDES permit or an alternative NPDES general permit. If EPA requires a small MS4 to apply for an individual or alternative NPDES permit, EPA will notify the small MS4 in writing that a permit application is required. This notification will include a brief statement of the reasons for this decision and will provide application information and an application deadline. If a small MS4 is authorized under the MS4-2003 permit or this permit and fails to submit an individual NPDES or an alternative general permit NPDES permit application as required by EPA, then the authorization under the MS4-2003 permit or this permit to the small MS4 is automatically terminated at the end of the date specified by EPA as the deadline

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for application submittal. EPA reserves the right to take enforcement action for any unpermitted discharge.

- b. A small MS4 may request to be excluded from this general permit by applying for an individual permit or authorization under an alternative general permit. In such a case, a small MS4 shall submit an individual permit application in accordance with the requirements of 40 CFR § 122.33(b) (2) (i) or § 122.33(b) (2) (ii), with reasons supporting the request, to EPA at the address listed in part 1.7.3 of this permit. The request may be granted by issuance of an individual permit or authorization under an alternative general permit if EPA determines that the reasons stated by the small MS4 are adequate to support the request. (See 40 CFR § 122.28(b) (3)).
- c. When an individual NPDES permit is issued, or a small MS4 is authorized to discharge under an alternative NPDES general permit, authorization under this permit automatically terminates on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit.

1.9. Special Eligibility Determinations

1.9.1. Documentation Regarding Endangered Species

The small MS4 shall certify eligibility regarding endangered species in the NOI required by part 1.7.2. The Stormwater Management Program (SWMP) shall include documentation supporting the permittee's eligibility determination with regard to federal Endangered and Threatened Species and Critical Habitat Protection, including:

- Results of the Appendix C U.S. Fish and Wildlife Service endangered species screening determination; and
- If applicable, a description of the measures the small MS4 shall implement to protect federally listed endangered or threatened species, or critical habitat, including any conditions imposed by the U.S. Fish and Wildlife Service. If a permittee fails to document and implement such measures, the permittee's discharges are ineligible for coverage under this permit.

1.9.2. Documentation Regarding Historic Properties

The small MS4 shall certify eligibility regarding historic properties on the NOI required by part 1.7.2. The SWMP shall include documentation supporting the small MS4's eligibility determination with regard to Historic Properties Preservation, including:

- Information on whether the permittee's stormwater discharges, allowable non-stormwater discharges, or stormwater discharge-related activities would have an effect on a property that is listed or eligible for listing on the National Register of Historic Properties (NRHP);
- Where such effects may occur, any documents received by the permittee or any written agreements the permittee has made with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other Tribal representative to mitigate those effects;
- Results of the Appendix D historic property screening investigations; and
- If applicable, a description of the measures the permittee shall implement to avoid or minimize adverse impacts on places listed, or eligible for listing, on the NRHP, including any conditions imposed by the SHPO or THPO. If the permittee fails to

document and implement such measures, those discharges are ineligible for coverage under this permit.

1.10. Stormwater Management Program (SWMP)

- a. The permittee shall develop and implement a written (hardcopy or electronic) SWMP. The SWMP shall be signed in accordance with Appendix B, Subsection 11, including the date of signature. A signature and date is required for initial program preparation and for any significant revision to the program, which shall be in writing. The written SWMP shall be completed within one (1) year of the effective date of the permit.

The SWMP is the document used by the permittee to describe and detail the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP shall accurately describe the permittees plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term.

- b. Permittees authorized by the MS4-2003 permit shall modify or update their existing Best Management Practices (BMPs) and measurable goals to meet the terms and conditions of part 2.3 of this permit within one (1) year of the effective date of the permit. These modifications and updates shall be reflected in the written (hardcopy or electronic) SWMP. Permittees authorized by the MS4-2003 permit shall continue to implement their existing SWMP until the program has been updated.

1.10.1. Stormwater Management Program Availability

- a. The permittee shall retain a copy of the current SWMP required by this permit at the office or facility of the person listed as the program contact on the submitted Notice of Intent (NOI). The SWMP shall be immediately available to representatives from EPA, MassDEP, U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) at the time of an onsite inspection or upon request.
- b. The permittee shall make the SWMP available to the public during normal business hours. The permittee shall also post the SWMP online¹ if the permittee has a website on which to post the SWMP.

1.10.2. Contents and Timelines of the Stormwater Management Program for 2003 permittees

The following information must be included in the SWMP within one (1) year of the permit effective date and updated annually thereafter, as necessary:

- Identification of names and titles of people responsible for program implementation. If a position is currently unfilled, list the title of the position and modify the SWMP with the name once the position is filled;
- Documentation of compliance with part 1.9.1;

¹ Should a permittee not wish to post mapping information included in the SWMP (see part 1.10.2) on their website for public safety reasons, they must state the reason either with or within the online SWMP and provide how the MS4 mapping information can be obtained. The permittee must retain the entire SWMP, including all completed mapping, at a location where it can be made available to the public during normal business hours.

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- Documentation of compliance with part 1.9.2;
- Documentation of authorization of all new or increased discharges granted by MassDEP in compliance with part 2.1.2; part
- Listing of all discharges identified pursuant to part 2.1.1 and description of response;
- Description of practices to achieve compliance with part 2.3 (MEP requirements) identified in the permittee's NOI and any updates to those BMPs within the first year;
For each permit condition in part 2.3 identify:
 - The person(s) or department responsible for the measure;
 - The BMPs for the control measure or permit requirement;
 - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal shall have a measure of assessment associated with it;
- Sanitary Sewer Overflow (SSO) inventory including all of the information required in part 2.3.4.4.b;
- Written IDDE Program pursuant to part 2.3.4.6;
- Written procedures for site inspections and enforcement of sediment and erosion control procedures in accordance with part 2.3.5;
- Description of measures to avoid or minimize impacts to surface public drinking water supply sources. The permittee is also encouraged to include provisions to notify public water supplies in the event of an emergency. Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Drinking Water Program, One Winter Street, Boston, MA 02108 – phone 617.292.5770.
- Description of activities to achieve compliance with part 3.0;
- Annual program evaluation (part 4.1). Update annually and maintain copies.

The following information must be included in the SWMP within two (2) years of the permit effective date and updated annually thereafter, as necessary:

- Listing of all receiving waterbody segments, their classification under the applicable state water quality standards, any impairment(s) and associated pollutant(s) of concern, applicable TMDLs and WLAs, and number of outfalls from the MS4 that discharge to each waterbody. In addition to the receiving water, the permittee shall document in the SWMP all surface public drinking water sources that may be impacted by MS4 discharges;
- Listing of all interconnected MS4s and other separate storm sewer systems receiving a discharge from the permitted MS4, the receiving waterbody segment(s) ultimately receiving the discharge, their classification under the applicable state water quality standards, any impairment(s) and associated pollutant(s) of concern, applicable TMDLs and WLAs, and the number of interconnections;
- Written procedures to require submission of as-built drawings and ensure long term operation and maintenance in accordance with part 2.3.6.a.iii;
- The map of the separate storm sewer system required by part 2.3.4.5.

The following information must be included in the SWMP within four (4) years of the permit effective date and updated annually thereafter, as necessary:

- Report(s) assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover.

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The following information must be included in the SWMP concurrent with the applicable deadlines in Appendix F and H and updated annually thereafter, as necessary:

- Description of practices to achieve compliance with part 2.2.1 (TMDL requirements) including:
 - The person(s) or department responsible for the measure;
 - The BMPs for the control measure or permit requirement;
 - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal must have an associated measure of assessment.
- Description of practices to achieve compliance with part 2.2.2 (discharges to certain water quality limited waters subject to additional requirements) including:
 - The person(s) or department responsible for the measure;
 - The BMPs for the control measure or permit requirement;
 - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal must have an associated measure of assessment;

Description of any other practices to achieve compliance with part 2.1 (water quality based requirements);1.10.3. Contents and Timelines of the Stormwater Management Program for New Permittees

a. Permittees seeking authorization for the first time shall meet all deadlines contained in this permit except the following:

- Timelines for public education requirements in part 2.3.2.c shall be extended by one (1) year and need to include one (1) message to each audience over the permit term;
- The ordinances, by-laws, or other regulatory mechanisms required by parts 2.3.4, 2.3.5 and 2.3.6 shall be completed as soon as possible, but no later than three (3) years from the permit effective date; and
- All other deadlines in part 2.3.4 shall be extended by three (3) years.
- partAll other deadlines in part 2.3.5, 2.3.6 and 2.3.7 shall be extended by two (2) years.
- partpartpartAll deadlines for discharges to water quality limited waters without a TMDL under part 2.2.2 shall be extended by two (2) years.

b. Contents of the Stormwater Management Program for New Permittees

The following information must be included in the SWMP within one (1) year of the permit effective date and updated annually thereafter, as necessary:

- Identification of names and titles of people responsible for program implementation. If a position is currently unfilled, list the title of the position and modify the SWMP with the name once the position is filled;
- Documentation of compliance with part 1.9.1;
- Documentation of compliance with part 1.9.2;
- Documentation of authorization of all new or increased discharges granted by MassDEP in compliance with part 2.1.2;
- Listing of all discharges identified pursuant to part 2.1.1 and description of response;
- Description of practices to achieve compliance with part 2.3 (MEP requirements)

identified in the permittee's NOI and any updates to those BMPs within the first year;

For each permit condition in part 2.3 identify:

- The person(s) or department responsible for the measure;
 - The BMPs for the control measure or permit requirement;
 - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal shall have a measure of assessment associated with it;
- Description of measures to avoid or minimize impacts to surface public drinking water supply sources. The permittee is also encouraged to include provisions to notify public water supplies in the event of an emergency. Massachusetts Department of Environmental Protection, Bureau of Resource Protection, Drinking Water Program, One Winter Street, Boston, MA 02108 – phone 617.292.5770. Description of activities to achieve compliance with part 3.0;
 - Annual program evaluation (part 4.1). Update annually and maintain copies.

The following information must be included in the SWMP within three (3) years of the permit effective date and updated annually thereafter, as necessary:

- Written procedures for site inspections and enforcement of sediment and erosion control procedures in accordance with part 2.3.5;
- Written operation and maintenance procedures for municipal activities in part 2.3.7.a.ii;
- Written program detailing the activities and procedures the permittee will implement so that the MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4 in accordance with part 2.3.7.a.iii.1;
- Written procedures to require submission of as-built drawings and ensure long term operation and maintenance in accordance with part 2.3.6.a.iii;

The following information must be included in the SWMP within four (4) years of the permit effective date and updated annually thereafter, as necessary:

- Outfall and interconnection inventory;
- Sanitary Sewer Overflow (SSO) inventory including all of the information required in part 2.3.4.4.b;
- Written IDDE Program pursuant to part 2.3.4.6.

The following information must be included in the SWMP within four (5) years of the permit effective date and updated annually thereafter, as necessary:

- Phase 1 of the map of the separate storm sewer system required by part 2.3.4.5;
- Listing of all receiving waterbody segments, their classification under the applicable state water quality standards, any impairment(s) and associated pollutant(s) of concern, applicable TMDLs and WLAs, and number of outfalls from the MS4 that discharge to each waterbody. In addition to the receiving water, the permittee shall document in the SWMP all surface public drinking water sources that may be impacted by MS4 discharges;
- Listing of all interconnected MS4s and other separate storm sewer systems receiving a discharge from the permitted MS4, the receiving waterbody segment(s) ultimately receiving the discharge, their classification under the applicable state water quality standards, any impairment(s) and associated pollutant(s) of concern, applicable TMDLs

and WLAs, and the number of interconnections;

The following information must be included in the SWMP within four (4) years of the permit effective date and updated annually thereafter, as necessary:

- Report(s) assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover.

The following information must be included in the SWMP concurrent with the applicable deadlines in Appendix F and H (extended by two (2) years) and updated annually thereafter, as necessary:

- Description of practices to achieve compliance with part 2.2.1 (discharges subject to requirements related to approved TMDLs) including:
 - The person(s) or department responsible for the measure;
 - The BMPs for the control measure or permit requirement;
 - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal must have an associated measure of assessment.
- Description of practices to achieve compliance with part 2.2.2 (discharges to certain water quality limited waters subject to additional requirements) including:
 - The person(s) or department responsible for the measure;
 - The BMPs for the control measure or permit requirement;
 - The measurable goal(s) for each BMP. Each measurable goal shall include milestones and timeframes for its implementation and have a quantity or quality associated with its endpoint. Each goal must have an associated measure of assessment;
- Description of any other practices to achieve compliance with part 2.1 (water quality based requirements).

2.0. Non-Numeric Effluent Limitations

The permittee shall develop, implement, and enforce a program to reduce the discharge of pollutants from the MS4 to the maximum extent practicable; to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act and the Massachusetts Water Quality Standards.

2.1. Water Quality Based Effluent Limitations

Pursuant to Clean Water Act 402(p)(3)(B)(iii), this permit includes provisions to ensure that discharges from the permittee's small MS4 do not cause or contribute to an exceedance of water quality standards, in addition to requirements to reduce the discharge of pollutants to the maximum extent practicable. The requirements found in this part and part 2.2 constitute appropriate water quality based effluent limits of this permit. Requirements to reduce the discharge of pollutants to the maximum extent practicable are set forth in part 2.3.

2.1.1. Requirement to Meet Water Quality Standards

- a. The permittee shall reduce the discharge of pollutants such that the discharges from the MS4 do not cause or contribute to an exceedance of water quality standards.

- b. If there is a discharge from the MS4 to a waterbody (or its tributaries in some cases) that is subject to an approved TMDL identified in part 2.2.1, the permittee is subject to the requirements of part 2.2.1 and Appendix F of this permit and the permittee shall comply with all applicable schedules and requirements in Appendix F. A permittee's compliance with all applicable requirements and BMP implementation schedules in Appendix F applicable to it will constitute compliance with part 2.1.1.a. of the Permit.
- c. If there is a discharge from the MS4 to a waterbody (or its tributaries in some cases) that is water quality limited (see definition in Appendix A) due to nutrients (Total Nitrogen or Total Phosphorus), metals (Cadmium, Copper, Iron, Lead or Zinc), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enterococcus or Fecal Coliform), chloride (Chloride) or oil and grease (Petroleum Hydrocarbons or Oil and Grease) and is not subject to an approved TMDL, or the MS4 is located within a municipality listed in part 2.2.2.a.-b., the permittee is subject to the requirements of part 2.2.2 and Appendix H of this permit and the permittee shall comply with all applicable schedules and requirements in Appendix H. A permittee's compliance with all applicable requirements and BMP implementation schedules in Appendix H applicable to it will constitute compliance with part 2.1.1.a. of the Permit.
- d. Except where a pollutant of concern in a discharge is subject to the requirements of part 2.2.1 and/or part 2.2.2 of this permit or is the result of an illicit discharge and subject to part 2.3.4 of this Permit, if a pollutant in a discharge from the MS4 is causing or contributing to a violation of applicable water quality criteria² for the receiving water, the permittee shall, as expeditiously as possible, but no later than 60 days of becoming aware of the situation, reduce or eliminate the pollutant in its discharge such that the discharge meets applicable water quality criteria.

2.1.2. Increased Discharges

- a. Any increased discharge, including increased pollutant loading(s) through the MS4 to waters of the United States is subject to Massachusetts antidegradation regulations at 314 CMR 4.04. The permittee shall comply with the provisions of 314 CMR 4.04 including information submittal requirements and obtaining authorization for increased discharges where appropriate³. Any authorization of an increased discharge by MassDEP shall be incorporated into the permittee's SWMP. If an applicable MassDEP approval specifies additional conditions or requirements, then those requirements are incorporated into this permit by reference. The permittee must comply with all such requirements.
- b. There shall be no increased discharges, including increased pollutant loading(s) from the MS4 to impaired waters listed in categories 5 or 4b on the most recent Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b) unless the permittee demonstrates that there is no net increase in loading from the MS4 to the impaired water of the pollutant(s) for which the waterbody is impaired. The permittee may demonstrate compliance with this provision by *either*:

² Applicable water quality criteria are part of the state standards that have been federally approved as of the effective date of this permit and are compiled by EPA at <http://www.epa.gov/waterscience/standards/wqslibrary/>

³ Contact MassDEP for guidance on compliance with 314 CMR 4.04

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- i. Documenting that the pollutant(s) for which the waterbody is impaired is not present in the MS4's discharge and retaining documentation of this finding with the SWMP; or
 - ii. Documenting that the total load of the pollutant(s) of concern from the MS4 to any impaired portion of the receiving water will not increase as a result of the activity and retaining documentation of this finding in the SWMP. Unless otherwise determined by the Permittee, USEPA or by MassDEP that additional demonstration is necessary, compliance with the requirements of part 2.2.2 and part 2.3.6 of this Permit, including all reporting and documentation requirements, shall be considered as demonstrating no net increase as required by this part.
- c. The requirements of this part are independent of permit conditions requiring reduction in discharges of pollutants as set forth in parts 2.1.1 and 2.2 (water quality based requirements) and 2.3 (requirements to reduce discharge of pollutants to the maximum extent practicable). Permittees remain subject to requirements to reduce the discharge of pollutants from the MS4 as set forth in those parts.

2.2. Discharges to Certain Impaired Waters

The permittee shall identify in the SWMP and Annual Reports all MS4 discharges, including both outfalls and interconnections to other MS4s or other separate storm sewer systems, that:

- Are subject to Total Maximum Daily Load (TMDL) related requirements as identified in part 2.2.1.
- Are subject to additional requirements to protect water quality as identified in part 2.2.2.

The discharge location from an interconnection shall be determined based on the receiving water of the outfall from the interconnected system.

2.2.1. Discharges Subject to Requirements Related to an Approved TMDL

- a. "Approved TMDLs" are those that have been approved by EPA as of the date of issuance of this permit.
- b. The MS4s specified below discharge to waters within Massachusetts that are subject to TMDLs, or in some cases, to tributaries of such waters, and shall comply with the requirements of Appendix F, part A. Appendix F identifies, by section, the provisions the permittee shall implement to be consistent with the terms of the approved TMDL. Alternatively, EPA may notify the permittee that an individual permit application is necessary in accordance with part 1.8.a.

- i. The following is a list of municipalities in the Charles River Watershed:

1.

Arlington	Mendon
Ashland	Milford
Bellingham	Millis
Belmont	Natick
Brookline	Needham

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Cambridge	Newton
Dedham	Norfolk
Dover	Sherborn
Foxborough	Walpole
Franklin	Waltham
Holliston	Watertown
Hopedale	Wayland
Hopkinton	Wellesley
Lexington	Weston
Lincoln	Westwood
Medfield	Wrentham
Medway	

Permittees that operate regulated MS4s located in municipalities listed above that discharge to the Charles River or its Tributaries shall meet the requirements of Appendix F, part A.I with respect to the reduction of phosphorus discharges from their MS4.

- ii. The following is a list of municipalities that contain a lake or pond subject to an approved lake or pond phosphorus TMDL in the Northern Blackstone Basin, Chicopee Basin, Connecticut Basin, French Basin, Millers Basin or in the watershed of Bare Hill Pond, Flint Pond, Indian Lake, Lake Boon, Lake Quinsigamond, Leesville Pond, Salisbury Pond, Quaboag Pond or Quacumquasit Pond.

1.

Auburn	Millbury
Charlton	Oxford
Dudley	Shrewsbury
Gardner	Spencer
Grafton	Springfield
Granby	Stow
Hadley	Templeton
Harvard	Westminster
Hudson	Winchendon
Leicester	Wilbraham
Ludlow	

Permittees that operate regulated MS4s in the above municipalities that discharge to waterbodies listed on Table F-6 in Appendix F or their tributaries, and any other MS4 that discharges to waterbodies listed on Table F-6 in Appendix F or their tributaries,

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shall meet the requirements of Appendix F, part A.II with respect to reduction of phosphorus discharges from their MS4.

iii. The following is a list of municipalities that contain waters subject to an approved TMDL for bacteria or pathogens.

1.

Abington	Marshfield
Acushnet	Mashpee
Andover	Mattapoisett
Avon	Medfield
Barnstable	Medway
Bedford	Melrose
Bellingham	Mendon
Belmont	Milford
Berkley	Millis
Beverly	Milton
Billerica	Nahant
Bourne	Natick
Brewster	Needham
Bridgewater	New Bedford
Brockton	Newton
Brookline	Norfolk
Burlington	North Andover
Cambridge	Norton
Canton	Norwell
Chatham	Norwood
Cohasset	Orleans
Concord	Peabody
Danvers	Pembroke
Dartmouth	Plymouth
Dedham	Raynham
Dennis	Rehoboth
Dighton	Revere
Dover	Rockland
Duxbury	Rockport
East Bridgewater	Salem
Eastham	Sandwich
Essex	Saugus
Everett	Scituate
Fairhaven	Seekonk
Fall River	Sharon

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Falmouth	Sherborn
Foxborough	Somerset
Franklin	Stoughton
Freetown	Swampscott
Gloucester	Swansea
Hanover	Taunton
Hanson	Tewksbury
Harwich	Wakefield
Holliston	Walpole
Hopedale	Waltham
Hopkinton	Wareham
Ipswich	Watertown
Kingston	Wellesley
Lawrence	Wellfleet
Lexington	West Bridgewater
Lincoln	Weston
Lynn	Westport
Lynnfield	Westwood
Malden	Whitman
Manchester	Wilmington
Mansfield	Winthrop
Marblehead	Yarmouth
Marion	

The operators of MS4s located in municipalities listed above that discharge to a waterbody segment listed on Table F-8 in Appendix F and any other MS4 that discharges directly to a waterbody segment listed on Table F-8 in Appendix F shall meet the requirements of Appendix F, part A.III with respect to reduction of bacteria/pathogens discharges from their MS4.

- iv. The following is a list of municipalities located on Cape Cod that contain waters subject to an approved TMDL for nitrogen (Total Nitrogen).

- 1.

Bourne
Barnstable
Chatham
Falmouth
Harwich
Mashpee
Orleans
Yarmouth

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Permittees that operate regulated MS4s located in the municipalities above that discharge to waterbodies found on Table F-9 in Appendix F or their tributaries and any other MS4 that discharges to waterbodies found on Table F-9 in Appendix F or their tributaries shall meet the requirements of Appendix F, part A.IV with respect to reduction of nitrogen discharges from their MS4.

v. The following is a list of municipalities located in the Assabet River Watershed:

1.

Acton	Hudson
Berlin	Littleton
Bolton	Marlborough
Boxborough	Maynard
Boylston	Northborough
Carlisle	Shrewsbury
Clinton	Stow
Concord	Westborough
Grafton	Westford
Harvard	

Permittees that operate regulated MS4s located in the municipalities above that discharge to the Assabet River or its tributaries shall meet the requirements of Appendix F part A.V with respect to reduction of phosphorus discharges from their MS4.

c. The MS4s specified below discharge to waters, or tributaries of waters, that have been identified in an adjacent state’s approved TMDL as being impaired due, in part, to MS4 stormwater discharges in Massachusetts, and shall comply with the requirements of Appendix F, part B. Appendix F identifies, by section, the provisions the permittee shall implement to be consistent with the reasonable assumptions related to Massachusetts MS4 discharges. Alternatively, EPA may notify the permittee that an individual permit application is necessary in accordance with part 1.8.a.

i. The following is a list of municipalities in Massachusetts located in the watershed of Long Island Sound, which has an approved TMDL for nitrogen (Total Nitrogen).

1.

Adams	North Adams
Agawam	Northampton
Amherst	Oxford
Ashburnham	Palmer
Ashby	Paxton
Auburn	Pelham
Belchertown	Pittsfield
Charlton	Richmond
Cheshire	Russell

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Chicopee	Rutland
Dalton	South Hadley
Douglas	Southampton
Dudley	Southbridge
East Longmeadow	Southwick
Easthampton	Spencer
Gardner	Springfield
Granby	Sturbridge
Hadley	Sutton
Hampden	Templeton
Hatfield	Ware
Hinsdale	Webster
Holyoke	West Springfield
Lanesborough	Westfield
Leicester	Westhampton
Lenox	Westminster
Longmeadow	Wilbraham
Ludlow	Williamsburg
Millbury	Winchendon
Monson	

Permittees that operate regulated MS4s located in the municipalities above that discharge to a water within the Connecticut River Watershed, the Housatonic River Watershed, or the Thames River Watershed shall meet the requirements of Appendix F part B. I with respect to nitrogen discharges from their MS4.

- ii. The following is a list of municipalities in Massachusetts identified in a TMDL as containing MS4s contributing phosphorus to waterbody segments that have out of state approved TMDLs for phosphorus:

1.

Attleboro
North Attleborough
Plainville
Rehoboth
Seekonk
Swansea

Permittees that operate regulated MS4s located in the municipalities above that discharge to a waterbody found on Table F-12 in Appendix F or its tributaries shall meet the requirements of Appendix F part B. II with respect to phosphorus discharges from their MS4.

- iii. The following is a list of municipalities in Massachusetts identified in a TMDL as containing MS4s contributing bacteria/pathogens to waterbody segments that have out of state approved TMDLs for bacteria/pathogens:

1.

Attleboro
North Attleborough
Plainville
Rehoboth
Seekonk

Permittees that operate regulated MS4s located in the municipalities above that discharge to a waterbody found on Table F-13 in Appendix F or its tributaries shall meet the requirements of Appendix F part B. III with respect to bacteria/pathogens discharges from their MS4.

iv. The following is a list of municipalities in Massachusetts identified in a TMDL as containing MS4s contributing metals (cadmium, lead, aluminum iron) to waterbody segments that have out of state approved TMDLs for metals (cadmium, lead, aluminum, iron):

1.

Attleboro
North Attleborough
Plainville
Seekonk

Permittees that operate regulated MS4s located in the municipalities above that discharge to a waterbody found on Table F-14 in Appendix F or its tributaries shall meet the requirements of Appendix F part B. IV with respect to metals discharges from their MS4.

2.2.2. Discharges to Certain Water Quality Limited Waters Subject to Additional Requirements

For purposes of this permit, a ‘water quality limited water body’ is any water body that does not meet applicable water quality standards, including but not limited to waters listed in categories 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b).

If there is a discharge from the MS4 to a water quality limited waterbody where pollutants typically found in stormwater (specifically nutrients (Total Nitrogen or Total Phosphorus), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enterococcus or Fecal Coliform), chloride (Chloride), metals (Cadmium, Copper, Iron, Lead or Zinc) and oil and grease (Petroleum Hydrocarbons or Oil and Grease)) are the cause of the impairment and there is not an approved TMDL, or the MS4 is located in a town listed in part 2.2.2.a.-b, the permittee shall comply with the provisions in Appendix H applicable to it.

In the absence of a defined pollutant reduction target and where no approved TMDL has been established, this permit part and Appendix H define an iterative approach addressing pollutant reductions to waterbodies where the permittee’s discharge is causing or contributing to an excursion above water quality standards due to nutrients (Total Nitrogen Total Phosphorus), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enterococcus or Fecal Coliform), chloride (Chloride), metals

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(Cadmium, Copper, Iron, Lead or Zinc) or oil and grease (Petroleum Hydrocarbons or Oil and Grease).

a. Discharges to water quality limited waterbodies where nitrogen (Total Nitrogen) is the cause of the impairment, or their tributaries

i. The requirements of this part are applicable to:

1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to nitrogen (Total Nitrogen), or their tributaries.

Abington	Mattapoisett
Acushnet	Middleborough
Attleboro	New Bedford
Avon	Norton
Barnstable	Peabody
Berkley	Pembroke
Bourne	Plainville
Bridgewater	Plymouth
Brockton	Plympton
Carver	Raynham
Dartmouth	Rehoboth
Dighton	Rochester
East Bridgewater	Salem
Easton	Seekonk
Fairhaven	Sharon
Fall River	Somerset
Foxborough	Stoughton
Freetown	Swansea
Halifax	Taunton
Hanson	Wakefield
Holbrook	Wareham
Kingston	West Bridgewater
Lakeville	Westport
Lynnfield	Whitman
Mansfield	Wrentham
Marion	Yarmouth

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to nitrogen (Total Nitrogen), or a tributary of such water.

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- ii. Permittees subject to part 2.2.2.a.i above shall meet the requirements of Appendix H part I with respect to the control of nitrogen discharges from their MS4;
 - iii. During development of their Notice of Intent, the permittee may determine that all discharges from the regulated area through their MS4 are outside of a watershed that contains a nitrogen (Total Nitrogen) impairment in a downstream segment. The permittee shall retain all documentation used in this determination as part of their NOI and are relieved from the requirements of part 2.2.2.a.i and Appendix H part I.
- b. Discharges to water quality limited waterbodies where phosphorus (“Total Phosphorus”) is the cause of the impairment, or their tributaries
- i. The requirements of this part are applicable to:
 - 1. Permittees (including traditional and non-traditional MS4s) that own or operate an MS4 in the following municipalities. Discharges from MS4s within these municipalities are to waterbodies that are impaired due to phosphorus (Total Phosphorus), or their tributaries.

Abington	Lynn
Acushnet	Lynnfield
Andover	Malden
Arlington	Mansfield
Ashburnham	Marlborough
Ashland	Mashpee
Auburn	Medfield
Avon	Medford
Ayer	Melrose
Barnstable	Mendon
Bedford	Methuen
Belchertown	Millbury
Belmont	Millville
Billerica	Milton
Blackstone	North Andover
Bolton	Northbridge
Brewster	Norton
Bridgewater	Norwood
Brockton	Oxford
Burlington	Peabody
Cambridge	Pembroke
Canton	Pepperell
Carlisle	Pittsfield

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Carver	Quincy
Chelmsford	Randolph
Chelsea	Reading
Clinton	Revere
Concord	Rockland
Dalton	Salem
Dedham	Scituate
Douglas	Seekonk
Dover	Sharon
Dracut	Shirley
Dunstable	Shrewsbury
East Bridgewater	Somerville
Eastham	Southampton
Easthampton	Spencer
Everett	Springfield
Falmouth	Stoneham
Fitchburg	Stoughton
Foxborough	Sudbury
Framingham	Sutton
Gloucester	Taunton
Grafton	Tewksbury
Granby	Townsend
Groton	Tyngsborough
Halifax	Upton
Hanover	Uxbridge
Hanson	Wakefield
Harvard	Walpole
Haverhill	Wareham
Hinsdale	Watertown
Hopkinton	Wayland
Hudson	West Bridgewater
Lancaster	Westfield
Lawrence	Westminster
Leicester	Westwood
Lenox	Whitman
Leominster	Wilmington
Lexington	Winchendon
Littleton	Winchester
Lowell	Winthrop

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Lunenburg	Woburn
Lynn	

2. Any other permittee that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to phosphorus (“Total Phosphorus”), or to a tributary of such water.
 - ii. The permittees subject to part 2.2.2.b.i. above shall meet all requirements of Appendix H part II with respect to the control of phosphorus discharges from the MS4.
 - iii. During development of their Notice of Intent, the permittee may determine that all discharges from the regulated area through their MS4 are outside of a watershed that contains a phosphorus (“Total Phosphorus”) impairment in a downstream segment. The permittee shall retain all documentation used in this determination as part of their NOI and are relieved from the requirements of part 2.2.2.b.i and Appendix H part II.
- c. Discharges to water quality limited waterbodies where bacteria or pathogens is the cause of the impairment
- i. The requirements of this part are applicable to:
 1. Any MS4 discharge identified by the permittee on their Notice of Intent as discharging directly to an impaired waterbody on the most recent EPA approved Massachusetts 303(d) list where bacteria or pathogens (E. Coli, Enterococcus or Fecal Coliform) is the cause of the impairment.
 2. Any other MS4 that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to bacteria or pathogens.
 - ii. The permittees subject to part 2.2.2.c.i. shall meet all requirements of Appendix H part III with respect to reduction of bacteria or pathogens discharges from the MS4.
- d. Discharges to water quality limited waterbodies where chloride (Chloride) is the cause of the impairment
- i. The requirements of this part are applicable to:
 1. Any MS4 discharge identified by the permittee on their Notice of Intent as discharging directly to an impaired waterbody on the most recent EPA approved Massachusetts 303(d) list where chloride (Chloride) is the cause of the impairment.
 2. Any other MS4 that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to chloride (Chloride).
 - ii. The permittees subject to part 2.2.2.d.i. shall meet all requirements of Appendix H part IV with respect to reduction of chloride discharges from the MS4.
- e. Discharges to water quality limited waterbodies where oil and grease (Petroleum Hydrocarbons or Oil and Grease), solids (TSS or Turbidity) or metals (Cadmium, Copper, Iron, Lead or Zinc) is the cause of the impairment

- i. The requirements of this part are applicable to:
 1. Any MS4 discharge identified by the permittee on their Notice of Intent as discharging directly to an impaired waterbody on the most recent EPA approved Massachusetts 303(d) list where oil and grease, solids or metals (Oil and Grease, Petroleum Hydrocarbons TSS, Turbidity, Cadmium, Copper, Iron, Lead or Zinc) is the cause of the impairment.
 2. Any other MS4 that, during the permit term, becomes aware that its discharge is to a waterbody that is water quality limited due to oil and grease (Petroleum Hydrocarbons or Oil and Grease), solids (TSS or Turbidity) or metals (Cadmium, Copper, Iron, Lead or Zinc).
- ii. The permittees subject to part 2.2.2.d.i. shall meet all requirements of Appendix H part V with respect to reduction of solids, oil and grease or metals discharges from the MS4.

2.3. Requirements to Reduce Pollutants to the Maximum Extent Practicable (MEP)

The permittee shall reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) as detailed in parts 2.3.2 through 2.3.7.

2.3.1. Control Measures

- a. Permittees authorized under the MS4-2003 permit shall continue to implement their existing SWMPs while updating their SWMPs pursuant to this permit. This permit does not extend the compliance deadlines set forth in the MS4-2003 permit.
- b. Implementation of one or more of the minimum control measures described in parts 2.3.2- 2.3.7 or other permit requirements may be shared with another entity (including another interconnected MS4) or the other entity may fully implement the measure or requirement, if the following requirements are satisfied:
 - The other entity, in fact, implements the control measure.
 - The particular control measure or component thereof undertaken by the other entity is at least as stringent as the corresponding permit requirement.
 - The other entity agrees to implement the control measure on the permittee's behalf. The annual reports must specify that the permittee is relying on another entity to satisfy some of its permit obligations and specify what those obligations are.
 - If the permittee is relying on another governmental entity regulated under 40 CFR §122 to satisfy all of its permit obligations, including the obligation to file annual reports, the permittee shall note that fact in its NOI, but is not required to file annual reports.
 - The permittee remains responsible for compliance with all permit obligations if the other entity fails to implement the control measures (or component thereof). The permittee may enter into a legally binding agreement with the other entity regarding the other entity's performance of control measures, but the permittee remains ultimately responsible for permit compliance.

2.3.2. Public Education and Outreach

Objective: The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public

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education program is to increase knowledge and change behavior of the public so that pollutants in stormwater are reduced.

- a. The permittee shall continue to implement the public education program required by the MS4-2003 permit by distributing educational material to the MS4 community. The educational program shall define educational goals, express specific messages, define the targeted audience for each message, and identify responsible parties for program implementation. If appropriate for the target audience, materials may be developed in a language other than English. At a minimum, the program shall provide information concerning the impact of stormwater discharges on water bodies within the community, especially those waters that are impaired or identified as priority waters. The program shall identify steps and/or activities that the public can take to reduce the pollutants in stormwater runoff and their impacts to the environment.
- b. The educational program shall include education and outreach efforts for the following four audiences: (1) residents, (2) businesses, institutions (churches, hospitals), and commercial facilities, (3) developers (construction), and (4) industrial facilities, unless one of these audiences is not present in the MS4 community. In such a situation, the MS4 must document in both the NOI and SWMP which audience is absent from the community and no educational messages are required to that audience.
- c. The permittee shall distribute a minimum of two (2) educational messages over the permit term to each audience identified in part 2.3.2.b. The distribution of materials to each audience shall be spaced at least a year apart. Educational messages may be printed materials such as brochures or newsletters; electronic materials such as websites; mass media such as newspaper articles or public service announcement (radio or cable); targeted workshops on stormwater management, or displays in a public area such as town/city hall. The permittee may use existing materials if they are appropriate for the message the permittee chooses to deliver or the permittee may develop its own educational materials. The permittee may partner with other MS4s, community groups or watershed associations to implement the education program to meet this permit requirement.

Some EPA educational materials are available at: <http://cfpub.epa.gov/npstbx/index.html>.

- d. The permittee shall, at a minimum, consider the topics listed in part 2.3.2.d.i. – iv when developing the outreach/education program. The topics are not exclusive and the permittee shall focus on those topics most relevant to the community.
 - i. Residential program: effects of outdoor activities such as lawn care (use of pesticides, herbicides, and fertilizers and information on Massachusetts Regulation 331 CMR 31 pertaining to proper use of phosphorus containing fertilizers on turf grasses) on water quality; benefits of appropriate on-site infiltration of stormwater; effects of automotive work and car washing on water quality; proper disposal of swimming pool water; proper management of pet waste; maintenance of septic systems. If the small MS4 area has areas serviced by septic systems, the permittee shall consider information pertaining to maintenance of septic systems as part of its education program.
 - ii. Business/Commercial/Institution program: proper lawn maintenance (use of pesticides, herbicides and fertilizer, and information on Massachusetts Regulation 331 CMR 31 pertaining to proper use of phosphorus containing fertilizers on turf grasses); benefits of appropriate on-site infiltration of stormwater; building maintenance (use of detergents); use of salt or other de-icing and anti-icing materials (minimize their use); proper storage

of salt or other de-icing/anti-icing materials (cover/prevent runoff to storm system and contamination to ground water); proper storage of materials (emphasize pollution prevention); proper management of waste materials and dumpsters (cover and pollution prevention); proper management of parking lot surfaces (sweeping); proper car care activities (washing of vehicles and maintenance); and proper disposal of swimming pool water by entities such as motels, hotels, and health and country clubs (discharges must be dechlorinated and otherwise free from pollutants).

- iii. Developers and Construction: proper sediment and erosion control management practices; information about Low Impact Development (LID) principles and technologies; and information about EPA's construction general permit (CGP). This education can also be a part of the Construction Site Stormwater Runoff Control measure detailed in part 2.3.5.
 - iv. Industrial program: equipment inspection and maintenance; proper storage of industrial materials (emphasize pollution prevention); proper management and disposal of wastes; proper management of dumpsters; minimization of use of salt or other de-icing/anti-icing materials; proper storage of salt or other de-icing/anti-icing materials (cover/prevent runoff to storm system and ground water contamination); benefits of appropriate on-site infiltration of stormwater runoff from areas with low exposure to industrial materials such as roofs or employee parking; proper maintenance of parking lot surfaces (sweeping); and requirements for coverage under EPA's Multi-Sector General Permit.
- e. The program shall show evidence of focused messages for specific audiences as well as evidence that progress toward the defined educational goals of the program has been achieved. The permittee shall identify methods that it will use to evaluate the effectiveness of the educational messages and the overall education program. Any methods used to evaluate the effectiveness of the program shall be tied to the defined goals of the program and the overall objective of changes in behavior and knowledge.
 - f. The permittee shall modify any ineffective messages or distribution techniques for an audience prior to the next scheduled message delivery.
 - g. The permittee shall document in each annual report the messages for each audience; the method of distribution; the measures/methods used to assess the effectiveness of the messages, and the method/measures used to assess the overall effectiveness of the education program.

2.3.3. Public Involvement and participation

Objective: The permittee shall provide opportunities to engage the public to participate in the review and implementation of the permittee's SWMP.

- a. All public involvement activities shall comply with state public notice requirements (MGL Chapter 30A, Sections 18 – 25 – effective 7/10/2010). The SWMP and all annual reports shall be available to the public.
- b. The permittee shall annually provide the public an opportunity to participate in the review and implementation of the SWMP.

- c. The permittee shall report on the activities undertaken to provide public participation opportunities including compliance with part 2.3.3.a. Public participation opportunities pursuant to part 2.3.3.b may include, but are not limited to, websites; hotlines; clean-up teams; monitoring teams; or an advisory committee.

2.3.4. Illicit Discharge Detection and Elimination (IDDE) Program

Objective: The permittee shall implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges.

- a. Legal Authority - The IDDE program shall include adequate legal authority to: prohibit illicit discharges; investigate suspected illicit discharges; eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and implement appropriate enforcement procedures and actions. Adequate legal authority consists of a currently effective ordinance, by-law, or other regulatory mechanism. For permittees authorized by the MS4-2003 permit, the ordinance, by-law, or other regulatory mechanism was a requirement of the MS4-2003 permit and was required to be effective by May 1, 2008. For new permittees the ordinance, by-law, or other regulatory mechanism shall be in place within 3 years of the permit effective date.
- b. During the development of the new components of the IDDE program required by this permit, permittees authorized by the MS4-2003 permit must continue to implement their existing IDDE program required by the MS4-2003 permit to detect and eliminate illicit discharges to their MS4.

2.3.4.1. Definitions and Prohibitions

The permittee shall prohibit illicit discharges and sanitary sewer overflows (SSOs) to its MS4 and require removal of such discharges consistent with parts 2.3.4.2 and 2.3.4.4 of this permit.

An SSO is a discharge of untreated sanitary wastewater from a municipal sanitary sewer.

An illicit discharge is any discharge to a municipal separate storm sewer that is not composed entirely of stormwater, except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

2.3.4.2. Elimination of Illicit Discharges

- a. Upon detection of an illicit discharge, the permittee shall locate, identify and eliminate the illicit discharge as expeditiously as possible. Upon identification of the illicit source the MS4 notify all responsible parties for any such discharge and require immediate cessation of improper disposal practices in accordance with its legal authorities. Where elimination of an illicit discharge within 60 days of its identification as an illicit discharge is not possible, the permittee shall establish an expeditious schedule for its elimination and report the dates of identification and schedules for removal in the permittee's annual reports. The permittee shall immediately commence actions necessary for elimination. The permittee shall diligently pursue elimination of all illicit discharges. In the interim, the permittee shall take all reasonable and prudent measures to minimize the discharge of pollutants to and from its MS4.
- b. The period between identification and elimination of an illicit discharge is not a grace period. Discharges from an MS4 that are mixed with an illicit discharge are not authorized by this Permit (part 1.3.a) and remain unlawful until eliminated.

2.3.4.3. Non-Stormwater Discharges

The permittee may presume that the sources of non-stormwater listed in part 1.4 of this permit need not be addressed. However, if the permittee identifies any of these sources as significant contributors of pollutants to the MS4, then the permittee shall implement measures to control these sources so they are no longer significant contributors of pollutants, and/or eliminate them entirely, consistent with part 2.3.4.

2.3.4.4. Sanitary Sewer Overflows

- a. Upon detection of an SSO the permittee shall eliminate it as expeditiously as possible and take interim mitigation measures to minimize the discharge of pollutants to and from its MS4 until elimination is completed.
- b. The permittee shall identify all known locations where SSOs have discharged to the MS4 within the previous five (5) years. This shall include SSOs resulting, during dry or wet weather, from inadequate conveyance capacities, or where interconnectivity of the storm and sanitary sewer infrastructure allows for communication of flow between the systems. Within one (1) year of the effective date of the permit, the permittee shall develop an inventory of all identified SSOs indicating the following information, if available:
 1. Location (approximate street crossing/address and receiving water, if any);
 2. A clear statement of whether the discharge entered a surface water directly or entered the MS4;
 3. Date(s) and time(s) of each known SSO occurrence (i.e., beginning and end of any known discharge);
 4. Estimated volume(s) of the occurrence;
 5. Description of the occurrence indicating known or suspected cause(s);
 6. Mitigation and corrective measures completed with dates implemented; and
 7. Mitigation and corrective measures planned with implementation schedules.

The permittee shall maintain the inventory as a part of the SWMP and update the inventory annually, all updates shall include the information in part 2.3.4.4.b.1-7.

- c. In accordance with Paragraph B.12 of Appendix B of this permit, upon becoming aware of an SSO to the MS4, the permittee shall provide oral notice to EPA within 24 hours. Additionally, the permittee shall provide written notice to EPA and MassDEP within five (5) days of becoming aware of the SSO occurrence and shall include the information in the updated inventory. The notice shall contain all of the information listed in part 2.3.4.4.b. Where common notification requirements for SSOs are included in multiple NPDES permits issued to a permittee, a single notification may be made to EPA as directed in the permittee's wastewater or CSO NPDES permit and constitutes compliance with this part.
- d. The permittee shall include and update the SSO inventory in its annual report, including the status of mitigation and corrective measures implemented by the permittee to address each SSO identified pursuant to this part.
- e. The period between detection and elimination of a discharge from the SSO to the MS4 is not a grace period. Discharges from an MS4 that are mixed with an SSO are not authorized by this Permit (part 1.3.a) and remain unlawful until eliminated.

2.3.4.5. System mapping

The permittee shall develop a revised and more detailed map than was required by the MS4-2003 permit. This revised map of the MS4 shall be completed in two phases as outlined below. The mapping shall include a depiction of the permittee's separate storm sewer system in the permit area. The mapping is intended to facilitate the identification of key infrastructure and factors influencing proper system operation, and the potential for illicit sanitary sewer discharges.

- a. Phase I: The system map shall be updated within two (2) years of the permit effective date to include the following information:
 - Outfalls and receiving waters (required by MS4-2003 permit)
 - Open channel conveyances (swales, ditches, etc.)
 - Interconnections with other MS4s and other storm sewer systems
 - Municipally-owned stormwater treatment structures (e.g., detention and retention basins, infiltration systems, bioretention areas, water quality swales, gross particle separators, oil/water separators, or other proprietary systems)
 - Waterbodies identified by name and indication of all use impairments as identified on the most recent EPA approved Massachusetts Integrated List of waters report pursuant to Clean Water Act section 303(d) and 305(b)
 - Initial catchment delineations. Any available system data and topographic information may be used to produce initial catchment delineations. For the purpose of this permit, a catchment is the area that drains to an individual outfall or interconnection.

- b. Phase II: The system map shall be updated annually as the following information becomes available during implementation of catchment investigation procedures in part 2.3.4.8. This information must be included in the map for all outfalls within ten (10) years of the permit effective date:
 - Outfall spatial location (latitude and longitude with a minimum accuracy of +/-30 feet)
 - Pipes
 - Manholes
 - Catch basins
 - Refined catchment delineations. Catchment delineations shall be updated to reflect information collected during catchment investigations
 - Municipal sanitary sewer system (if available)
 - Municipal combined sewer system (if applicable).

- c. Recommended elements to be included in the system map as information becomes available:
 - Storm sewer material, size (pipe diameter) and age
 - Sanitary sewer system material, size (pipe diameter) and age
 - Privately-owned stormwater treatment structures
 - Where a municipal sanitary sewer system exists, properties known or suspected to be served by a septic system, especially in high-density urban areas
 - Area where the permittee's MS4 has received or could receive flow from septic system discharges (e.g., areas with poor soils, or high ground water elevations unsuitable for conventional subsurface disposal systems)
 - Seasonal high water table elevations impacting sanitary alignments
 - Topography
 - Orthophotography

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- Alignments, dates and representation of work completed (with legend) of past illicit discharge investigations (e.g., flow isolation, dye testing, CCTV)
 - Locations of suspected, confirmed and corrected illicit discharges (with dates and flow estimates).
- d. The mapping may be produced by hand or through computer-aided methods (e.g. GIS). The required scale and detail of the map shall be appropriate to facilitate a rapid understanding of the system by the permittee, EPA and the state. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDE program and demonstration of the extent of complete and planned investigations and corrections. The permittee shall update the mapping as necessary to reflect newly discovered information and required corrections or modifications.
- e. The permittee shall report on the progress towards the completion of the system map in each annual report.

2.3.4.6. Written Illicit Discharge Detection and Elimination Program

The IDDE program shall be recorded in a written (hardcopy or electronic) document. The IDDE program shall include each of the elements described in parts 2.3.4.7 and part 2.3.4.8, unless the permittee provides a written explanation within the IDDE program as to why a particular element is not applicable to the permittee.

Notwithstanding the permittee's explanation, EPA may at any time determine that a particular element is in fact applicable to the permittee and require the permittee to add it to the IDDE program. The written (hardcopy or electronic) IDDE program shall be completed within one (1) year of the effective date of the permit and updated in accordance with the milestones of this part. The permittee shall implement the IDDE program in accordance with the goals and milestones contained in this part.

- a. The written (hardcopy or electronic) IDDE program shall include a reference or citation of the authority the permittee will use to implement all aspects of the IDDE program.
- b. Statement of IDDE Program Responsibilities - The permittee shall establish a written (hardcopy or electronic) statement that clearly identifies responsibilities with regard to eliminating illicit discharges. The statement shall identify the lead municipal agency(ies) or department(s) responsible for implementing the IDDE Program as well as any other agencies or departments that may have responsibilities for aspects of the program (e.g., board of health responsibilities for overseeing septic system construction; sanitary sewer system staff; inspectional services for enforcing plumbing codes; town counsel responsibilities in enforcement actions, etc.). Where multiple departments and agencies have responsibilities with respect to the IDDE program specific areas of responsibility shall be defined and processes for coordination and data sharing shall be established and documented.
- c. Program Procedures – The permittee shall include in the written IDDE program all written procedures developed in accordance with the requirements and timelines in parts 2.3.4.7 and 2.3.4.8 below. At a minimum this shall include the written procedures for dry weather outfall screening and sampling and for catchment investigations.

2.3.4.7. Assessment and Priority Ranking of Outfalls/Interconnections

The permittee shall assess and priority rank the outfalls in terms of their potential to have illicit discharges and SSOs and the related public health significance. This ranking will determine the priority order for

screening of outfalls and interconnections pursuant to part 2.3.4.7.b, catchment investigations for evidence of illicit discharges and SSOs pursuant to part 2.3.4.8, and provides the basis for determining permit milestones of this part.

a. Outfall/Interconnection Inventory and Initial Ranking:

An initial outfall and interconnection inventory and priority ranking to assess illicit discharge potential based on existing information shall be completed within one (1) year from the effective date of the permit; an updated inventory and ranking will be provided in each annual report thereafter. The inventory shall be updated annually to include data collected in connection with the dry weather screening and other relevant inspections conducted by the permittee.

- i. The outfall and interconnection inventory will identify each outfall and interconnection discharging from the MS4, record its location and condition, and provide a framework for tracking inspections, screenings and other activities under the permittee's IDDE program.
 - An outfall means a point source as defined by 40 CFR § 122.2 as the point where the municipal separate storm sewer discharges to waters of the United States. An outfall does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels or other conveyances that connect segments of the same stream or other waters of the United States and that are used to convey waters of the United States. (40 CFR § 122.26(b)(9)). However, it is strongly recommended that a permittee inspect all accessible portions of the system as part of this process. Culverts longer than a simple road crossing shall be included in the inventory unless the permittee can confirm that they are free of any connections and simply convey waters of the United States.
 - An interconnection means the point (excluding sheet flow over impervious surfaces) where the permittee's MS4 discharges to another MS4 or other storm sewer system, through which the discharge is conveyed to waters of the United States or to another storm sewer system and eventually to a water of the United States.
- ii. The permittee shall classify each of the permittee's outfalls and interconnections into one of the following categories:
 - Problem Outfalls: outfalls/interconnections with known or suspected contributions of illicit discharges based on existing information shall be designated as Problem Outfalls. This shall include any outfalls/interconnections where previous screening indicates likely sewer input.⁴ Problem Outfalls need not be screened pursuant to part 2.3.4.7.b.
 - High Priority Outfalls: Outfalls/interconnections that have not been classified as Problem Outfalls and that are:
 - discharging to an area of concern to public health due to proximity of public beaches, recreational areas, drinking water supplies or shellfish beds;
 - determined by the permittee as high priority based on the characteristics listed below or other available information;
 - Low Priority Outfalls: Outfalls/interconnections determined by the permittee as low priority based on the characteristics listed below or other available information.

⁴ Likely sewer input indicators are any of the following:

- Olfactory or visual evidence of sewage,
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine.

- Excluded outfalls: outfalls/interconnections with no potential for illicit discharges may be excluded from the IDDE program. This category is limited to roadway drainage in undeveloped areas with no dwellings and no sanitary sewers; drainage for athletic fields, parks or undeveloped green space and associated parking without services; cross-country drainage alignments (that neither cross nor are in proximity to sanitary sewer alignments) through undeveloped land.
- iii. The permittee shall priority rank outfalls into the categories above (except for excluded outfalls), based on the following characteristics of the defined initial catchment area where information is available:
- Past discharge complaints and reports.
 - Poor receiving water quality- the following guidelines are recommended to identify waters as having a high illicit discharge potential: exceeding water quality standards for bacteria; ammonia levels above 0.5 mg/l; surfactants levels greater than or equal to 0.25 mg/l.
 - Density of generating sites- Generating sites are those places, including institutional, municipal, commercial, or industrial sites, with a potential to generate pollutants that could contribute to illicit discharges. Examples of these sites include, but are not limited to, car dealers; car washes; gas stations; garden centers; and industrial manufacturing areas.
 - Age of development and infrastructure – Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old will probably have a high illicit discharge potential. Developments 20 years or younger will probably have a low illicit discharge potential.
 - Sewer conversion – contributing catchment areas that were once serviced by septic systems, but have been converted to sewer connections may have a high illicit discharge potential.
 - Historic combined sewer systems – contributing areas that were once serviced by a combined sewer system, but have been separated may have a high illicit discharge potential.
 - Surrounding density of aging septic systems – Septic systems thirty years or older in residential land use areas are prone to have failures and may have a high illicit discharge potential.
 - Culverted streams – any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential.
 - Water quality limited waterbodies that receive a discharge from the MS4 or waters with approved TMDLs applicable to the permittee, where illicit discharges have the potential to contain the pollutant identified as the cause of the water quality impairment.
 - The permittee may also consider additional relevant characteristics, including location-specific characteristics; if so, the permittee shall include the additional characteristics in its written (hardcopy or electronic) IDDE program.
- b. Dry Weather Outfall and Interconnection Screening and Sampling
All outfalls/interconnections (excluding Problem and excluded Outfalls) shall be inspected for the presence of dry weather flow within three (3) years of the permit effective date. The permittee shall screen all High and Low Priority Outfalls in accordance with their initial ranking developed at part 2.3.4.7.a.
- i. Written procedure: The permittee shall develop an outfall and interconnection screening and sampling procedure to be included in the IDDE program within one (1) year of the permit effective date. This procedure shall include the following procedures for:
- sample collection,
 - use of field kits,

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- storage and conveyance of samples (including relevant hold times), and
- field data collection and storage.

An example screening and sampling protocol (*EPA New England Bacterial Source Tracking Protocol*) can be found on EPA's website.

- ii. Weather conditions: Dry weather screening and sampling shall proceed only when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period and no significant snow melt is occurring.
- iii. Screening requirements: For each outfall/interconnection:
 1. The permittee shall record all of the following information and include it in the outfall/interconnection inventory and priority ranking:
 - unique identifier,
 - receiving water,
 - date of most recent inspection,
 - dimensions,
 - shape,
 - material (concrete, PVC),
 - spatial location (latitude and longitude with a minimum accuracy of +/-30 feet,
 - physical condition,
 - indicators of potential non-stormwater discharges (including presence or evidence of suspect flow and sensory observations such as odor, color, turbidity, floatables, or oil sheen).
 2. If an outfall/interconnection is inaccessible or submerged, the permittee shall proceed to the first accessible upstream manhole or structure for the observation and sampling and report the location with the screening results.
 3. If no flow is observed, but evidence of illicit flow exists, the permittee shall revisit the outfall during dry weather within one week of the initial observation, if practicable, to perform a second dry weather screening and sample any observed flow (proceed as in iv. below).
 4. Where dry weather flow is found at an outfall/interconnection, at least one (1) sample shall be collected, and:
 - a) Samples shall be analyzed at a minimum for:
 - ammonia,
 - chlorine,
 - conductivity,
 - salinity,
 - *E. coli* (freshwater receiving water) or enterococcus (saline or brackish receiving water),
 - surfactants (such as MBAS),
 - temperature, and
 - pollutants of concern⁵
 - b) All analyses with the exception of indicator bacteria and pollutants of concern can be performed with field test kits or field instrumentation and are not subject to 40

⁵ Where the discharge is directly into a water quality limited water or a water subject to an approved TMDL as indicated in Appendix F; the sample shall be analyzed for the pollutant(s) of concern identified as the cause of the impairment as specified in Appendix G

CFR part 136 requirements. Sampling for bacteria and pollutants of concern shall be conducted using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. Sampling for ammonia and surfactants must use sufficiently sensitive methods to detect those parameters at or below the threshold indicator concentrations of 0.5 mg/L for ammonia and 0.25 mg/L for surfactants. Sampling for residual chlorine must use a method with a detection limit of 0.02 mg/L or 20 ug/L.

- iv. The permittee may rely on screening conducted under the MS4-2003 permit, pursuant to an EPA enforcement action, or by the state or EPA to the extent that it meets the requirements of part 2.3.4.7.b.iii.4. All data shall be reported in each annual report. Permittees that have conducted substantially equivalent monitoring to that required by part 2.3.4.7.b as part of an EPA enforcement action can request an exemption from the requirements of part 2.3.4.7.b by submitting a written request to EPA and retaining exemption approval from EPA as part of the SWMP. Until the permittee receives formal written approval of the exemption from part 2.3.4.7.b from EPA the permittee remains subject to all requirements of part 2.3.4.7.b.
 - v. The permittee shall submit all screening data used in compliance with this part in its Annual Report.
- c. Follow-up ranking of outfalls and interconnections:
- i. The permittee's outfall and interconnection ranking (2.3.4.7.a) shall be updated to reprioritize outfalls and interconnections based on information gathered during dry weather screening (part 2.3.4.7.b).
 - ii. Outfalls/interconnections where relevant information was found indicating sewer input to the MS4 or sampling results indicating sewer input⁶ shall be considered highly likely to contain illicit discharges from sanitary sources, and such outfalls/interconnections shall be ranked at the top of the High Priority Outfalls category for investigation. At this time, permittees may choose to rank other outfalls and interconnections based on any new information from the dry weather screening.
 - iii. The ranking can be updated continuously as dry weather screening information becomes available, but shall be completed within three (3) years of the effective date of the permit.

2.3.4.8. Catchment Investigations

The permittee shall develop a systematic procedure to investigate each catchment associated with an outfall or interconnection within their MS4 system.

a. Timelines:

- A written catchment investigation procedure shall be developed within 18 months of the permit effective date in accordance with the requirements of part 2.3.4.8.b below.
- Investigations of catchments associated with Problem Outfalls shall begin no later than two (2)

⁶ Likely sewer input indicators are any of the following:

- Olfactory or visual evidence of sewage,
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine.

years from the permit effective date.

- Investigations of catchments associated with High and Low Priority Outfalls shall follow the ranking of outfalls updated in part 2.3.4.7.c.
- Investigations of catchments associated with Problem Outfalls shall be completed with seven (7) years of the permit effective date
- Investigations of catchments where any information gathered on the outfall/interconnection identifies sewer input⁷ shall be completed within seven (7) years of the permit effective date.
- Investigations of catchments associated with all Problem, High- and Low-Priority Outfalls shall be completed within ten (10) years of the permit effective date.

*For the purposes of these milestones, an individual catchment investigation will be considered complete if all relevant procedures in part 2.3.4.8.c. and 2.3.4.8.d. below have been completed.

b. A written catchment investigation procedure shall be developed that:

- Identifies maps, historic plans and records, and other sources of data**, including but not limited to plans related to the construction of the storm drain and of sanitary sewers, prior work performed on the storm drains or sanitary sewers, board of health or other municipal data on septic system failures or required upgrades, and complaint records related to SSOs, sanitary sewer surcharges, and septic system breakouts. These data sources will be used in identifying system vulnerability factors within each catchment.
- Includes a manhole inspection methodology** that shall describe a storm drain network investigation that involves systematically and progressively observing, sampling (as required below) and evaluating key junction manholes (see definition in Appendix A) in the MS4 to determine the approximate location of suspected illicit discharges or SSOs. The manhole inspection methodology may either start from the outfall and work up the system or start from the upper parts of the catchment and work down the system or be a combination of both practices. Either method must, at a minimum, include an investigation of each key junction manhole within the MS4, even where no evidence of an illicit discharge is observed at the outfall. The manhole inspection methodology must describe the method the permittee will use. The manhole inspection methodology shall include procedures for dry and wet weather investigations.
- Establishes procedures to isolate and confirm sources of illicit discharges** where manhole investigations or other physical evidence or screening has identified that MS4 alignments are influenced by illicit discharges or SSOs. These shall include isolation of the drainage area for implementation of more detailed investigations, inspection of additional manholes along the alignment to refine the location of potential contaminant sources, and methods such as sandbagging key junction manhole inlets, targeted internal plumbing inspections, dye testing, video inspections, or smoke testing to isolate and confirm the sources.

c. Requirements for each catchment investigation associated with an outfall/interconnection:

- For each catchment being investigated, the permittee shall review relevant mapping and historic plans and records gathered in accordance with Part 2.3.4.8.b.i. This review shall be used to identify

⁷ Likely sewer input indicators are any of the following:

- Olfactory or visual evidence of sewage,
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
- Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine.

areas within the catchment with higher potential for illicit connections. The permittee shall identify and record the presence of any of the following specific **System Vulnerability Factors (SVFs)**:

- History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages;
- Common or twin-invert manholes serving storm and sanitary sewer alignments;
- Common trench construction serving both storm and sanitary sewer alignments;
- Crossings of storm and sanitary sewer alignments where the sanitary system is shallower than the storm drain system;
- Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
- Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints;
- Areas formerly served by combined sewer systems;
- Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.

EPA recommends the permittee include the following in their consideration of System Vulnerability Factors:

- Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs;
- Any sanitary sewer and storm drain infrastructure greater than 40 years old;
- Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance);
- History of multiple Board of Health actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance);

The permittee shall document the presence or absence of System Vulnerability Factors for each catchment, retain this documentation as part of its IDDE program, and report this information in Annual Reports. Catchments with a minimum of one (1) System Vulnerability Factor are subject to wet weather sampling requirements of part 2.3.4.8.c.ii.2.

ii. For each catchment, the permittee must inspect key junction manholes and gather catchment information on the locations of MS4 pipes, manholes, and the extent of the contributing catchment.

1. For all catchments

- a) Infrastructure information shall be incorporated into the permittee's mapping required at part 2.3.4.5; the permittee will refine their catchment delineation based on the field investigation where appropriate.
- b) The SVF inventory for the catchment will be updated based on information obtained during the inspection, including common (twin invert) manholes, directly piped connections between storm drains and sanitary sewer infrastructure, common weir walls, sanitary sewer underdrain connections and other structural vulnerabilities where sanitary discharges could enter the storm drain system during wet weather.

1) **Where a minimum of one (1) SVF is identified based on previous information**

or the investigation, a wet weather investigation must be conducted at the associated outfall (see below).

- c) During dry weather, key junction manholes⁸ shall be opened and inspected systematically for visual and olfactory evidence of illicit connections (e.g., excrement, toilet paper, gray filamentous bacterial growth, or sanitary products present).
 - 1) If flow is observed, the permittee shall sample the flow at a minimum for ammonia, chlorine and surfactants and can use field kits for these analyses.
 - 2) Where sampling results or visual or olfactory evidence indicate potential illicit discharges or SSOs, the area draining to the junction manhole shall be flagged for further upstream investigation.
 - d) Key junction and subsequent manhole investigations will proceed until the location of suspected illicit discharges or SSOs can be isolated to a pipe segment between two manholes. If no evidence of an illicit discharge is found, catchment investigations will be considered complete upon completion of key junction manhole sampling.
2. For all catchments with a minimum of one (1) SVF identified
- a) The permittee shall meet the requirements above for dry weather screening
 - b) The permittee shall inspect and sample under wet weather conditions to the extent necessary to determine whether wet weather-induced high flows in sanitary sewers or high groundwater in areas served by septic systems result in discharges of sanitary flow to the MS4.
 - 1) The permittee shall conduct at least one wet weather screening and sampling at the outfall that includes the same parameters required during dry weather screening, part 2.3.4.7.b.iii.4.
 - 2) Wet weather sampling and screening shall proceed during or after a storm event of sufficient depth or intensity to produce a stormwater discharge. EPA strongly recommends sampling during the spring (March through June) when groundwater levels are relatively high.
 - 3) The permit does not require a minimum rainfall event prior to wet weather screening. However, permittees may incorporate provisions that assist in targeting such discharges, including avoiding sampling during the initial period of discharge (“first flush”) and/or identifying minimum storm event intensities likely to trigger sanitary sewer interconnections.
 - c) This sampling can be done upon completion of any dry weather investigation but must be completed before the catchment investigation is marked as complete.
- iii. All data collected as part of the dry and wet weather catchment investigations shall be recorded and reported in each annual report.
- d. Identification/Confirmation of illicit source
Where the source of an illicit discharge has been approximated between two manholes in the permittee’s MS4, the permittee shall isolate and identify/confirm the source of the illicit discharge using more detailed methods identified in their written procedure (2.3.4.8.b.iii). For outfalls that contained evidence of an illicit discharge, catchment investigations will be considered complete upon

⁸ Where catchments do not contain junction manholes, the dry weather screening and sampling shall be considered as meeting the manhole inspection requirement. In these catchments, dry weather screenings that indicate potential presence of illicit discharges shall be further investigated pursuant to part 2.3.4.8.d. Investigations in these catchments may be considered complete where dry weather screening reveals no flow; no evidence of illicit discharges or SSOs is indicated through sampling results or visual or olfactory means; and no wet weather System Vulnerability Factors are identified.

confirmation of all illicit sources.

e. Illicit discharge removal

When the specific source of an illicit discharge is identified, the permittee shall exercise its authority as necessary to require its removal pursuant to part 2.3.4.2 or 2.3.4.3.

- i. For each confirmed source the permittee shall include in the annual report the following information:
 - the location of the discharge and its source(s);
 - a description of the discharge;
 - the method of discovery;
 - date of discovery;
 - date of elimination, mitigation or enforcement action OR planned corrective measures and a schedule for completing the illicit discharge removal; and
 - estimate of the volume of flow removed.
- ii. Within one year of removal of all identified illicit discharges within a catchment area, confirmatory outfall or interconnection screening shall be conducted. The confirmatory screening shall be conducted in dry weather unless System Vulnerability Factors have been identified, in which case both dry weather and wet weather confirmatory screening shall be conducted. If confirmatory screening indicates evidence of additional illicit discharges, the catchment shall be scheduled for additional investigation.

2.3.4.9. Indicators of IDDE Program Progress

The permittee shall define or describe indicators for tracking program success and evaluate and report on the overall effectiveness of the IDDE program in each annual report. At a minimum the permittee shall document in each annual report:

- the number of SSOs and illicit discharges identified and removed,
- the number and percent of total outfall catchments served by the MS4 evaluated using the catchment investigation procedure,
- all dry weather and wet weather screening and sampling results and
- the volume of sewage removed

2.3.4.10 Ongoing Screening

Upon completion of all catchment investigations pursuant to part 2.3.4.8.c and illicit discharge removal and confirmation (if necessary) pursuant to paragraph 2.3.4.8.e, each outfall or interconnection shall be reprioritized for screening in accordance with part 2.3.4.8.a and scheduled for ongoing screening once every five years. Ongoing screening shall consist of dry weather screening and sampling consistent with part 2.3.4.7.b; wet weather screening and sampling shall also be required at outfalls where wet weather screening was required due to SVFs and shall be conducted in accordance with part 2.3.4.8.c.ii. All sampling results shall be reported in the permittee's annual report.

2.3.4.11 Training

The permittee shall, at a minimum, annually provide training to employees involved in IDDE program about the program, including how to recognize illicit discharges and SSOs. The permittee shall report on the frequency and type of employee training in the annual report.

2.3.5. Construction Site Stormwater Runoff Control

Objective: The objective of an effective construction stormwater runoff control program is to minimize or eliminate erosion and maintain sediment on site so that it is not transported in stormwater and allowed to discharge to a water of the U.S through the permittee's MS4. The construction site stormwater runoff control program required by this permit is a separate and distinct program from EPA's stormwater construction permit program. (<http://cfpub1.epa.gov/npdes/stormwater/cgp.cfm>)

- a. Permittees shall implement and enforce a program to reduce pollutants in any stormwater runoff discharged to the MS4 from all construction activities that result in a land disturbance of greater than or equal to one acre within the regulated area. The permittee's program shall include disturbances less than one acre if that disturbance is part of a larger common plan of development or sale that would disturb one or more acres. Permittees authorized under the MS4-2003 permit shall continue to implement and enforce their existing program and modify as necessary to meet the requirements of this part.
- b. The permittee does not need to apply its construction program requirements to projects that receive a waiver from EPA under the provisions of 40 CFR § 122.26(b) (15) (i).
- c. The permittee shall develop and implement a construction site runoff control program that includes the elements in Paragraphs i. through v. of this part:
 - i. An ordinance or regulatory mechanism that requires the use of sediment and erosion control practices at construction sites. In addition to addressing sediment and erosion control, the ordinance must include controls for other wastes on construction sites such as demolition debris, litter and sanitary wastes. Development of an ordinance or other regulatory mechanism was a requirement of the MS4-2003 permit (See part II.B.4 and part IV.B.4). The ordinance or other regulatory mechanism required by the MS4-2003 permit shall have been effective by May 1, 2008.
 - ii. Written (hardcopy or electronic) procedures for site inspections and enforcement of sediment and erosion control measures. If not already existing, these procedures shall be completed within one (1) year from the effective date of the permit. The procedures shall clearly define who is responsible for site inspections as well as who has authority to implement enforcement procedures. The program shall provide that the permittee may, to the extent authorized by law, impose sanctions to ensure compliance with the local program. These procedures and regulatory authorities shall be documented in the SWMP.
 - iii. Requirements for construction site operators performing land disturbance activities within the MS4 jurisdiction that result in stormwater discharges to the MS4 to implement a sediment and erosion control program that includes BMPs appropriate for the conditions at the construction site. The program may include references to BMP design standards in state manuals, such as the Massachusetts Stormwater Handbook⁹, or design standards developed by the MS4. EPA supports and encourages the use of design standards in local programs. Examples of appropriate sediment and erosion control measures for construction sites include local requirements to:

⁹ The handbook is available at: <http://www.mass.gov/dep/water/laws/policies.htm#storm>

1. Minimize the amount of disturbed area and protect natural resources;
 2. Stabilize sites when projects are complete or operations have temporarily ceased;
 3. Protect slopes on the construction site;
 4. Protect all storm drain inlets and armor all newly constructed outlets;
 5. Use perimeter controls at the site;
 6. Stabilize construction site entrances and exits to prevent off-site tracking;
 7. Inspect stormwater controls at consistent intervals.
- iv. Requirements for construction site operators within the MS4 jurisdiction to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes. These wastes may not be discharged to the MS4.
- v. Written procedures for site plan review and inspection and enforcement. If not already existing, the procedures for site plan review and inspection and enforcement shall be completed within one (1) year from the effective date of the permit. The site plan review procedure shall include a pre-construction review by the permittee of the site design, the planned operations at the construction site, planned BMPs during the construction phase, and the planned BMPs to be used to manage runoff created after development. The review procedure shall incorporate procedures for the consideration of potential water quality impacts, and procedures for the receipt and consideration of information submitted by the public. The site plan review procedure shall also include evaluation of opportunities for use of low impact design and green infrastructure. When the opportunity exists, the permittee shall encourage project proponents to incorporate these practices into the site design. The procedures for site inspections conducted by the permittee shall include the requirement that inspections occur during construction of BMPs as well as after construction of BMPs to ensure they are working as described in the approved plans, clearly defined procedures for inspections including qualifications necessary to perform the inspections, the use of mandated inspection forms if appropriate, and procedure for tracking the number of site reviews, inspections, and enforcement actions. This tracking information shall be included as part of each annual report required by part 4.4.

2.3.6. Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management)

Objective: The objective of this control measure is to reduce the discharge of pollutants found in stormwater through the retention or treatment of stormwater after construction on new or redeveloped sites. For the purposes of this part (2.3.6.), the following definitions apply:

site is defined as the area extent of construction activities, including but not limited to the creation of new impervious cover and improvement of existing impervious cover (e.g. repaving not covered by 2.3.6.a.ii.4.d.)

new development is defined as any construction activities or land alteration resulting in total earth disturbances equal to or greater than 1 acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) on an area that has not previously been developed to include impervious cover.

redevelopment is defined as any construction, land alteration, or improvement of impervious surfaces resulting in total earth disturbances equal to or greater than 1 acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) that does not meet the definition of new development (see above).

- a. Permittees shall develop, implement, and enforce a program to address post-construction stormwater runoff from all new development and redevelopment sites that disturb one or more acres and discharge into the permittees MS4 at a minimum. Permittees authorized under the MS4-2003 permit shall continue to implement and enforce their program and modify as necessary to meet the requirements of this part.
 - i. The permittee's new development/ redevelopment program shall include sites less than one acre if the site is part of a larger common plan of development or redevelopment which disturbs one or more acre.
 - ii. The permittee shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within two (2) years of the effective date of the permit to contain provisions that are as least as stringent as the following:
 1. Low Impact Development (LID) site planning and design strategies must be used to the maximum extent feasible.
 2. The design of treatment and infiltration practices should follow the guidance in Volume 2 of the Massachusetts Stormwater Handbook, as amended, or other federally or State approved¹⁰ BMP design guidance.
 3. Stormwater management systems on new development sites shall be designed to:
 - a) Not allow new stormwater conveyances to discharge untreated stormwater in accordance with Massachusetts Stormwater Handbook Standard 1;
 - b) Control peak runoff rates in accordance with Massachusetts Stormwater Handbook Standard 2¹¹;
 - c) Recharge groundwater in accordance with Massachusetts Stormwater Handbook Standard 3¹²;
 - d) Eliminate or reduce the discharge of pollutants from land uses with higher pollutant loads as defined in the Massachusetts Stormwater Handbook in accordance with Massachusetts Stormwater Handbook Standard 5;
 - e) Protect Zone II or Interim Wellhead Protection Areas of public water supplies in accordance with Massachusetts Stormwater Handbook Standard 6¹³;
 - f) Implement long term maintenance practices in accordance with Massachusetts Stormwater Handbook Standard 9; and
 - g) Require that all stormwater management systems be designed to:
 - 1) Retain the volume of runoff equivalent to, or greater than, one (1.0) inch multiplied by the total post-construction impervious surface area on the

¹⁰ State approved includes any state in the United States, including, but not limited to, approved guidance by the Commonwealth of Massachusetts

¹¹ Requirement necessary for Section 401 water quality certification by Massachusetts

¹² Requirement necessary for Section 401 water quality certification by Massachusetts

¹³ Requirement necessary for Section 401 water quality certification by Massachusetts

site AND/OR

- 2) Remove 90% of the average annual load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site¹⁴ AND 60% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site¹⁴. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1, where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved¹⁵ BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.

4. Redevelopment Requirements

- a) Stormwater management systems on Redevelopment sites shall meet the following sections of part 2.3.6.a.ii.3 to the maximum extent feasible:
 - 1) Part 2.3.6.a.ii.3(a) (Massachusetts Stormwater Standard 1);
 - 2) Part 2.3.6.a.ii.3(b) (Massachusetts Stormwater Standard 2);
 - 3) Part 2.3.6.a.ii.3(c) (Massachusetts Stormwater Standard 3); and
 - 4) The pretreatment and structural best management practices requirements of 2.3.6.a.ii.3(d) and 2.3.6.a.ii.3(e) (Massachusetts Stormwater Standards 5 and 6).
- b) Stormwater management systems on Redevelopment sites shall also improve existing conditions by requiring that stormwater management systems be designed to:
 - 1) Retain the volume of runoff equivalent to, or greater than, 0.80 inch multiplied by the total post-construction impervious surface area on the site AND/OR
 - 2) Remove 80% of the average annual post-construction load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site AND 50% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1 where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.
- c) Stormwater management systems on redevelopment sites may utilize offsite mitigation within the same USGS HUC10 as the redevelopment site to meet the equivalent retention or pollutant removal requirements in part 2.3.6.a.ii.4(b).
- d) Redevelopment activities that are exclusively limited to maintenance and improvement of existing roadways, (including widening less than a single

¹⁴ The required removal percentage is not required for each storm, it is the average removal over a year that is required

¹⁵ See footnote 14

lane, adding shoulders, correcting substandard intersections, improving existing drainage systems, and repaving projects) shall improve existing conditions where feasible and are exempt from part 2.3.6.a.ii.4(a), part 2.3.6.a.ii.4(b) and part 2.3.6.a.ii.4(c). Roadway widening or improvements that increase the amount of impervious area on the redevelopment site by greater than or equal to a single lane width shall meet the requirements of part 2.3.6.a.ii.4(a) – (c) fully.

- iii. The permittee shall require, at a minimum, the submission of as-built drawings no later than two (2) years after completion of construction projects. The as-built drawings must depict all on site controls, both structural and non-structural, designed to manage the stormwater associated with the completed site (post construction stormwater management). The new development/redevelopment program shall have procedures to ensure adequate long-term operation and maintenance of stormwater management practices that are put in place after the completion of a construction project. These procedures may include the use of dedicated funds or escrow accounts for development projects or the acceptance of ownership by the permittee of all privately owned BMPs. These procedures may also include the development of maintenance contracts between the owner of the BMP and the permittee. Alternatively, these procedures may include the submission of an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures. The procedures to require submission of as-built drawings and ensure long term operation and maintenance shall be a part of the SWMP. The permittee shall report in the annual report on the measures that the permittee has utilized to meet this requirement.
- b. Within four (4) years of the effective date of this permit, the permittee shall develop a report assessing current street design and parking lot guidelines and other local requirements that affect the creation of impervious cover. This assessment shall be used to provide information to allow the permittee to determine if changes to design standards for streets and parking lots can be made to support low impact design options. If the assessment indicates that changes can be made, the assessment shall include recommendations and proposed schedules to incorporate policies and standards into relevant documents and procedures to minimize impervious cover attributable to parking areas and street designs. The permittee shall implement all recommendations, in accordance with the schedules, contained in the assessment. The local planning board and local transportation board should be involved in this assessment. This assessment shall be part of the SWMP. The permittee shall report in each annual report on the status of this assessment including any planned or completed changes to local regulations and guidelines.
- c. Within four (4) years from the effective date of the permit, the permittee shall develop a report assessing existing local regulations to determine the feasibility of making, at a minimum, the following practices allowable when appropriate site conditions exist:
 - i. Green roofs;
 - ii. Infiltration practices such as rain gardens, curb extensions, planter gardens, porous and pervious pavements, and other designs to manage stormwater using landscaping and structured or augmented soils; and
 - iii. Water harvesting devices such as rain barrels and cisterns, and the use of stormwater for non-potable uses.

The assessment should indicate if the practices are allowed in the MS4 jurisdiction and under what circumstances are they allowed. If the practices are not allowed, the permittee shall determine what hinders the use of these practices, what changes in local regulations may be made to make them allowable, and provide a schedule for implementation of recommendations. The permittee shall implement all recommendations, in accordance with the schedules, contained in the assessment. The permittee shall report in each annual report on its findings and progress towards making the practices allowable. (Information available at:

<http://www.epa.gov/region1/npdes/stormwater/assets/pdf/AddressingBarrier2LID.pdf> and <http://www.mapc.org/resources/low-impact-dev-toolkit/local-codes-lid>)

- d. Four (4) years from the effective date of this permit, the permittee shall identify a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs designed to reduce the frequency, volume, and pollutant loads of stormwater discharges to and from its MS4 through the reduction of impervious area. Properties and infrastructure for consideration shall include those with the potential for reduction of on-site impervious area (IA) as well as those that could provide reduction of off-site IA. At a minimum, the permittee shall consider municipal properties with significant impervious cover (including parking lots, buildings, and maintenance yards) that could be modified or retrofitted. MS4 infrastructure to be considered includes existing street right-of-ways, outfalls and conventional stormwater conveyances and controls (including swales and detention practices) that could be readily modified or retrofitted to provide reduction in frequency, volume or pollutant loads of such discharges through reduction of impervious cover.

In determining the potential for modifying or retrofitting particular properties, the permittee shall consider factors such as access for maintenance purposes; subsurface geology; depth to water table; proximity to aquifers and subsurface infrastructure including sanitary sewers and septic systems; and opportunities for public use and education. In determining its priority ranking, the permittee shall consider factors such as schedules for planned capital improvements to storm and sanitary sewer infrastructure and paving projects; current storm sewer level of service; and control of discharges to water quality limited waters, first or second order streams, public swimming beaches, drinking water supply sources and shellfish growing areas.

Beginning with the fifth year annual report and in each subsequent annual report, the permittee shall identify additional permittee owned sites and infrastructure that could be retrofitted such that the permittee maintains a minimum of 5 sites in their inventory, until such a time as when the permittee has less than 5 sites remaining. In addition, the permittee shall report on all properties that have been modified or retrofitted with BMPs to mitigate IA that were inventoried in accordance with this part. The permittee may also include in its annual report non-MS4 owned property that has been modified or retrofitted with BMPs to mitigate IA.

2.3.7. Good House Keeping and Pollution Prevention for Permittee Owned Operations

Objective: The permittee shall implement an operations and maintenance program for permittee-owned operations that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned operations.

- a. Operations and Maintenance Programs
 - i. Within two (2) years from the effective date of the permit, the permittee shall develop, if not already developed, written (hardcopy or electronic) operations and maintenance procedures for the municipal activities listed below in part 2.3.7.a.ii. These written procedures shall be included as part of the SWMP.

- ii. Within two (2) year of the effective date of this permit, the permittee shall develop an inventory of all permittee owned facilities within the categories listed below. The permittee shall review this inventory annually and update as necessary.
 1. Parks and open space: Establish procedures to address the proper use, storage, and disposal of pesticides, herbicides, and fertilizers including minimizing the use of these products and using only in accordance manufacturer's instruction. Evaluate lawn maintenance and landscaping activities to ensure practices are protective of water quality. Protective practices include reduced mowing frequencies, proper disposal of lawn clippings, and use of alternative landscaping materials (e.g., drought resistant planting). Establish pet waste handling collection and disposal locations at all parks and open space where pets are permitted, including the placing of proper signage concerning the proper collection and disposal of pet waste. Establish procedures to address waterfowl congregation areas where appropriate to reduce waterfowl droppings from entering the MS4. Establish procedures for management of trash containers at parks and open space (scheduled cleanings; sufficient number). Establish procedures to address erosion or poor vegetative cover when the permittee becomes aware of it; especially if the erosion is within 50 feet of a surface water.
 2. Buildings and facilities where pollutants are exposed to stormwater runoff: This includes schools (to the extent they are permittee-owned or operated), town offices, police, and fire stations, municipal pools and parking garages and other permittee-owned or operated buildings or facilities. Evaluate the use, storage, and disposal of petroleum products and other potential stormwater pollutants. Provide employee training as necessary so that those responsible for handling these products know proper procedures. Ensure that Spill Prevention Plans are in place, if applicable, and coordinate with the fire department as necessary. Develop management procedures for dumpsters and other waste management equipment. Sweep parking lots and keep areas surrounding the facilities clean to reduce runoff of pollutants.
 3. Vehicles and Equipment: Establish procedures for the storage of permittee vehicles. Vehicles with fluid leaks shall be stored indoors or containment shall be provided until repaired. Evaluate fueling areas owned or operated by the permittee. If possible, place fueling areas under cover in order to minimize exposure. Establish procedures to ensure that vehicle wash waters are not discharged to the municipal storm sewer system or to surface waters. This permit does not authorize such discharges.
- iii. Infrastructure Operations and Maintenance
 1. The permittee shall establish within two (2) year of the effective date of the permit a written (hardcopy or electronic) program detailing the activities and procedures the permittee will implement so that the MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4. If the permittee has an existing program to maintain its MS4 infrastructure in a timely manner to reduce or eliminate the discharge of pollutants from the MS4, the permittee shall document the program in the SWMP.

2. The permittee shall optimize routine inspections, cleaning and maintenance of catch basins such that the following conditions are met:
 - Prioritize inspection and maintenance for catch basins located near construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
 - Establish a schedule with a goal that the frequency of routine cleaning will ensure that no catch basin at anytime will be more than 50 percent full.
 - If a catch basin sump is more than 50 percent full during two consecutive routine inspections/cleaning events, the permittee shall document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the extent practicable, abate contributing sources. The permittee shall describe any actions taken in its annual report.
 - For the purposes of this part, an excessive sediment or debris loading is a catch basin sump more than 50 percent full. A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.
 - The permittee shall document in the SWMP and in the first annual report its plan for optimizing catch basin cleaning, inspection plans, or its schedule for gathering information to develop the optimization plan. Documentation shall include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4. The permittee shall keep a log of catch basins cleaned or inspected.
 - The permittee shall report in each annual report the total number of catch basins, number inspected, number cleaned, and the total volume or mass of material removed from all catch basins.

3. The permittee shall establish and implement procedures for sweeping and/or cleaning streets, and permittee-owned parking lots. All streets with the exception of rural uncurbed roads with no catch basins or high speed limited access highways shall be swept and/or cleaned a minimum of once per year in the spring (following winter activities such as sanding). The procedures shall also include more frequent sweeping of targeted areas determined by the permittee on the basis of pollutant load reduction potential, based on inspections, pollutant loads, catch basin cleaning or inspection results, land use, water quality limited or TMDL waters or other relevant factors as determined by the permittee. The permittee shall report in each annual report the number of miles cleaned or the volume or mass of material removed.

For rural uncurbed roadways with no catch basins and limited access highways, the permittee shall either meet the minimum frequencies above, or develop and implement an inspection, documentation and targeted sweeping plan within two (2) year of the effective date of the permit, and submit such plan with its year one annual report.

4. The permittee shall ensure proper storage of catch basin cleanings and street sweepings prior to disposal or reuse such that they do not discharge to receiving

waters. These materials should be managed in compliance with current MassDEP policies:

- For catch basins cleanings:
<http://www.mass.gov/eea/agencies/massdep/recycle/regulations/management-of-catch-basin-cleanings.html>
 - For street sweepings:
<http://www.mass.gov/eea/docs/dep/recycle/laws/stsweep.pdf>.
5. The permittee shall establish and implement procedures for winter road maintenance including the use and storage of salt and sand; minimize the use of sodium chloride and other salts, and evaluate opportunities for use of alternative materials; and ensure that snow disposal activities do not result in disposal of snow into waters of the United States. For purposes of this MS4 Permit, salt shall mean any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.
 6. The permittee shall establish and implement inspection and maintenance frequencies and procedures for all stormwater treatment structures such as water quality swales, retention/detention basins, infiltration structures, proprietary treatment devices or other similar structures. All permittee-owned stormwater treatment structures (excluding catch basins) shall be inspected annually at a minimum.
- iv. The permittee shall report in the annual report on the status of the inventory required by this part and any subsequent updates; the status of the O&M programs for the permittee-owned facilities and activities in part 2.3.7.a.ii; and the maintenance activities associated with each.
 - v. The permittee shall keep a written (hardcopy or electronic) record of all required activities including but not limited to maintenance activities, inspections and training required by part 2.3.7.a. The permittee shall maintain, consistent with part 4.2.a, all records associated with maintenance and inspection activities required by part 2.3.7.a.

b. Stormwater Pollution Prevention Plan (SWPPP)

The permittee shall develop and fully implement a SWPPP for each of the following permittee-owned or operated facilities: maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater as determined by the permittee. If facilities are located at the same property, the permittee may develop one SWPPP for the entire property. The SWPPP is a separate and different document from the SWMP required in part 1.10. A SWPPP does not need to be developed for a facility if the permittee has either developed a SWPPP or received a no exposure certification for the discharge under the Multi-Sector General Permit or the discharge is authorized under another NPDES permit.

- i. No later than two (2) years from the effective date of the permit, the permittee shall develop and implement a written (hardcopy or electronic) SWPPP for the facilities described above. The SWPPP shall be signed in accordance with the signatory requirements of Appendix B – Subparagraph 11.

ii. The SWPPP shall contain the following elements:

1. Pollution Prevention Team

Identify the staff on the team, by name and title. If the position is unstaffed, the title of the position should be included and the SWPPP updated when the position is filled. The role of the team is to develop, implement, maintain, and revise, as necessary, the SWPPP for the facility.

2. Description of the facility and identification of potential pollutant sources

The SWPPP shall include a map of the facility and a description of the activities that occur at the facility. The map shall show the location of the stormwater outfalls, receiving waters, and any structural controls. Identify all activities that occur at the facility and the potential pollutants associated with each activity including the location of any floor drains. These may be included as part of the inventory required by part 2.3.7.a.

3. Identification of stormwater controls

The permittee shall select, design, install, and implement the control measures detailed in paragraph iv below to prevent or reduce the discharge of pollutants from the permittee owned facility.

The selection, design, installation, and implementation of the control measures shall be in accordance with good engineering practices and manufacturer's specifications. The permittee shall also take all reasonable steps to control or address the quality of discharges from the site that may not originate at the facility.

If the discharge from the facility is to a water quality limited water and the facility has the potential to discharge the pollutant identified as causing the water quality limitation, the permittee shall identify the control measures that will be used to address this pollutant at the facility so that the discharge does not cause or contribute to a violation of a water quality standard.

4. The SWPPP shall include the following management practices:

- a) Minimize or Prevent Exposure: The permittee shall to the extent practicable either locate materials and activities inside, or protect them with storm-resistant coverings in order to prevent exposure to rain, snow, snowmelt and runoff (although significant enlargement of impervious surface area is not recommended). Materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged directly or indirectly to surface waters or to the MS4 or if discharges are authorized under another NPDES permit.
- b) Good Housekeeping: The permittee shall keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals. Ensure that trash containers are closed when not in use, keep storage areas well swept and free from leaking or damaged containers; and store leaking vehicles needing repair indoors.
- c) Preventative Maintenance: The permittee shall regularly inspect, test, maintain, and repair all equipment and systems to avoid situations that

may result in leaks, spills, and other releases of pollutants in stormwater to receiving waters. Inspections shall occur at a minimum once per quarter.

- d) Spill Prevention and Response: The permittee shall minimize the potential for leaks, spills, and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, the permittee shall have procedures that include:
- Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling.
 - Response procedures that include notification of appropriate facility personnel, emergency agencies, and regulatory agencies, and procedures for stopping, containing, and cleaning up leaks, spills and other releases. Measures for cleaning up hazardous material spills or leaks shall be consistent with applicable Resource Conservation and Recovery Act (RCRA) regulations at 40 CFR section 264 and 40 CFR section 265. Employees who may cause, detect, or respond to a spill or leak shall be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of the Pollution Prevention Team; and
 - Contact information for individuals and agencies that shall be notified in the event of a leak, spill, or other release. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under 40 CFR section 110, 40 CFR section 117, or 40 CFR section 302, occurs during a 24-hour period, the permittee shall notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR section 110, 40 CFR section 117, and 40 CFR section 302 as soon as the permittee has knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency, public health or drinking water supply agencies, and owners of public drinking water supplies. Contact information shall be in locations that are readily accessible and available.
- e) Erosion and Sediment Control: The permittee shall use structural and non-structural control measures at the facility to stabilize and contain runoff from exposed areas and to minimize or eliminate onsite erosion and sedimentation. Efforts to achieve this may include the use of flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion.
- f) Management of Runoff: The permittee shall manage stormwater runoff from the facility to prevent or reduce the discharge of pollutants. This may include management practices which divert runoff from areas that

are potential sources of pollutants, contain runoff in such areas, or reuse, infiltrate or treat stormwater to reduce the discharge of pollutants.

- g) Salt Storage Piles or Piles Containing Salt: For storage piles of salt or piles containing salt used for deicing or other purposes (including maintenance of paved surfaces) for which the discharge during precipitation events discharges to the permittee's MS4, any other storm sewer system, or to a Water of the US, the permittee shall prevent exposure of the storage pile to precipitation by enclosing or covering the storage piles. Such piles shall be enclosed or covered within two (2) years of the permit effective date. The permittee shall implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. The permittee is encouraged to store piles in such a manner as not to impact surface water resources, ground water resources, recharge areas, and wells.
- h) Employee Training: The permittee shall regularly train employees who work in areas where materials or activities are exposed to stormwater, or who are responsible for implementing activities identified in the SWPPP (e.g., inspectors, maintenance personnel), including all members of the Pollution Prevention Team. Training shall cover both the specific components and scope of the SWPPP and the control measures required under this part, including spill response, good housekeeping, material management practices, any best management practice operation and maintenance, etc. EPA recommends annual training.

The permittee shall document the following information for each training:

- The training date, title and training duration;
 - List of municipal attendees;
 - Subjects covered during training
- i) Maintenance of Control Measures: The permittee shall maintain all control measures, required by this permit in effective operating condition. The permittee shall keep documentation onsite that describes procedures and a regular schedule for preventative maintenance of all control measures and discussions of back-up practices in place should a runoff event occur while a control measure is off-line. Nonstructural control measures shall also be diligently maintained (e.g., spill response supplies available, personnel trained).

iii. The permittee shall conduct the following inspections:

1. Site Inspections: Inspect all areas that are exposed to stormwater and all stormwater control measures. Inspections shall be conducted at least once each calendar quarter. More frequent inspections may be required if significant activities are exposed to stormwater. Inspections shall be performed when the facility is in operation. At least one of the quarterly inspections shall occur during a period when a stormwater discharge is occurring.

The permittee shall document the following information for each facility inspection:

- The inspection date and time;
- The name of the inspector;
- Weather information and a description of any discharge occurring at the time of the inspection;
- Identification of any previously unidentified discharges from the site;
- Any control measures needing maintenance or repair;
- Any failed control measures that need replacement.
- Any SWPPP changes required as a result of the inspection.

If during the inspections, or any other time, the permittee identifies control measures that need repair or are not operating effectively, the permittee shall repair or replace them before the next anticipated storm event if possible, or as soon as practicable following that storm event. In the interim, the permittee shall have back-up measures in place.

The permittee shall report the findings from the Site Inspections in the annual report.

- iv. The permittee must keep a written (hardcopy or electronic) record of all required activities including but not limited to maintenance, inspections, and training required by part 2.3.7.b. The permittee shall maintain all records associated with the development and implementation of the SWPPP required by this part consistent with the requirements of part 4.2.

3.0. Additional Requirements for Discharges to Surface Drinking Water Supplies and Their Tributaries

- a. Permittees which discharge to public surface drinking water supply sources (Class A and Class B surface waters used for drinking water) or their tributaries should consider these waters a priority in the implementation of the SWMP.
- b. Permittees should provide pretreatment and spill control measures to stormwater discharges to public drinking water supply sources or their tributaries to the extent feasible.
- c. Direct discharges to Class A waters should be avoided to the extent feasible.

4.0. Program Evaluation, Record Keeping, and Reporting

4.1. Program Evaluation

- a. The permittee shall annually self-evaluate its compliance with the terms and conditions of this permit and submit each self-evaluation in the Annual Report. The permittee shall also maintain the annual evaluation documentation as part of the SWMP.
- b. The permittee shall evaluate the appropriateness of the selected BMPs in achieving the objectives of each control measure and the defined measurable goals. Where a BMP is found to be ineffective the permittee shall change BMPs in accordance with the provisions below. In addition, permittees may augment or change BMPs at any time following the provisions below:

- Changes adding (but not subtracting or replacing) components or controls may be made at any time.
- Changes replacing an ineffective or infeasible BMP specifically identified in the SWMP with an alternative BMP may be made as long as the basis for the changes is documented in the SWMP by, at a minimum:
 - An analysis of why the BMP is ineffective or infeasible;
 - Expectations on the effectiveness of the replacement BMP; and
 - An analysis of why the replacement BMP is expected to achieve the defined goals of the BMP to be replaced.

The permittee shall indicate BMP modifications along with a brief explanation of the modification in each Annual Report.

- c. EPA or MassDEP may require the permittee to add, modify, repair, replace or change BMPs or other measures described in the annual reports as needed:
- To address impacts to receiving water quality caused or contributed to by discharges from the MS4; or
 - To satisfy conditions of this permit

Any changes requested by EPA or MassDEP will be in writing and will set forth the schedule for the permittee to develop the changes and will offer the permittee the opportunity to propose alternative program changes to meet the objective of the requested modification.

4.2. Record Keeping

- a. The permittee shall keep all records required by this permit for a period of at least five years. EPA may extend this period at any time. Records include information used in the development of any written (hardcopy or electronic) program required by this permit, any monitoring results, copies of reports, records of screening, follow-up and elimination of illicit discharges; maintenance records; inspection records; and data used in the development of the notice of intent, SWMP, SWPPP, and annual reports. This list provides examples of records that should be maintained, but is not all inclusive.
- b. Records other than those required to be included in the annual report, part 4.4, shall be submitted only when requested by the EPA or the MassDEP.
- c. The permittee shall make the records relating to this permit, including the written (hardcopy or electronic) stormwater management program, available to the public. The public may view the records during normal business hours. The permittee may charge a reasonable fee for copying requests. The permittee is encouraged to satisfy this requirement by posting records online.

4.3. Outfall Monitoring Reporting

- a. The permittee shall monitor and sample its outfalls at a minimum through sampling and testing at the frequency and locations required in connection with IDDE screening under part 2.3.4.7.b. and 2.3.4.8.c.ii.2. The monitoring program may also include additional outfall and interconnection monitoring as determined by the permittee in connection with assessment of SWMP effectiveness

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pursuant to part 4.1; evaluation of discharges to water quality limited waters pursuant to part 2.2; assessment of BMP effectiveness pursuant to part 2.2 or 2.3; or otherwise.

- b. The permittee shall document all monitoring results each year in the annual report. The report shall include the date, outfall or interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results of all analyses. The annual report shall include all of this information and data for the current reporting period and for the entire permit period.
- c. The permittee shall also include in the annual report results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period where that data is being used by the permittee to inform permit compliance or program effectiveness. If such monitoring or studies were conducted on behalf of the permittee, or if monitoring or studies conducted by other entities were reported to the permittee, a brief description of the type of information gathered or received shall be included in the annual report(s) covering the time period(s) the information was received.

4.4. Annual Reports

- a. The permittee shall submit annual reports each year of the permit term. The reporting period will be a one year period commencing on the permit effective date, and subsequent anniversaries thereof, except that the first annual report under this permit shall also cover the period from May 1, [year of final permit issuance] to the permit effective date. The annual report is due ninety days from the close of each reporting period.
- b. The annual reports shall contain the following information:
 - i. A self-assessment review of compliance with the permit terms and conditions.
 - ii. An assessment of the appropriateness of the selected BMPs.
 - iii. The status of any plans or activities required by part 2.1 and/ or part 2.2, including:
 - Identification of all discharges determined to be causing or contributing to an exceedance of water quality standards and description of response including all items required by part 2.1.1;
 - For discharges subject to TMDL related requirements, identification of specific BMPs used to address the pollutant identified as the cause of impairment and assessment of the BMPs effectiveness at controlling the pollutant (part 2.2.1. and Appendix F) and any deliverables required by Appendix F;
 - For discharges to water quality limited waters a description of each BMP required by Appendix H and any deliverables required by Appendix H.
 - iv. An assessment of the progress towards achieving the measurable goals and objectives of each control measure in part 2.3 including:
 - Evaluation of the public education program including a description of the targeted messages for each audience; method of distribution and dates of distribution; methods used to evaluate the program; and any changes to the program.
 - Description of the activities used to promote public participation including documentation of compliance with state public notice regulations.

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- Description of the activities related to implementation of the IDDE program including: status of the map; status and results of the illicit discharge potential ranking and assessment; identification of problem catchments; status of all protocols described in part 2.3.4.(program responsibilities and systematic procedure); number and identifier of catchments evaluated; number and identifier of outfalls screened; number of illicit discharges located; number of illicit discharges removed; gallons of flow removed; identification of tracking indicators and measures of progress based on those indicators; and employee training.
 - Evaluation of the construction runoff management including number of project plans reviewed; number of inspections; and number of enforcement actions.
 - Evaluation of stormwater management for new development and redevelopment including status of ordinance development (2.3.6.a.ii.), review and status of the street design assessment(2.3.6.b.), assessments to barriers to green infrastructure (2.3.6.c), and retrofit inventory status (2.3.6.d.)
 - Status of the O&M Programs required by part 2.3.7.a.
 - Status of SWPPP required by part 2.3.7.b. including inspection results.
 - Any additional reporting requirements in part 3.0.
- v. All outfall screening and monitoring data collected by or on behalf of the permittee during the reporting period and cumulative for the permit term, including but not limited to all data collected pursuant to part 2.3.4. The permittee shall also provide a description of any additional monitoring data received by the permittee during the reporting period.
- vi. Description of activities for the next reporting cycle.
- vii. Description of any changes in identified BMPs or measurable goals.
- viii. Description of activities undertaken by any entity contracted for achieving any measurable goal or implementing any control measure.
- c. Reports shall be submitted to EPA at the following address:

United State Environmental Protection Agency
Stormwater and Construction Permits Section (OEP06-1)
Five Post Office Square, Suite 100
Boston, MA 02109

Massachusetts Department of Environmental Protection
One Winter Street – 5th Floor
Boston, MA 02108
ATTN: Frederick Civian

Or submitted electronically to EPA at the following email address: stormwater.reports@epa.gov. After December 21, 2020 all Annual Reports must be submitted electronically.

5.0. Non-Traditional MS4s

Non-traditional MS4s are MS4s owned and operated by the Commonwealth of Massachusetts, counties or other public agencies within the Commonwealth of Massachusetts, and properties owned and operated by the United States (Federal Facilities) within the Commonwealth of Massachusetts. This part addresses all non-traditional MS4s except MS4s that are owned or operated by transportation agencies, which are addressed in part 6.0 below.

5.1. Requirements for Non-Traditional MS4s

All requirements and conditions of parts 1 – 4 above apply to all Non-traditional MS4s, except as specifically provided below:

5.1.1. Public education

For the purpose of this permit, the audiences for a Non-traditional MS4 include the employees, clients and customers (including students at education MS4s), visitors to the property, tenants, long term contractors and any other contractors working at the facility where the MS4 is located. The permittee may use some of the educational topics included in part 2.3.2.d. as appropriate, or may focus on topics specific to the MS4. The permittee shall document the educational topics for each target audience in the SWMP and annual reports.

5.1.2. Ordinances and regulatory mechanisms

Some Non-traditional MS4s may not have authority to enact an ordinance, by-law, or other regulatory mechanisms. MS4s without the authority to enact an ordinance shall ensure that written policies or procedures are in place to address the requirements of part 2.3.4.5., part 2.3.4.6 and part 2.3.6.a.

5.1.3. Assessment of Regulations

Non-traditional MS4s do not need to meet the requirements of part 2.3.6.c.

5.1.4. New Dischargers

New MS4 facilities are subject to additional water quality-based requirements if they fall within the definition of “new discharger” under 40 CFR § 122.2: “A new discharger is any building, structure, facility or installation (a) from which there is or may be a ‘discharge of pollutants’ (b) that did not commence the ‘discharge of pollutants’ at a particular ‘site’ prior to August 13, 1979; (c) which is not a ‘new source’; and (d) which never received a finally effective NPDES permit for discharges at that ‘site.’ The term “site” is defined in § 122.2 to mean “the land or water area where any ‘facility or activity’ is physically located or conducted including adjacent land used in connection with the facility or activity.”

Consistent with these definitions, a Non-traditional MS4 is a “new discharger” if it discharges stormwater from a new facility with an entirely new separate storm sewer system that is not physically located on the same or adjacent land as an existing facility and associated system operated by the same MS4.

Any Non-traditional MS4 facility that is a “new discharger” and discharges to a waterbody listed in category 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water

Act section 303(d) and 305(b) due to nutrients (Total Nitrogen or Total Phosphorus), metals (Cadmium, Copper, Iron, Lead or Zinc), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enterococcus or Fecal Coliform), chloride (Chloride) or oil and grease (Petroleum Hydrocarbons or Oil and Grease), or discharges to a waterbody with an approved TMDL for any of those pollutants, is not eligible for coverage under this permit and shall apply for an individual permit.

Any Non-traditional MS4 facility that is a “new discharger” and discharges to a waterbody that is in attainment is subject to Massachusetts antidegradation regulations at 314 CMR 4.04. The permittee shall comply with the provisions of 314 CMR 4.04 including information submittal requirements and obtaining authorization for new discharges where appropriate¹⁶. Any authorization of new discharges by MassDEP shall be incorporated into the permittee's SWMP. If an applicable MassDEP approval specifies additional conditions or requirements, then those requirements are incorporated into this permit by reference. The permittee must comply with all such requirements.

6.0 Requirements for MS4s Owned or Operated by Transportation Agencies

This part applies to all MS4s owned or operated by any state or federal transportation agency (except Massachusetts Department of Transportation –MassDOT- Highway Division, which is subject to a separate individual permit). All requirements and conditions of this permit apply with the following exceptions:

6.1 Public education

For the purpose of this permit, the audiences for a transportation agency education program include the general public (users of the roadways), employees, and any contractors working at the location. The permittee may use some of the educational topics included in part 2.3.2.d. as appropriate, or may focus on topics specific to the agency. The permittee shall document the educational topics for each target audience.

6.2 Ordinances and regulatory mechanisms

The transportation agency may not have authority to enact an ordinance, by-law or other regulatory mechanisms. The agency shall ensure that written agency policies or procedures are in place to address the requirements of part 2.3.4.5., part 2.3.4.6 and part 2.3.6.a.

6.3 Assessment of regulations

Non-traditional MS4s do not need to meet the requirements of part 2.3.6.c.

6.4 New Dischargers

New MS4 facilities are subject to additional water quality-based requirements if they fall within the definition of “new dischargers” under 40 CFR § 122.2: “A new discharger is any building, structure, facility or installation (a) from which there is or may be a ‘discharge of pollutants’ (b) that did not commence the ‘discharge of pollutants’ at a particular ‘site’ prior to August 13, 1979; (c) which is not a ‘new source’; and (d) which never received a finally effective NPDES permit for discharges at that ‘site.’ The term “site” is defined in § 122.2 to mean “the land or water area where any ‘facility or activity’ is physically located or conducted including adjacent land used in connection with the facility or activity.”

¹⁶ Contact MassDEP for guidance on compliance with 314 CMR 4.04

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Consistent with these definitions, a new transportation MS4 is a “new discharger” if it discharges stormwater from a new facility with an entirely new separate storm sewer system that is not physically located on the same or adjacent land as an existing facility and associated system operated by the same MS4.

Any transportation MS4 facility that is a “new discharger” and discharges to a waterbody listed as impaired in category 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b) due to nutrients (Total Nitrogen or Total Phosphorus), metals (Cadmium, Copper, Iron, Lead or Zinc), solids (TSS or Turbidity), bacteria/pathogens (E. Coli, Enterococcus or Fecal Coliform), chloride (Chloride) or oil and grease (Petroleum Hydrocarbons or Oil and Grease), or discharges to a waterbody with an approved TMDL for any of those pollutants, is not eligible for coverage under this permit and shall apply for an individual permit.

Any transportation MS4 facility that is a “new discharger” and discharges to a waterbody that is in attainment is subject to Massachusetts antidegradation regulations at 314 CMR 4.04. The permittee shall comply with the provisions of 314 CMR 4.04 including information submittal requirements and obtaining authorization for new discharges where appropriate¹⁷. Any authorization of new discharges by MassDEP shall be incorporated into the permittee's SWMP. If an applicable MassDEP approval specifies additional conditions or requirements, then those requirements are incorporated into this permit by reference. The permittee must comply with all such requirements. |

¹⁷ Contact MassDEP for guidance on compliance with 314 CMR 4.04

Appendix A

Definitions, Abbreviations and Acronyms

Definitions

Best Management Practices (BMPs) - schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Common Plan of Development - A "larger common plan of development or sale" is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan. For example, if a developer buys a 20-acre lot and builds roads, installs pipes, and runs electricity with the intention of constructing homes or other structures sometime in the future, this would be considered a larger common plan of development or sale. If the land is parceled off or sold, and construction occurs on plots that are less than one acre by separate, independent builders, this activity still would be subject to stormwater permitting requirements if the smaller plots were included on the original site plan.

Control Measure - refers to any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

Director - a Regional Administrator of the Environmental Protection Agency or an authorized representative.

Discharge - when used without qualification, means the "discharge of a pollutant."

Discharge of a pollutant - any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into waters of the United States from surface runoff which is collected or channeled by man; or discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

Discharge-related activities - activities which cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction and operation of BMPs to control, reduce, or prevent pollution in the discharges.

Disturbance - action to alter the existing vegetation and/or underlying soil of a site, such as clearing, grading, site preparation (e.g., excavating, cutting, and filling), soil compaction, and movement and stockpiling of top soils.

Existing Discharger – an operator applying for coverage under this permit for discharges covered previously under an NPDES general or individual permit.

Facility or Activity - any NPDES “point source” or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

Federal Facility – Any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the federal government.

Illicit Discharge - any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

Impaired Water – A water is impaired if it does not meet one or more of its designated use(s). For purposes of this permit, “impaired” refers to categories 4 and 5 of the five-part categorization approach used for classifying the water quality standards attainment status for water segments under the TMDL program. Impaired waters compilations are also sometimes referred to as “303(d) lists.” Category 5 waters are impaired because at least one designated use is not being supported or is threatened and a TMDL is needed. Category 4 waters indicate that at least one designated use is not being supported but a TMDL is not needed (4a indicates that a TMDL has been approved or established by EPA; 4b indicates other required control measures are expected in result in the attainment of water quality standards in a reasonable period of time; and 4c indicates that the non-attainment of the water quality standard is the result of pollution (e.g. habitat) and is not caused by a pollutant). See *USEPA’s 2006 Integrated Report Guidance, July 29, 2005* for more detail on the five part categorization of waters [under EPA National TMDL Guidance <http://www.epa.gov/owow/tmdl/policy.html>]).

Impervious Surface- Any surface that prevents or significantly impedes the infiltration of water into the underlying soil. This can include but is not limited to: roads, driveways, parking areas and other areas created using non porous material; buildings, rooftops, structures, artificial turf and compacted gravel or soil.

Industrial Activity - the ten categories of industrial activities included in the definition of “stormwater discharges associated with industrial activity,” as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi).

Industrial Stormwater - stormwater runoff associated with the definition of “stormwater discharges associated with industrial activity.”

Interconnection – the point (excluding sheet flow over impervious surfaces) where the permittee’s MS4 discharges to another MS4 or other storm sewer system, through which the discharge is eventually conveyed to a water of the United States. Interconnections shall be treated similarly to outfalls throughout the permit.

Junction Manhole - For the purposes of this permit, a junction manhole is a manhole or structure with two or more inlets accepting flow from two or more MS4 alignments. Manholes with inlets solely from private storm drains, individual catch basins, or both are not considered junction manholes for these purposes.

Key Junction Manhole - For the purposes of this permit, key junction manholes are those junction manholes that can represent one or more junction manholes without compromising adequate implementation of the illicit discharge program. Adequate implementation of the illicit discharge program would not be compromised if the exclusion of a particular junction manhole as a key junction manhole would not affect the permittee's ability to determine the possible presence of an upstream illicit discharge. A permittee may exclude a junction manhole located upstream from another located in the immediate vicinity or that is serving a drainage alignment with no potential for illicit connections.

Municipal Separate Storm Sewer - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
- (ii) Designed or used for collecting or conveying stormwater;
- (iii) Which is not a combined sewer; and
- (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Municipal Separate Storm Sewer System (MS4) - means all separate storm sewers that are defined as "large" or "medium" or "small" municipal storm sewer systems pursuant to paragraphs 40 CFR 122.26 (b)(4) and (b)(7), or designated under paragraph 40 126.26(a) (1)(v). For the purposes of this permit "MS4" may also refer to the permittee with jurisdiction over the sewer system.

New Development – any construction activities or land alteration resulting in total earth disturbances greater than 1 acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) on an area that has not previously been developed to include impervious cover. (see part 2.3.6. of the permit)

New Discharger – For the purposes of this permit, a new discharger is an entity that discharges stormwater from a new facility with an entirely new separate storm sewer system that is not physically located on the same or adjacent land as an existing facility and associated system operated by the same MS4.

New Source - any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- S after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or
- S after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

New Source Performance Standards (NSPS) – Technology-based standards for facilities that qualify as new sources under 40 CFR 122.2 and 40 CFR 122.29.

No exposure - all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff.

One Lane Width – The width of the travel lane for a roadway. Lane width does not include shoulders, curbs, and on-street parking areas.

Outfall Catchment – The land area draining to a single outfall or interconnection. The extent of an outfall’s catchment is determined not only by localized topography and impervious cover but also by the location of drainage structures and the connectivity of MS4 pipes.

Owner or operator - the owner or operator of any “facility or activity” subject to regulation under the NPDES program.

Person - an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point source - any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant - dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water.

Pollutant of concern – A pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in a State's 303(d) list.

Redevelopment – for the purposes of part 2.3.6., any construction, land alteration, or improvement of impervious surfaces resulting in total earth disturbances greater than 1

acre (or activities that are part of a larger common plan of development disturbing greater than 1 acre) that does not meet the definition of new development (see above).

Reportable Quantity Release – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 177, and 302 for complete definitions and reportable quantities for which notification is required.

Runoff coefficient - the fraction of total rainfall that will appear at the conveyance as runoff.

Significant materials - includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

Site – for the purposes of part 2.3.6., the area extent of construction activities, including but not limited to the creation of new impervious cover and improvement of existing impervious cover (e.g. repaving not covered by 2.3.6.a.ii.4.d.)

Small Municipal Separate Storm Sewer System – all separate storm sewer systems that are (i) owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district, or drainage district, or similar entity or an Indian tribe or an authorized Indian tribal organization or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States, and (ii) not defined as “large” or “medium” municipal separate storm sewer system pursuant to paragraphs 40 CFR 122.26 (b)(4) and (b)(7), or designated under paragraph 40 126.26(a) (1)(v). This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. This term does not include separate storm sewers in very discrete areas, such as individual buildings.

Small MS4 – means a small municipal separate storm sewer system.

Stormwater - stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Discharges Associated with Construction Activity - a discharge of pollutants in stormwater runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating), construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial

stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located. (See 40 CFR 122.26(b)(14)(x) and 40 CFR 122.26(b)(15).

Stormwater Discharges Associated with Industrial Activity - the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in Appendix D of this permit. The term also includes those facilities designated under the provisions of 40 CFR 122.26(a)(1)(v).

Total Maximum Daily Loads (TMDLs) - A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. (See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7).

Urbanized Area – US Census designated area comprised of a densely settled core of census tracts and/or census blocks that meet minimum population density requirements, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. For the purposes of this permit, Urbanized Areas as defined by any Census since 2000 remain subject to stormwater regulation even if there is a change in the reach of the Urbanized Area because of a change in more recent Census data.

Water Quality Limited Water – for the purposes of this permit, a water quality limited water is any waterbody that does not meet applicable water quality standards, including but not limited to waters listed in categories 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b).

Water Quality Standards - A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. States and EPA adopt WQS to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (See CWA sections 101(a)2 and 303(c)).

ABBREVIATIONS AND ACRONYMS

BMP – Best Management Practice

BPJ – Best Professional Judgment

CGP – Construction General Permit

CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 *et seq*)

DCIA – Directly Connected Impervious Area

EPA – U. S. Environmental Protection Agency

ESA – Endangered Species Act

USFWS – U. S. Fish and Wildlife Service

IA – Impervious Area

IDDE – Illicit Discharge Detection and Elimination

LA – Load Allocations

MOS – Margin of Safety

MS4 – Municipal Separate Storm Sewer System

MSGP – Multi-Sector General Permit

NHPA – National Historic Preservation Act

NMFS – U. S. National Marine Fisheries Service

NOI – Notice of Intent

NPDES – National Pollutant Discharge Elimination System

NRHP – National Register of Historic Places

NSPS – New Source Performance Standard

NTU – Nephelometric Turbidity Unit

PCP – Phosphorus Control Plan (pertaining to Charles River Watershed phosphorus TMDL requirements only – Appendix F Part A.I)

LPCP – Lake Phosphorus Control Plan (pertaining to Lake or pond phosphorus TMDL requirements only – Appendix F Part A.II)

POTW – Publicly Owned Treatment Works

RCRA – Resource Conservation and Recovery Act

SHPO – State Historic Preservation Officer

SIC – Standard Industrial Classification

SPCC – Spill Prevention, Control, and Countermeasure

SWMP – Stormwater Management Program

SWPPP – Stormwater Pollution Prevention Plan

TMDL – Total Maximum Daily Load

TSS – Total Suspended Solids

USGS – United States Geological Survey
WLA – Wasteload Allocation
WQS – Water Quality Standard

Appendix B

Standard Permit Conditions

Standard Permit Conditions

Standard permit conditions in Appendix B are consistent with the general permit provisions required under 40 CFR 122.41.

B.1. Duty To Comply

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- A. You must comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
- B. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (61 FR 252, December 31, 1996, pp. 69359-69366, as corrected in 62 FR 54, March 20, 1997, pp.13514-13517) as mandated by the Debt Collection Improvement Act of 1996 for inflation on a periodic basis. This rule allows EPA's penalties to keep pace with inflation. The Agency is required to review its penalties at least once every 4 years thereafter and to adjust them as necessary for inflation according to a specified formula. The civil and administrative penalties following were adjusted for inflation starting in 1996.
 1. *Criminal Penalties.*
 - a. *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation or by imprisonment of not more than two years, or both.
 - b. *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a

second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.

- c. *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than \$250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision be subject to a fine of not more than \$1,000,000 and can fined up to \$2,000,000 for second or subsequent convictions.
 - d. *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
2. *Civil Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$32,500 per day for each violation).
 3. *Administrative Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

- 3.1. *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$11,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$32,500).
- 3.2. *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$157,500).

B.2. Duty to Reapply

If you wish to continue an activity regulated by this permit after the expiration date of this permit, you must apply for and obtain a new permit.

B.3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for you in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B.4. Duty to Mitigate

You must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

B.5. Proper Operation and Maintenance

You must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by you to achieve compliance with the conditions of this permit, including the requirements of your SWPPP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by you only when the operation is necessary to achieve compliance with the conditions of this permit.

B.6. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. Your filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B.7. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privileges.

B.8. Duty to Provide Information

You must furnish to EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), within a reasonable time, any information which EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. You must also furnish to EPA upon request, copies of records required to be kept by this permit.

B.9. Inspection and Entry

You must allow EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), upon presentation of credentials and other documents as may be required by law, to:

- A. Enter upon your premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

B.10. Monitoring and Records

- A. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.
- B. You must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of EPA at any time.
- C. Records of monitoring information must include:
 1. The date, exact place, and time of sampling or measurements;
 2. The individual(s) who performed the sampling or measurements;
 3. The date(s) analyses were performed

4. The individual(s) who performed the analyses;
 5. The analytical techniques or methods used; and
 6. The results of such analyses.
- D. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in the permit.
- E. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

B.11. Signatory Requirements

- A. All applications, including NOIs, must be signed as follows:
1. For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 2. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or
 3. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

- B. All reports, including SWPPPs, inspection reports, annual reports, monitoring reports, reports on training and other information required by this permit must be signed by a person described in Appendix B, Subsection 11.A above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
1. The authorization is made in writing by a person described in Appendix B, Subsection 11.A;
 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 3. The signed and dated written authorization is included in the SWPPP. A copy must be submitted to EPA, if requested.
- C. Changes to Authorization. If an authorization under Appendix B, Subsection 11.B is no longer accurate because a different operator has responsibility for the overall operation of the industrial facility, a new NOI satisfying the requirements of Subsection 11.B must be submitted to EPA prior to or together with any reports, information, or applications to be signed by an authorized representative.
- D. Any person signing documents required under the terms of this permit must include the following certification:
- “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”
- E. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

B.12. Reporting Requirements

- A. **Planned changes.** You must give notice to EPA as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or
 2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.42(a)(1).
- B. **Anticipated noncompliance.** You must give advance notice to EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- C. **Transfers.** This permit is not transferable to any person except after notice to EPA. EPA may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See 40 CFR §122.61; in some cases, modification or revocation and reissuance is mandatory.)
- D. **Monitoring reports.** Monitoring results must be reported at the intervals specified elsewhere in this permit.
1. Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms (paper or electronic) provided or specified by EPA for reporting results of monitoring of sludge use or disposal practices.
 2. If you monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by EPA.
 3. Calculations for all limitations which require averaging of measurements must use an arithmetic mean and non-detected results must be incorporated in calculations as the limit of quantitation for the analysis.
- E. **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.
- F. **Twenty-four hour reporting.**
1. You must report any noncompliance which may endanger health or the environment. Any information must be provided orally within 24 hours

from the time you become aware of the circumstances. A written submission must also be provided within five days of the time you become aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. The following shall be included as information which must be reported within 24 hours under this paragraph.
 - a. Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)
 - b. Any upset which exceeds any effluent limitation in the permit
 - c. Violation of a maximum daily discharge limitation for any of the pollutants listed by EPA in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).)
 3. EPA may waive the written report on a case-by-case basis for reports under Appendix B, Subsection 12.F.2 if the oral report has been received within 24 hours.
- G. Other noncompliance. You must report all instances of noncompliance not reported under Appendix B, Subsections 12.D, 12.E, and 12.F, at the time monitoring reports are submitted. The reports must contain the information listed in Appendix B, Subsection 12.F.
- H. Other information. Where you become aware that you failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Permitting Authority, you must promptly submit such facts or information.

B.13. Bypass

- A. Definitions.
1. Bypass means the intentional diversion of waste streams from any portion of a treatment facility
 2. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- B. Bypass not exceeding limitations. You may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential

maintenance to assure efficient operation. These bypasses are not subject to the provisions of Appendix B, Subsections 13.C and 13.D.

C. Notice.

1. Anticipated bypass. If you know in advance of the need for a bypass, you must submit prior notice, if possible at least ten days before the date of the bypass.
2. Unanticipated bypass. You must submit notice of an unanticipated bypass as required in Appendix B, Subsection 12.F (24-hour notice).

D. Prohibition of bypass.

1. Bypass is prohibited, and EPA may take enforcement action against you for bypass, unless:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - c. You submitted notices as required under Appendix B, Subsection 13.C.
2. EPA may approve an anticipated bypass, after considering its adverse effects, if EPA determines that it will meet the three conditions listed above in Appendix B, Subsection 13.D.1.

B.14. Upset

- A. Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- B. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Appendix B, Subsection 14.C are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

- C. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
1. An upset occurred and that you can identify the cause(s) of the upset;
 2. The permitted facility was at the time being properly operated; and
 3. You submitted notice of the upset as required in Appendix B, Subsection 12.F.2.b (24 hour notice).
 4. You complied with any remedial measures required under Appendix B, Subsection 4.
- D. Burden of proof. In any enforcement proceeding, you, as the one seeking to establish the occurrence of an upset, has the burden of proof.

APPENDIX C ENDANGERED SPECIES GUIDANCE

A. Background

In order to meet its obligations under the Clean Water Act and the Endangered Species Act (ESA), and to promote the goals of those Acts, the Environmental Protection Agency (EPA) is seeking to ensure the activities regulated by this general permit do not adversely affect endangered and threatened species or critical habitat. Applicants applying for permit coverage must assess the impacts of their stormwater discharges and discharge-related activities on federally listed endangered and threatened species (“listed species”) and designated critical habitat (“critical habitat”) to ensure that those goals are met. Prior to obtaining general permit coverage, applicants must meet the ESA eligibility provisions of this permit by following the steps in this Appendix¹.

Applicants also have an independent ESA obligation to ensure that their activities do not result in any prohibited “take” of listed species². The term “Take” is used in the ESA to include harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. “Harm” is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering. “Harass” is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Many of the measures required in this general permit and in these instructions to protect species may also assist in ensuring that the applicant’s activities do not result in a prohibited take of species in violation of section 9 of the ESA. If the applicant has plans or activities in an area where endangered and threatened species are located, they may wish to ensure that they are protected from potential take liability under ESA section 9 by obtaining an ESA section 10 permit or by requesting formal consultation under ESA section 7. Applicants that are unsure whether to pursue a section 10 permit or a section 7 consultation for takings protection should confer with the appropriate United States Fish and Wildlife Service (USFWS) office or the National Marine Fisheries Service (NMFS), (jointly the Services).

Currently, there are 20 species of concern for applicants applying for permit coverage, namely the Dwarf wedgemussel (*Alasmidonta heterodon*), Northeastern bulrush (*Scirpus ancistrochaetus*), Sandplain gerardia (*Agalinis acuta*), Piping Plover (*Charadrius melodus*), Roseate Tern (*Sterna dougallii*), Northern Red-bellied cooter (*Pseudemys rubriventis*), Bog Turtle (*Glyptemys muhlenbergii*), Small whorled Pogonia (*Isotria medeoloides*), Puritan tiger beetle (*Cicindela puritana*), American burying beetle (*Nicrophorus americanus*), Northeastern beach tiger beetle (*Cicindela dorsalis*), Northern Long-eared Bat (*Myotis septentrionalis*), Atlantic Sturgeon (*Acipenser oxyrinchus*), Shortnose Sturgeon (*Acipenser brevirostrum*), North Atlantic Right Whale (*Eubalaena glacialis*), Humpback Whale (*Megaptera novaengliae*), Fin Whale (*Balaenoptera physalus*), Kemp’s Ridley Sea Turtle (*Lepidochelys kempii*), Loggerhead Sea Turtle (*Caretta caretta*), Leatherback Sea Turtle (*Dermochelys coriacea*), and the Green Turtle (*Chelonia*

¹ EPA strongly encourages applicants to begin this process at the earliest possible stage to ensure the notification requirements for general permit coverage are complete upon Notice of Intent (NOI) submission.

² Section 9 of the ESA prohibits any person from “taking” a listed species (e.g. harassing or harming it) unless: (1) the taking is authorized through an “incidental take statement” as part of completion of formal consultation according to ESA section 7; (2) where an incidental take permit is obtained under ESA section 10 (which requires the development of a habitat conversion plan; or (3) where otherwise authorized or exempted under the ESA. This prohibition applies to all entities including private individuals, businesses, and governments.

mydas). The Atlantic Sturgeon, Shortnose Sturgeon, North Atlantic Right Whale, Humpback Whale, Fin Whale, Loggerhead Sea Turtle, Kemp's Ridley Sea Turtle, Leatherback Sea Turtle and Green Turtle are listed under the jurisdiction of NMFS. The Dwarf wedgemussel, Northeastern bulrush, Sandplain gerardia, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Small whorled Pogonia, Roseate Tern, Puritan tiger beetle, Northeastern beach tiger beetle, Northern Long-eared Bat and American burying beetle are listed under the jurisdiction of the U.S. Fish and Wildlife Service.

Any applicant seeking coverage under this general permit, must consult with the Services where appropriate. When listed species are present, permit coverage is only available if EPA determines, or the applicant determines and EPA concurs, that the discharge or discharge related activities will have "no affect" on the listed species or critical habitat, or the applicant or EPA determines that the discharge or discharge related activities are "not likely to adversely affect" listed species or critical habitat and formal or informal consultation with the Services has been concluded and results in written concurrence by the Services that the discharge is "not likely to adversely affect" an endangered or threatened species or critical habitat.

EPA may designate the applicants as non-Federal representatives for the general permit for the purpose of carrying out formal or informal consultation with the Services (See 50 CFR §402.08 and §402.13). By terms of this permit, EPA has automatically designated operators as non-Federal representatives for the purpose of conducting formal or informal consultation with the U.S. Fish and Wildlife Service. EPA has not designated operators as non-Federal representatives for the purpose of conducting formal or informal consultation with the National Marine Fisheries Service. EPA has determined that discharges from MS4s are not likely to adversely affect listed species or critical habitat under the jurisdiction of the National Marine Fisheries Service. EPA has initiated informal consultation with the National Marine Fisheries Service on behalf of all permittees and no further action is required by permittees in order to fulfill ESA requirements of this permit related to species under the jurisdiction of NMFS

B. The U.S. Fish and Wildlife Service ESA Eligibility Process

Before submitting a notice of intent (NOI) for coverage by this permit, applicants must determine whether they meet the ESA eligibility criteria by following the steps in Section B of this Appendix. Applicants that cannot meet the eligibility criteria in Section B must apply for an individual permit.

The USFWS ESA eligibility requirements of this permit relating to the Dwarf wedgemussel, Northeastern bulrush, Sandplain gerardia, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Small whorled Pogonia, Roseate Tern, Puritan tiger beetle, Northeastern beach tiger beetle, Northern Long-eared Bat and American burying beetle may be satisfied by documenting that one of the following criteria has been met:

USFWS Criterion A: No endangered or threatened species or critical habitat are in proximity to the stormwater discharges or discharge related activities.

USFWS Criterion B: In the course of formal or informal consultation with the Fish and Wildlife Service, under section 7 of the ESA, the consultation resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by USFWS on a finding that the stormwater discharges and

discharge related activities are “not likely to adversely affect” listed species or critical habitat (informal consultation).

USFWS Criterion C: Using the best scientific and commercial data available, the effect of the stormwater discharge and discharge related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the applicant and affirmed by EPA, that the stormwater discharges and discharge related activities will have “no affect” on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the USFWS.

1. The Steps to Determine if the USFWS ESA Eligibility Criteria Can Be Met

To determine eligibility, you must assess the potential effects of your known stormwater discharges and discharge related activities on listed species or critical habitat, PRIOR to completing and submitting a Notice of Intent (NOI). You must follow the steps outlined below and document the results of your eligibility determination.

Step 1 – Determine if you can meet USFWS Criterion A

USFWS Criterion A: You can certify eligibility, according to USFWS Criterion A, for coverage by this permit if, upon completing the Information, Planning, and Conservation (IPaC) online system process, you printed and saved the preliminary determination which indicated that federally listed species or designated critical habitats are not present in the action area. See Attachment 1 to Appendix C for instructions on how to use IPaC.

If you have met USFWS Criterion A skip to Step # 4.

If you have not met USFWS Criterion A, go to Step # 2.

Step 2 – Determine if You Can Meet Eligibility USFWS Criteria B

USFWS Criterion B: You can certify eligibility according to USFWS Criteria B for coverage by this permit if you answer “Yes” to **all** of the following questions:

- 1) Does your action area contain one or more of the following species: Sandplain gerardia, Small whorled Pogonia, American burying beetle, Dwarf wedgemussel, Northeastern bulrush, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Roseate Tern, Puritan tiger beetle, and Northeastern beach tiger beetle?
AND
- 2) Did your assessment of the discharge and discharge related activities indicate that the discharge or discharge related activities “may affect” or are “not likely to adversely affect” listed species or critical habitat?
AND
- 3) Did you contact the USFWS and did the formal or informal consultation result in either a “no jeopardy” opinion by the USFWS (for formal consultation) or concurrence by the

USFWS that your activities would be “not likely to adversely affect” listed species or critical habitat (for informal consultation)?

AND

- 4) Do you agree to implement all measures upon which the consultation was conditioned?
- 5) Do you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the NOI that you will re-initiate informal or formal consultation with USFWS as necessary?

Use the guidance below Step 3 to understand effects determination and to answer these questions.

If you answered “Yes” to all four questions above, you have met eligibility USFWS Criteria B. Skip to Step 4.

If you answered “No” to any of the four questions above, go to Step 3.

Step 3 – Determine if You Can Meet Eligibility USFWS Criterion C

USFWS Criterion C: You can certify eligibility according to USFWS Criterion C for coverage by this permit if you answer “Yes” to both of the following question:

- 1) Does your action area contain one or more of the following species: Northern Long-eared Bat, Sandplain gerardia, Small whorled Pogonia and/or American burying beetle and **does not** contain one any following species: Dwarf wedgemussel, Northeastern bulrush, Piping Plover, Northern Red-bellied cooter, Bog Turtle, Roseate Tern, Puritan tiger beetle, and Northeastern beach tiger beetle?³
- OR
- 2) Did the assessment of your discharge and discharge related activities and indicate that there would be “no affect” on listed species or critical habitat and EPA provided concurrence with your determination?
- 3) Do you agree that if, during the course of the permit term, you plan to install a structural BMP not identified in the NOI that you will to conduct an endangered species screening for the proposed site and contact the USFWS if you determine that the new activity “may affect” or is “not likely to adversely affect” listed species or critical habitat under the jurisdiction of the USFWS.

Use the guidance below to understand effects determination and to answer these questions.

If you answered “Yes” to both the question above, you have met eligibility USFWS Criterion C. Go to Step 4.

If you answered “No” to either of the questions above, you are not eligible for coverage by this permit. You must submit an application for an individual permit for your stormwater discharges. (See 40 CFR 122.21).

USFWS Effects Determination Guidance:

If you are unable to certify eligibility under USFWS Criterion A, you must assess whether your stormwater discharges and discharge-related activities “may affect”, will have “no affect” or are “not likely to adversely affect” listed species or critical habitat. “Discharge-related activities” include: activities which cause, contribute to, or result in point source stormwater pollutant discharges; and measures to provide treatment for stormwater discharges including the siting, construction and operational procedures to control, reduce or prevent water pollution. Please be aware that no protection from incidental take liability is provided under this criterion.

The scope of effects to consider will vary with each system. If you are having difficulty in determining whether your system is likely to cause adverse effects to a listed species or critical habitat, you should contact the USFWS for assistance. In order to complete the determination of effects it may be necessary to follow the formal or informal consultation procedures in section 7 of the ESA.

Upon completion of your assessment, document the results of your effects determination. If your results indicate that stormwater discharges or discharge related activities will have “no affect” on threatened or endangered species or critical habitat and EPA concurs with your determination, you are eligible under USFWS Criterion C of this Appendix. Your determination may be based on measures that you implement to avoid, eliminate, or minimized adverse effects.

If the determination is “May affect” or “not likely to adversely affect” you must contact the USFWS to discuss your findings and measures you could implement to avoid, eliminate, or minimize adverse effects. If you and the USFWS reach agreement on measures to avoid adverse effects, you are eligible under USFWS Criterion B. Any terms and/or conditions to protect listed species and critical habitat that you relied on in order to complete an adverse effects determination, must be incorporated into your Storm Water Management Program (required by this permit) and implemented in order to maintain permit eligibility.

If endangered species issues cannot be resolved: If you cannot reach agreement with the USFWS on measures to avoid or eliminate adverse effects then you are not eligible for coverage under this permit. You must seek coverage under an individual permit.

Effects from stormwater discharges and discharge-related activities which could pose an adverse effect include:

- *Hydrological:* Stormwater discharges may cause siltation, sedimentation, or induce other changes in receiving waters such as temperature, salinity or pH. These effects will vary with the amount of stormwater discharged and the volume and condition of the receiving water. Where a discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely.
- *Habitat:* Excavation, site development, grading and other surface disturbance activities, including the installation or placement of treatment equipment may adversely affect listed species or their habitat. Stormwater from the small MS4 may inundate a listed species habitat.

- *Toxicity*: In some cases, pollutants in the stormwater may have toxic effects on listed species.

Step 4 - Document Results of the Eligibility Determination

Once the USFWS ESA eligibility requirements have been met, you shall include documentation of USFWS ESA eligibility in the Storm Water Management Program required by the permit. Documentation for the various eligibility criteria are as follows:

- USFWS Criterion A: A copy of the IPaC generated preliminary determination letter indicating that no listed species or critical habitat is present within your action area. You shall also include a statement on how you determined that no listed species or critical habitat are in proximity to your stormwater system or discharges.
- USFWS Criterion B: A dated copy of the USFWS letter of concurrence on a finding of “no jeopardy” (for formal consultation) or “not likely to adversely affect” (for informal consultation) regarding the ESA section 7 consultation.
- USFWS Criterion C: A dated copy of the EPA concurrence with the operator’s determination that the stormwater discharges and discharge-related activities will have “no affect” on listed species or critical habitat.

C. Submittal of Notice of Intent

Once the ESA eligibility requirements of Part C of this Appendix have been met you may submit the Notice of Intent indicating which Criterion you have met to be eligible for permit coverage. Signature and submittal of the NOI constitutes your certification, under penalty of law, of eligibility for permit coverage under 40 CFR 122.21.

D. Duty to Implement Terms and Conditions upon which Eligibility was Determined

You must comply with any terms and conditions imposed under the ESA eligibility requirements to ensure that your stormwater discharges and discharge related activities do not pose adverse effects or jeopardy to listed species and/or critical habitat. You must incorporate such terms and conditions into your Storm Water Management Program as required by this permit. If the ESA eligibility requirements of this permit cannot be met, then you may not receive coverage under this permit and must apply for an individual permit.

E. Services Information

United States Fish and Wildlife Service Office

National websites for Endangered Species Information:

Endangered Species home page: <http://endangered.fws.gov>

ESA Section 7 Consultations: <http://endangered.fws.gov/consultation/index.html>

Information, Planning, and Conservation System (IPAC): <http://ecos.fws.gov/ipac/>

U.S. FWS – Region 5
Supervisor

New England Field Office
U.S. Fish and Wildlife Services
70 Commercial Street, Suite 300
Concord, NH 03301

Natural Heritage Network

The Natural Heritage Network comprises 75 independent heritage program organizations located in all 50 states, 10 Canadian provinces, and 12 countries and territories located throughout Latin America and the Caribbean. These programs gather, manage, and distribute detailed information about the biological diversity found within their jurisdictions. Developers, businesses, and public agencies use natural heritage information to comply with environmental laws and to improve the environmental sensitivity of economic development projects. Local governments use the information to aid in land use planning.

The Natural Heritage Network is overseen by NatureServe, the Network's parent organization, and is accessible on-line at: http://www.natureserve.org/nhp/us_programs.htm, which provides websites and other access to a large number of specific biodiversity centers.

U.S. Fish and Wildlife IPaC system instructions

Use the following protocol to determine if any federally listed species or designated critical habitats under USFWS jurisdiction exist in your action area:

Enter your project specific information into the “Initial Project Scoping” feature of the Information, Planning, and Conservation (IPaC) system mapping tool, which can be found at the following location:

<http://ecos.fws.gov/ipac/>

- a. Indicate the action area¹ for the MS4 by either:
 - a. Drawing the boundary on the map or by uploading a shapefile.
Select “Continue”

- c. Click on the “SEE RESOURCE LIST” button and on the next screen you can export a trust resources list. This will provide a list of natural resources of concern, which will include an Endangered Species Act Species list. You may also request an official species list under “REGULATORY DOCUMENTS” Save copies and retain for your records

¹ The action area is defined by regulation as all areas to be affected directly or indirectly by the action and not merely the immediate area involved in the action (50 CFR §402.02). This analysis is not limited to the "footprint" of the action nor is it limited by the Federal agency's authority. Rather, it is a biological determination of the reach of the proposed action on listed species. Subsequent analyses of the environmental baseline, effects of the action, and levels of incidental take are based upon the action area.

The documentation used by a Federal action agency to initiate consultation should contain a description of the action area as defined in the Services' regulations and explained in the Services' consultation handbook. If the Services determine that the action area as defined by the action agency is incorrect, the Services should discuss their rationale with the agency or applicant, as appropriate. Reaching agreement on the description of the action area is desirable but ultimately the Services can only consult when an action area is defined properly under the regulations.

For storm water discharges or discharge related activities, the action area should encompass the following:

- The immediate vicinity of, or nearby, the point of discharge into receiving waters.
- The path or immediate area through which or over which storm water flows from the municipality to the point of discharge into the receiving water. This includes areas in the receiving water downstream from the point of discharge.
- Areas that may be impacted by construction or repair activities. This extends as far as effects related to noise (from construction equipment, power tools, etc.) and light (if work is performed at night) may reach.

The action area will vary with the size and location of the outfall pipe, the nature and quantity of the storm water discharges, and the type of receiving waters, among other factors.

Appendix D

National Historic Preservation Act Guidance

Background

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of Federal “undertakings” on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. The term federal “undertaking” is defined in the NHPA regulations to include a project, activity, or program of a federal agency including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, and those requiring a federal permit, license or approval. See 36 CFR 800.16(y). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within such properties. See 36 CFR 800.16(1).

EPA’s issuance of a National Pollutant Discharge Elimination System (NPDES) General Permit is a federal undertaking within the meaning of the NHPA regulations and EPA has determined that the activities to be carried out under the general permit require review and consideration, in order to be in compliance with the federal historic preservation laws and regulations. Although individual submissions for authorization under the general permit do not constitute separate federal undertakings, the screening processes provides an appropriate site-specific means of addressing historic property issues in connection with EPA’s issuance of the permit. To address any issues relating to historic properties in connection with the issuance of this permit, EPA has included a screening process for applicants to identify whether properties listed or eligible for listing on the National Register of Historic Places are within the path of their discharges or discharge-related activities (including treatment systems or any BMPs relating to the discharge or treatment process) covered by this permit.

Applicants seeking authorization under this general permit must comply with applicable, State, Tribal, and local laws concerning the protection of historic properties and places and may be required to coordinate with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and others regarding effects of their discharges on historic properties.

Activities with No Potential to Have an Effect on Historic Properties

A determination that a federal undertaking has no potential to have an effect on historic properties fulfills an agency’s obligations under NHPA. EPA has reason to believe that the vast majority of activities authorized under this general permit will have no potential effects on historic properties. This permit typically authorizes discharges from existing facilities and requires control of the pollutants discharged from the facility. EPA does not anticipate effects on historic properties from the pollutants in the authorized discharges. Thus, to the extent EPA’s issuance of this general permit authorizes discharges of such constituents, confined to existing channels, outfalls or natural drainage areas, the permitting action does not have the potential to cause effects on historical properties.

In addition, the overwhelming majority of sources covered under this permit will be facilities that are seeking renewal of previous permit authorization. These existing dischargers should have already addressed NHPA issues in the previous general permit as they were required to certify that they were either not affecting historic properties or they had obtained written agreement from

the applicable SHPO or THPO regarding methods of mitigating potential impacts. To the extent this permit authorizes renewal of prior coverage without relevant changes in operations the discharge has no potential to have an effect on historic properties.

Activities with Potential to Have an Effect on Historic Properties

EPA believes this permit may have some potential to have an effect on historic properties the applicant undertakes the construction and/or installation of control measures that involve subsurface disturbance that involves less than 1 acre of land. (Ground disturbances of 1 acre or more require coverage under the Construction General Permit.) Where there is disturbance of land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if the applicant is establishing new or altering existing control measures to manage their discharge that will involve subsurface ground disturbance of less than 1 acre, they will need to ensure (1) that historic properties will not be impacted by their activities or (2) that they are in compliance with a written agreement with the SHPO, THPO, or other tribal representative that outlines all measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Examples of Control Measures Which Involve Subsurface Disturbance

The type of control measures that are presumptively expected to cause subsurface ground disturbance include:

- Dikes
- Berms
- Catch basins, drainage inlets
- Ponds, bioretention areas
- Ditches, trenches, channels, swales
- Culverts, pipes
- Land manipulation; contouring, sloping, and grading
- Perimeter Drains
- Installation of manufactured treatment devices

EPA cautions applicants that this list is non-inclusive. Other control measures that involve earth disturbing activities that are not on this list must also be examined for the potential to affect historic properties.

Certification

Upon completion of this screening process the applicant shall certify eligibility for this permit using one of the following criteria on their Notice of Intent for permit coverage:

Criterion A: The discharges do not have the potential to cause effects on historic properties.

Criterion B: A historic survey was conducted. The survey concluded that no historic properties are present. Discharges do not have the potential to cause effects on historic properties.

Criterion C: The discharges and discharge related activities have the potential to have an effect on historic properties, and the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Authorization under the general permit is available only if the applicant certifies and documents permit eligibility using one of the eligibility criteria listed above. Small MS4s that cannot meet any of the eligibility criteria in above must apply for an individual permit.

Screening Process

Applicants or their consultant need to answer the questions and follow the appropriate procedures below to assist EPA in compliance with 36 CFR 800.

Question 1: Is the facility an existing facility authorized by the previous permit or a new facility and the applicant is not undertaking any activity involving subsurface land disturbance less than an acre?

YES - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.

The applicant should certify eligibility for this permit using Criterion A on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has “no potential to cause effects” (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

NO- Go to Question 2.

Question 2: Is the property listed in the National Register of Historic Places or have prior surveys or disturbances revealed the existence of a historic property or artifacts?

NO - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.

The applicant should certify eligibility for this permit using Criterion B on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has “no potential to cause effects” (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

YES - The applicant or their consultant should prepare a complete information submittal to the SHPO. The submittal consists of:

- Completed Project Notification Form- forms available at <http://www.sec.state.ma.us/mhc/mhcform/formidx.htm>;

- USGS map section with the actual project boundaries clearly indicated; and
- Scaled project plans showing existing and proposed conditions.

(1) Please note that the SHPO does not accept email for review. Please mail a paper copy of your submittal (Certified Mail, Return Receipt Requested) or deliver a paper copy of your submittal (and obtain a receipt) to:

State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Blvd.
Boston MA 02125.

(2) Provide a copy of your submittal and the proof of MHC delivery showing the date MHC received your submittal to:

NPDES Permit Branch Chief
US EPA Region 1 (OEP06-1)
5 Post Office Square, Suite 100
Boston MA 02109-3912.

The SHPO will comment within thirty (30) days of receipt of complete submittals, and may ask for additional information. Consultation, as appropriate, will include EPA, the SHPO and other consulting parties (which includes the applicant). The steps in the federal regulations (36 CFR 800.2 to 800.6, etc.) will proceed as necessary to conclude the Section 106 review for the undertaking. **The applicant should certify eligibility for this permit using Criterion C on their Notice of Intent for permit coverage.**

Part I: General Conditions

General Information

Name of Municipality or Organization: [text box] State [dropdown]

EPA NPDES Permit Number: [text box]

Primary MS4 Program Manager Contact Information

Name: [text box] Title: [text box]

Street Address Line 1 [text box]

Street Address Line 2 [text box]

City [text box] State [dropdown] Zip Code 12345-6789

Email: [text box] Phone Number: (123) 456-7890

Fax Number: [text box]

Other Information

[checkbox] Check the box if your municipality or organization was covered under the 2003 MS4 General Permit

Stormwater Management Program (SWMP) Location (web address or physical location): [text box]

Eligibility Determination

Endangered Species Act (ESA) Determination Complete? [dropdown] Eligibility Criteria (check all that apply): [checkbox] A [checkbox] B [checkbox] C [checkbox] D [checkbox] E [checkbox] F

National Historic Preservation Act (NHPA) Determination Complete? [dropdown] Eligibility Criteria (check all that apply): [checkbox] A [checkbox] B [checkbox] C [checkbox] D

MS4 Infrastructure (if covered under the 2003 permit)

Estimated Percent of Outfall Map Complete? (Part II,III,IV or V, Subpart B.3.(a.) of 2003 permit) [dropdown] If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY): [text box]

Web address where MS4 map is published: [text box]

If outfall map is unavailable on the internet an electronic or paper copy of the outfall map must be included with NOI submission (see section V for submission options)

Regulatory Authorities (if covered under the 2003 permit)

Illicit Discharge Detection and Elimination (IDDE) Authority Adopted?: (Part II,III,IV or V, Subpart B.3.(b.) of 2003 permit) [dropdown] Effective Date or Estimated Date of Adoption (MM/DD/YY): [text box]

Construction/Erosion and Sediment Control (ESC) Authority Adopted?: (Part II,III,IV or V, Subpart B.4.(a.) of 2003 permit) [dropdown] Effective Date or Estimated Date of Adoption (MM/DD/YY): [text box]

Post- Construction Stormwater Management Adopted?: (Part II,III,IV or V, Subpart B.5.(a.) of 2003 permit) [dropdown] Effective Date or Estimated Date of Adoption (MM/DD/YY): [text box]

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part II: Summary of Receiving Waters

Please list the waterbody segments to which your MS4 discharges. For each waterbody segment, please report the number of outfalls discharging into it and, if applicable, any impairments.

For Massachusetts list of impaired waters click here: [Massachusetts 2010 List of Impaired Waters http://www.mass.gov/dep/water/resources/10list6.pdf](http://www.mass.gov/dep/water/resources/10list6.pdf)

For New Hampshire list of impaired waters click here: [New Hampshire Final 303\(d\) Materials: http://des.nh.gov/organization/divisions/water/wmb/swqa/2010/index.htm](http://des.nh.gov/organization/divisions/water/wmb/swqa/2010/index.htm)

Source of pollutants column should be completed with a preliminary source evaluation of pollutants for discharges to impaired waterbodies (see above 303(d) lists) without an approved TMDL in accordance with Section 2.2.2a of the permit

Waterbody segment that receives flow from the MS4	Number of outfalls into receiving water segment	Pollutant list (select one at a time to add)	Click impairment at left to add, or at right to remove	Pollutant(s) causing impairment, if applicable (select one at a time to remove)
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	

		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total)	Add/Remove	

		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	
		Chlorophyll-a Dissolved oxygen saturation Escherichia coli Mercury Nitrogen (Total) Oxygen, Dissolved	Add/Remove	

Click to lengthen table

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

BMP Categorization (enter your own text to override the drop down menu)	BMP Description	Responsible Department/Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)
SSO inventory			Develop SSO inventory within 1 year of effective date of permit
Storm sewer system map			Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit
Written IDDE program development			Complete within 1.5 years of the effective date of permit
Implement IDDE Program			Implement catchment investigations according to program and permit conditions
Employee Training			Train annually
Conduct dry weather screening			Conduct in accordance with outfall screening procedure and permit conditions
Conduct wet weather screening			Conduct in accordance with outfall screening procedure and permit conditions
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Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/ Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP implementation
As-built plans for on-site stormwater control	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP.		Require submission of as-built plans for completed projects	
Inventory and priority ranking of MS4-owned properties that may be retrofitted with BMPs	Conduct detailed inventory of MS4 owned properties and rank for retrofit potential		Complete 4 years after permit effective date	
Allow green infrastructure	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist		Complete 4 years after permit effective date	
Street design and parking lot guidelines	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.		Complete 4 years after permit effective date	
Ensure any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality.	Adoption, amendment or modification of a regulatory mechanism to meet permit requirements		Complete 2 years after permit effective date	

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part III: Stormwater Management Program Summary

MCM 6: Municipal Good Housekeeping and Pollution Prevention

BMP Categorization (enter your own text to override the drop down menu or entered text)	BMP Description	Responsible Department/ Parties (enter your own text to override the drop down menu)	Measurable Goal (all text can be overwritten)	Beginning Year of BMP implementation
Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment			Complete 2 years after permit effective date	
Inventory all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment			Complete 2 years after permit effective date	
Establish and implement program for repair and rehabilitation of MS4 infrastructure			Complete 2 years after permit effective date	
Stormwater Pollution Prevention Plan (SWPPP) for maintenance garages, transfer stations and other waste-handling facilities			Complete 2 years after permit effective date	
Catch Basin Cleaning				
Street Sweeping Program				
Road Salt use optimization program				

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)

Part IV: Notes and additional information

Use the space below to provide any additional information about your MS4 program

Click to add text

Notice of Intent (NOI) for coverage under Small MS4 General Permit (continued)**Part V: Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:

Title:

Signature Field

Date:

NOI Submission

Please submit the form electronically via email using the "submit by Email" button below or send in a CD with your completed NOI. You may also print and submit via mail at the address below if you choose not to submit electronically. Outfall map required in Part I of the NOI (if applicable) can be submitted electronically as an email attachment OR as a paper copy.

Permittees that choose to submit their NOI electronically by email or by mailing a CD with the completed NOI form to EPA, will be able to download a partially filled Year 1 Annual Report at a later date from EPA.

Submit by Email

Submit by email using this button. Or, send an email with attachments to: stormwater.reports@epa.gov

Save

Save NOI for your records

EPA Submittal Address:

United States Environmental Protection Agency
5 Post Office Square - Suite 100
Mail Code - OEP06-1
Boston, Massachusetts 02109-3912
ATTN: Newton Tedder

State Submittal Address

Massachusetts Department of Environmental Protection
One Winter Street - 5th Floor
Boston, MA 02108
ATTN: Fred Civian

APPENDIX F
Requirements for Discharges to Impaired Waters with an Approved TMDL

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Attachment 2 – Phosphorus Reduction Credits For Selected Enhanced Non-Structural BMPs

Attachment 3 - Phosphorus Reduction Credits For Selected Structural BMPs

A. Requirements for Discharges to Impaired Waters with an Approved MassDEP In State TMDL

I. Charles River Watershed Phosphorus TMDL Requirements

On October 17, 2007, EPA approved the *Final TMDL for Nutrients in the Lower Charles River Basin* (Lower Charles TMDL)¹ and on June 10, 2011 EPA approved the *Total Maximum Daily Load for Nutrients in the Upper/Middle Charles River* (Upper/Middle Charles TMDL)². The following phosphorus reduction requirements address phosphorus in MS4 discharges.

1. To address the discharge of phosphorus from its MS4, the permittee shall develop a Phosphorus Control Plan (PCP) designed to reduce the amount of phosphorus in stormwater (SW) discharges from its MS4 to the Charles River and its tributaries. The PCP shall be completed in phases and the permittee shall add it as an attachment to its written SWMP upon completion and report in annual reports pursuant to part 4.4 of the Permit on its progress toward achieving its Phosphorus Reduction Requirement. The PCP shall be developed and fully implemented as soon as possible but no later than 20 years after the permit effective date in accordance with the phases and schedule outlined below. Each Phase shall contain the elements required of each phase as described in parts a. through c below. The timing of each phase over 20 years from the permit effective date is:

1-5 years after permit effective date	5-10 years after permit effective date	10-15 years after permit effective date	15-20 years after permit effective date
Create Phase 1 Plan	Implement Phase 1 Plan		
	Create Phase 2 Plan	Implement Phase 2 Plan	
		Create Phase 3 Plan	Implement Phase 3 Plan

a. Phase 1

- 1) The permittee shall complete a written Phase 1 plan of the PCP five years after the permit effective date and fully implement the Phase 1 plan of the PCP as soon as possible but no longer than 10 years after the permit effective date.
- 2) The Phase 1 plan of the PCP shall contain the following elements and has the following required milestones:

Item Number	Phase 1 of the PCP Component and Milestones	Completion Date
1-1	Legal analysis	2 years after permit effective date

¹ Massachusetts Department of Environmental Protection. 2007. *Final TMDL for Nutrients in the Lower Charles River Basin*. CN 301.1

² Massachusetts Department of Environmental Protection. 2011. *Total Maximum Daily Load for Nutrients in the Upper/Middle Charles River Basin, Massachusetts*. CN 272.0

1-2	Funding source assessment.	3 years after permit effective date
1-3	Define scope of PCP (PCP Area) Baseline Phosphorus Load and Phosphorus Reduction Requirement and Allowable Phosphorus Load	4 years after permit effective date
1-4	Description of Phase 1 planned nonstructural controls	5 years after permit effective date
1-5	Description of Phase 1 planned structural controls	5 years after permit effective date
1-6	Description of Operation and Maintenance program for structural controls	5 years after permit effective date
1-7	Phase 1 implementation schedule	5 years after permit effective date
1-8	Estimated cost for implementing Phase 1 of the PCP	5 years after permit effective date
1-9	Complete Written Phase 1 PCP	5 years after permit effective date
1-10	Full implementation of nonstructural controls	6 years after permit effective date
1-11	Performance Evaluation	6, and 7 years after permit effective date
1-12	<p>1. Performance Evaluation.</p> <p>2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load (P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.80</p> $P_{exp} \leq P_{allow} + (P_{RR} \times 0.80)$	8 years after permit effective date
1-13	Performance Evaluation	9 years after permit effective date
1-14	<p>1. Performance Evaluation.</p> <p>2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load (P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.75</p>	10 years after permit effective date

	$P_{exp} \leq P_{allow} + (P_{RR} \times 0.75)$	
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Table F-1: Phase 1 of the PCP components and Milestones

3) Description of Phase 1 PCP Components

Legal Analysis- The permittee shall develop and implement an analysis that identifies existing regulatory mechanisms available to the MS4 such as by-laws and ordinances, and describes any changes to regulatory mechanisms that may be necessary to effectively implement the entire PCP. This may include the creation or amendment of financial and regulatory authorities. The permittee shall adopt necessary regulatory changes by the end of the permit term.

Funding source assessment – The permittee shall describe known and anticipated funding mechanisms (e.g. general funding, enterprise funding, stormwater utilities) that will be used to fund PCP implementation. The permittee shall describe the steps it will take to implement its funding plan. This may include but is not limited to conceptual development, outreach to affected parties, and development of legal authorities.

Scope of the PCP, Baseline Phosphorus Load (P_{base}), Phosphorus Reduction Requirement (P_{RR}) and Allowable Phosphorus Load (P_{allow}) - The permittee shall indicate the area in which it plans to implement the PCP. The permittee must choose one of the following: (1) to implement its PCP in the entire area within its jurisdiction (for municipalities this would be the municipal boundary) within the Charles River Watershed; or (2) to implement its PCP only in the urbanized area portion of the permittee’s jurisdiction within the Charles River Watershed. The implementation area selected by the permittee is known as the “PCP Area” for that permittee. Table F-2³ and Table F-3⁴ list the permittees subject to phosphorus reduction requirements along with the estimated Baseline Phosphorus Loads in mass/yr, the calculated Allowable Stormwater Phosphorus Load in mass/yr, the Stormwater Phosphorus Reduction Requirement in mass/yr and the respective percent reductions necessary. The two tables contain different reduction requirements for each permittee based on the PCP Area they choose (see above). If the permittee chooses to implement the PCP in its entire jurisdiction, the permittee may demonstrate compliance with the Phosphorus Reduction Requirement and Allowable Phosphorus Load requirements applicable to it through structural and non-structural controls on discharges that occur outside the regulated area. If the permittee chooses to implement the PCP in its regulated area only, the permittee must demonstrate compliance with the Phosphorus Reduction Requirement and Allowable Phosphorus Load requirements applicable to it through structural

³ The estimated Baseline Phosphorus Load, Allowable Phosphorus Load, Phosphorus Reduction Requirement and percent reductions presented in Table F-2 apply to the entire watershed land area that drains to the Charles River and its tributaries within the permittee’s jurisdiction.

⁴ The estimated Baseline Phosphorus Load, Allowable Phosphorus Load, Phosphorus Reduction Requirement and percent reductions presented in Table F-3 apply only to the urbanized area portion of the permittee’s jurisdiction that drains to the Charles River or its tributaries.

and non-structural controls on discharges that occur within the regulated area only.

The permittee shall select the Baseline Phosphorus Load, Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load that corresponds to the PCP Area selected. The selected Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load will be used to determine compliance with PCP milestones of this Phase and Phase 2 and Phase 3. If the permittee chooses to implement its PCP in all areas within its jurisdiction within the Charles River Watershed, then the permittee shall use Table F-2 to determine the Baseline Phosphorus Load, Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load for its PCP Area. If the permittee chooses to implement its PCP only within the regulated area within the Charles River Watershed, then the permittee shall use Table F-3 to determine the Baseline Phosphorus Load, Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load for its PCP Area.

The Permittee may submit more accurate land use data from 2005, which is the year chosen as the baseline land use for the purposes of permit compliance, for EPA to recalculate baseline phosphorus stormwater loads for use in future permit reissuances. Updated land use maps, land areas, characteristics, and MS4 area and catchment delineations shall be submitted to EPA along with the year 4 annual report in electronic GIS data layer form for consideration for future permit requirements⁵. Until such a time as future permit requirements reflect information submitted in the year 4 annual report, the permittee shall use the Baseline Phosphorus Load, Stormwater Phosphorus Reduction Requirement and Allowable Phosphorus Load Table F-2 (if its PCP Area is the permittee's entire jurisdiction) or Table F-3 (if its PCP Area is the regulated area only) to calculate compliance with milestones for Phase 1, 2, and 3 of the PCP.

Description of Phase 1 planned non-structural controls – The permittee shall describe the non-structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-1. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation in units of mass/yr. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F.

Description of Phase 1 planned structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of structural phosphorus controls during Phase 1. The ranking shall be developed through the use of available

⁵ This submission is optional and needs only be done if the permittee has more accurate land use information from 2005 than information provided by MassGIS (<http://www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/lus2005.html>, retrieved 10/1/2013) or the permittee has updated MS4 drainage area characteristics and the permittee would like to update the Baseline Phosphorus Load.

screening and monitoring results collected during the permit term either by the permittee or another entity and the mapping required pursuant to part 2.3.4.6 of the Permit. The permittee shall also include in this priority ranking a detailed assessment of site suitability for potential phosphorus control measures based on soil types and other factors. The permittee shall coordinate this activity with the requirements of part 2.3.6.8.b of the Permit. A description and the results of this priority ranking shall be included in Phase 1 of the PCP. The permittee shall describe the structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-1. The description of structural controls shall include the planned and existing measures, the areas where the measures will be implemented or are currently implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party may be included in a municipal PCP. Annual phosphorus reductions from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F.

Description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part of Phase 1 of the PCP. This includes BMPs implemented to date as well as BMPs to be implemented during Phase 1 of the PCP. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or manufacturer specification and (2) program or department responsible for BMP maintenance.

Phase 1 Implementation Schedule – A schedule for implementation of all planned Phase 1 BMPs, including, as appropriate: obtaining funding, training, purchasing, construction, inspections, monitoring, operation and maintenance activities, and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the Phase 1 Plan, and all non-structural BMPs shall be fully implemented within six years of the permit effective date. Structural BMPs shall be designed and constructed to ensure the permittee will comply with the 8 and 10 year phosphorus load milestones established in Table F-1. The Phase 1 plan shall be fully implemented as soon as possible, but no later than 10 years after the effective date of permit.

Estimated cost for implementing Phase 1 of the PCP – The permittee shall estimate the cost of implementing the Phase 1 non-structural and structural controls and associated Operation and Maintenance Program. This cost estimate can be used to assess the validity of the funding source assessment completed by year 3 after the permit effective date and to update funding sources as necessary to complete Phase 1.

Complete written Phase 1 Plan – The permittee must complete the written Phase 1 Plan of the PCP no later than 5 years after the permit effective date. The complete Phase 1 Plan shall include Phase 1 PCP item numbers 1-1 through 1-7 in Table F-1. The permittee shall make the Phase 1 Plan

available to the public for public comment during Phase 1 Plan development. EPA encourages the permittee to post the Phase I Plan online to facilitate public involvement.

Performance Evaluation –The permittee shall evaluate the effectiveness of the PCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs⁶ and tracking increases resulting from development. Phosphorus reductions shall be calculated consistent with Attachment 2 to Appendix F (non-structural BMP performance) and Attachment 3 to Appendix F (structural BMP performance) for all BMPs implemented to date. Phosphorus export increases since 2005 due to development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus loading increases and reductions in unit of mass/yr shall be added or subtracted from the applicable Baseline Phosphorus Load given in Table F-2 or Table F-3 depending on the Scope of PCP chosen to estimate the yearly phosphorous export rate from the PCP Area. The permittee shall also include all information required in part I.2 of this Appendix in each performance evaluation. Performance evaluations will be included as part of each permittee’s annual report as required by part 4.4 of the Permit.

Community Annual Stormwater Phosphorus Load Reduction by Permittee, Charles River Watershed				
Community	Baseline Phosphorus Load, kg/yr	Stormwater Phosphorus Load Reduction Requirement kg/yr	Allowable Phosphorus Load, kg/yr	Stormwater Percent Reduction in Phosphorus Load (%)
Arlington	106	57	49	53%
Ashland	67	23	44	34%
Bellingham	947	331	616	35%
Belmont	202	86	116	42%
Brookline	1,635	789	846	48%
Cambridge	512	263	249	51%
Dedham	805	325	480	40%
Dover	831	137	694	17%
Foxborough	2	0	2	0%
Franklin	2,344	818	1,526	35%

⁶ In meeting its phosphorus reduction requirements a permittee may quantify phosphorus reductions by actions undertaken by another entity, except where those actions are credited to MassDOT or another permittee identified in Appendix F Table F-2 or F-3.

Community Annual Stormwater Phosphorus Load Reduction by Permittee, Charles River Watershed				
Community	Baseline Phosphorus Load, kg/yr	Stormwater Phosphorus Load Reduction Requirement kg/yr	Allowable Phosphorus Load, kg/yr	Stormwater Percent Reduction in Phosphorus Load (%)
Holliston	1,543	395	1,148	26%
Hopedale	107	37	70	35%
Hopkinton	292	66	226	22%
Lexington	530	194	336	37%
Lincoln	593	101	492	17%
Medfield	955	277	678	29%
Medway	1,063	314	749	30%
Mendon	29	9	20	31%
Milford	1,611	663	948	41%
Millis	969	248	721	26%
Natick	1,108	385	723	35%
Needham	1,772	796	976	45%
Newton	3,884	1,941	1,943	50%
Norfolk	1,004	232	772	23%
Somerville	646	331	315	51%
Sherborn	846	131	715	16%
Walpole	159	28	131	18%
Waltham	2,901	1,461	1,400	50%
Watertown	1,127	582	545	52%
Wayland	46	15	31	33%
Wellesley	1,431	661	770	46%
Weston	1,174	281	893	24%
Westwood	376	114	262	30%
Wrentham	618	171	447	28%
Mass-DCR	421	91	330	22%

Table F-2: Baseline Phosphorus Load, Phosphorus Reduction Requirement, Allowable Phosphorus Load and Percent Reduction in Phosphorus Load from Charles River Watershed. For use when PCP Area is chosen to be the entire community within the Charles River Watershed.

Urbanized Area Annual Stormwater Phosphorus Load Reduction by Permittee, Charles River Watershed				
Community	Baseline Watershed Phosphorus Load, kg/yr	Stormwater Phosphorus Load Reduction Requirement, kg/yr	Allowable Phosphorus Load, kg/yr	Stormwater Percent Reduction in Phosphorus Load (%)
Arlington	106	57	49	53%
Ashland	67	23	44	34%
Bellingham	801	291	510	36%
Belmont	202	86	116	42%
Brookline	1,635	789	846	48%
Cambridge	512	263	249	51%
Dedham	805	325	480	40%
Dover	282	54	228	19%
Foxborough	2	0	2	0%
Franklin	2,312	813	1,499	35%
Holliston	1,359	369	990	27%
Hopedale	107	37	70	35%
Hopkinton	280	65	215	23%
Lexington	525	193	332	37%
Lincoln	366	63	303	17%
Medfield	827	267	560	33%
Medway	1,037	305	732	29%
Mendon	10	5	5	50%
Milford	1,486	653	833	44%
Millis	501	159	342	32%
Natick	994	359	635	36%
Needham	1,771	795	976	45%
Newton	3,884	1,941	1,943	50%
Norfolk	1,001	231	770	23%
Somerville	646	331	315	51%
Sherborn	203	38	165	19%
Walpole	159	28	131	18%
Waltham	2,901	1,461	1,440	50%
Watertown	1,127	582	545	52%
Wayland	46	15	31	33%
Wellesley	1,431	661	770	46%

Urbanized Area Annual Stormwater Phosphorus Load Reduction by Permittee, Charles River Watershed				
Community	Baseline Watershed Phosphorus Load, kg/yr	Stormwater Phosphorus Load Reduction Requirement, kg/yr	Allowable Phosphorus Load, kg/yr	Stormwater Percent Reduction in Phosphorus Load (%)
Weston	1,174	281	893	24%
Westwood	346	108	238	31%
Wrentham	556	159	397	29%
Mass DCR	396	89	307	22%

Table F-3: Baseline Phosphorus Load, Phosphorus Reduction Requirement, Allowable Phosphorus Load and Percent Reduction in Phosphorus Load from Charles River Watershed. For use when PCP Area is chosen to be only the urbanized area portion of a permittee’s jurisdiction within the Charles River Watershed.

b. Phase 2

- 1) The permittee shall complete the Phase 2 Plan of the PCP 10 years after the permit effective date and fully implement the Phase 2 plan of the PCP as soon as possible but no longer than 15 years after the permit effective date.
- 2) The Phase 2 plan of the PCP shall be added to the Phase 1 Plan and contain the following elements and has the following required milestones:

Item Number	Phase 2 of the PCP Component and Milestones	Completion Date
2-1	Update Legal analysis	As necessary
2-2	Description of Phase 2 planned nonstructural controls	10 years after permit effective date
2-3	Description of Phase 2 planned structural controls	10 years after permit effective date
2-4	Updated description of Operation and Maintenance Program	10 years after permit effective date
2-5	Phase 2 implementation schedule	10 years after permit effective date
2-6	Estimated cost for implementing Phase 2 of the PCP	10 years after permit effective date

2-7	Complete written Phase 2 Plan	10 years after permit effective date
2-8	Performance Evaluation.	11, and 12 years after permit effective date
2-9	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.65 $P_{exp} \leq P_{allow} + (P_{RR} \times 0.65)$	13 years after permit effective date
2-10	Performance Evaluation	14 years after permit effective date
2-11	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.50 $P_{exp} \leq P_{allow} + (P_{RR} \times 0.50)$	15 years after permit effective date

Table F-4: Phase 2 of the PCP components and Milestones

3) Description of Phase 2 PCP Components

Updated Legal Analysis- The permittee shall update the legal analysis completed during Phase 1 of the PCP as necessary to include any new or augmented bylaws, ordinances or funding mechanisms the permittee has deemed necessary to implement the PCP. The permittee shall use experience gained during Phase 1 to inform the updated legal analysis. The permittee shall adopt necessary regulatory changes as soon as possible to implement the Phase 2 Plan.

Description of Phase 2 planned non-structural controls – The permittee shall describe the non-structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-4. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation in units of mass/yr. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F.

Description of planned Phase 2 structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of phosphorus control practices during Phase 2. The ranking shall build upon the ranking developed for Phase 1. The permittee shall describe the structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-4. The description of structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party⁷ may be included in a municipal PCP. Annual phosphorus reductions from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F.

Updated description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part of Phase 1 and 2 of the PCP. This includes BMPs implemented to date as well as BMPs to be implemented during Phase 2 of the PCP. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or manufacturer specification and (2) program or department responsible for BMP maintenance.

Phase 2 Implementation Schedule – A schedule for implementation of all planned Phase 2 BMPs, including, as appropriate: funding, training, purchasing, construction, inspections, monitoring, O&M activities and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the Phase 2 Plan. Structural BMPs shall be designed and constructed to ensure the permittee will comply with the 13 and 15 year milestones established in Table F-4. The Phase 2 plan shall be fully implemented as soon as possible, but no later than 15 years after the effective date of permit.

Estimated cost for implementing Phase 2 of the PCP – The permittee shall estimate the cost of implementing the Phase 2 non-structural and structural controls and associated Operation and Maintenance Program. This cost estimate can be used to plan for the full implementation of Phase 2.

Complete written Phase 2 Plan – The permittee must complete a written Phase 2 Plan of the PCP no later than 10 years after the permit effective date. The complete Phase 2 Plan shall include Phase 2 PCP item numbers 2-1 through 2-6 in Table F-4. The permittee shall make the Phase 2 Plan available to the public for public comment during Phase 2 plan development. EPA encourages the permittee to post the Phase 2 Plan online to facilitate public involvement.

⁷ See footnote 6

Performance Evaluation – The permittee shall evaluate the effectiveness of the PCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs⁸ and tracking increases resulting from development. Phosphorus reductions shall be calculated consistent with Attachment 2 to Appendix F (non-structural BMP performance) and Attachment 3 to Appendix F (structural BMP performance) for all BMPs implemented to date. Phosphorus export increases due to development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus loading increases and reductions in unit of mass/yr shall be added or subtracted from the applicable Baseline Phosphorus Load given in Table F-2 or Table F-3 depending on the Scope of PCP chosen to estimate the yearly phosphorous export rate from the PCP Area. The permittee shall also include all information required in part I.2 of this Appendix in each performance evaluation. Performance evaluations will be included as part of each permittee’s annual report as required by part 4.4 of the Permit.

c. Phase 3

- 1) The permittee shall complete the Phase 3 Plan of the PCP 15 years after the permit effective date and fully implement the Phase 3 plan of the PCP as soon as possible but no longer than 20 years after the permit effective date.
- 2) The Phase 3 plan of the PCP shall be added to the Phase 1 Plan and the Phase 2 Plan to create the comprehensive PCP and contain the following elements and has the following required milestones:

Item Number	Phase 3 of the PCP Component and Milestones	Completion Date
3-1	Update Legal analysis	As necessary
3-2	Description of Phase 3 planned nonstructural controls	15 years after permit effective date
3-3	Description of Phase 3 planned structural controls	15 years after permit effective date
3-4	Updated description of Operation and Maintenance (O&M) Program	15 years after permit effective date
3-5	Phase 3 implementation schedule	15 years after permit effective date
3-6	Estimated cost for implementing Phase 3 of the PCP	15 years after permit effective date
3-7	Complete written Phase 3 Plan	15 years after permit effective date

⁸ See footnote 9

3-8	Performance Evaluation.	16, and 17 years after permit effective date
3-9	<ol style="list-style-type: none"> Performance Evaluation. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load (P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.30 $P_{exp} \leq P_{allow} + (P_{RR} \times 0.30)$ 	18 years after permit effective date
3-10	Performance Evaluation	19 years after permit effective date
3-11	<ol style="list-style-type: none"> Performance Evaluation. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the PCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load (P_{allow}) $P_{exp} \leq P_{allow}$ 	20 years after permit effective date

Table F-5:Phase 3 of the PCP components and Milestones

3) Description of Phase 3 PCP Components

Updated Legal Analysis- The permittee shall update the legal analysis completed during Phase 1 and Phase 2 of the PCP as necessary to include any new or augmented bylaws, ordinances or funding mechanisms the permittee has deemed necessary to implement the PCP. The permittee shall use experience gained during Phase 1 and Phase 2 to inform the updated legal analysis. The permittee shall adopt necessary regulatory changes as soon as possible to implement the Phase 3 Plan.

Description of Phase 3 planned non-structural controls – The permittee shall describe the non-structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-5. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation in units of mass/yr. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F.

Description of planned Phase 3 structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of phosphorus control practices during Phase 3. The ranking shall build upon the ranking developed for

Phase 1 and 2. The permittee shall describe the structural stormwater control measures necessary to support achievement of the phosphorus export milestones in Table F-5. The description of structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party may be included in a municipal PCP. Annual phosphorus reduction from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F.

Updated description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part of Phase 1, 2 and 3 of the PCP. This includes BMPs implemented to date as well as BMPs to be implemented during Phase 3 of the PCP. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or manufacturer specification and (2) program or department responsible for BMP maintenance.

Phase 3 Implementation Schedule – A schedule for implementation of all planned Phase 3 BMPs, including, as appropriate: funding, training, purchasing, construction, inspections, monitoring, O&M activities and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the Phase 3 Plan. Structural BMPs shall be designed and constructed to ensure the permittee will comply with the 18 and 20 year milestones established in Table F-5. The Phase 3 plan shall be fully implemented as soon as possible, but no later than 20 years after the effective date of permit.

Estimated cost for implementing Phase 3 of the PCP – The permittee shall estimate the cost of implementing the Phase 3 non-structural and structural controls and associated Operation and Maintenance Program. This cost estimate can be used to plan for the full implementation of Phase 3.

Complete written Phase 3 Plan – The permittee must complete the written Phase 3 Plan of the PCP no later than 15 years after the permit effective date. The complete Phase 3 Plan shall include Phase 3 PCP item numbers 3-1 through 3-6 in Table F-5. The permittee shall make the Phase 3 Plan available to the public for public comment during Phase 3 Plan development. EPA encourages the permittee to post the Phase 3 Plan online to facilitate public involvement.

Performance Evaluation – The permittee shall evaluate the effectiveness of the PCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs⁹ and tracking increases resulting from development. Phosphorus reductions shall be calculated consistent with Attachment 2 to Appendix F (non-structural BMP

⁹ See footnote 9

performance) and Attachment 3 to Appendix F (structural BMP performance) for all BMPs implemented to date. Phosphorus export increases due to development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus loading increases and reductions in unit of mass/yr shall be added or subtracted from the applicable Baseline Phosphorus Load given in Table F-2 or Table F-3 depending on the Scope of PCP chosen to estimate the yearly phosphorous export rate from the PCP Area. The permittee shall also include all information required in part I.2 of this Appendix in each performance evaluation. Performance evaluations will be included as part of each permittee’s annual report as required by part 4.4 of the Permit.

2. Reporting

Beginning 1 year after the permit effective date, the permittee shall include a progress report in each annual report on the planning and implementation of the PCP.

Beginning five (5) years after the permit effective date, the permittee shall include the following in each annual report submitted pursuant to part 4.4 of the Permit:

- a. All non-structural control measures implemented during the reporting year along with the phosphorus reduction in mass/yr (P_{NSred}) calculated consistent with Attachment 2 to Appendix F
- b. Structural controls implemented during the reporting year and all previous years including:
 - a. Location information of structural BMPs (GPS coordinates or street address)
 - b. Phosphorus reduction from all structural BMPs implemented to date in mass/yr (P_{Sred}) calculated consistent with Attachment 3 to Appendix F
 - c. Date of last completed maintenance and inspection for each Structural control
- c. Phosphorus load increases due to development over the previous reporting period and incurred since 2005 (P_{DEVinc}) calculated consistent with Attachment 1 to Appendix F.
- d. Estimated yearly phosphorus export rate (P_{exp}) from the PCP Area calculated using Equation 2. Equation 2 calculates the yearly phosphorus export rate by subtracting yearly phosphorus reductions through implemented nonstructural controls and structural controls to date from the Baseline Phosphorus Load and adding loading increases incurred through development to date. This equation shall be used to demonstrate compliance with the phosphorus reduction milestones required as part of each phase of the PCP.

$$P_{exp} \left(\frac{mass}{yr} \right) = P_{base} \left(\frac{mass}{yr} \right) - \left(P_{Sred} \left(\frac{mass}{yr} \right) + P_{NSred} \left(\frac{mass}{yr} \right) \right) + P_{DEVinc} \left(\frac{mass}{yr} \right)$$

Equation 1. Equation used to calculate yearly phosphorus export rate from the chosen PCP Area. P_{exp} =Current phosphorus export rate from the PCP Area in mass/year. P_{base} =baseline phosphorus export rate from LPCP Area in mass/year. P_{Sred} = yearly phosphorus reduction from implemented structural controls in the PCP Area in mass/year. P_{NSred} = yearly phosphorus reduction from implemented non-structural controls in the PCP Area in mass/year. P_{DEVinc} = yearly phosphorus increase resulting from development since 2005 in the PCP Area in mass/year.

- e. Certification that all structural BMPs are being inspected and maintained according to the O&M program specified as part of the PCP. The certification statement shall be:

I certify under penalty of law that all source control and treatment Best Management Practices being claimed for phosphorus reduction credit have been inspected, maintained and repaired in accordance with manufacturer or design specification. I certify that, to the best of my knowledge, all Best Management Practices being claimed for a phosphorus reduction credit are performing as originally designed.

- f. Certification that all municipally owned and maintained turf grass areas are being managed in accordance with Massachusetts Regulation 331 CMR 31 pertaining to proper use of fertilizers on turf grasses (see <http://www.mass.gov/courts/docs/lawlib/300-399cmr/330cmr31.pdf>).

3. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.I.1. as follows.

- a. The permittee is relieved of its additional requirements as of the date when the following conditions are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
- b. When the criteria in Appendix F part A.I.3.a. are met, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part A.I.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.I.1 to date to reduce phosphorus in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix F part A.I.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications, and the reporting requirements of Appendix F part I.2. remain in place.

II. Lake and Pond Phosphorus TMDL Requirements

Between 1999 and 2010 EPA has approved 13 Lake TMDLs¹⁰ completed by MassDEP covering 78 lakes and ponds within the Commonwealth of Massachusetts. Any permittee (traditional or non-traditional) that discharges to a waterbody segment in Table F-6 is subject to the requirements of this part.

1. Permittees that operate regulated MS4s (traditional and non-traditional) that discharge to the identified impaired waters or their tributaries must reduce phosphorus discharges to support achievement of phosphorus load reductions identified in the TMDLs. To address phosphorus, all permittees with a phosphorus reduction requirement greater than 0% shall develop a Lake Phosphorus Control Plan (LPCP) designed to reduce the amount of phosphorus in stormwater discharges from its MS4 to the impaired waterbody or its tributaries in accordance with the phosphorus load reduction requirements set forth in Table F-6 below. Permittees discharging to waterbodies in Table F-6 with an associated 0% Phosphorus Required Percent Reduction are subject to Appendix F part II.2.f and are relieved of the requirements of Appendix F part II.1.i through Appendix F part II.2.e Table F-6 identifies the primary municipalities¹¹ located within the watershed of the respective lake or pond and the percent phosphorus reductions necessary from urban stormwater sources. Any permittee (traditional or non-traditional) that discharges to a lake or pond listed in Table F-6 or its tributaries is subject to the same phosphorus percent reduction requirements associated with that lake or pond.

Primary Municipality	Waterbody Name	Required Percent Reduction
Auburn	Leesville Pond	31%
	Auburn Pond	24%
	Eddy Pond	0%
	Pondville Pond	8%
	Stoneville Pond	3%
Charlton	Buffumville Lake	28%
	Dresser Hill Pond	17%
	Gore Pond	14%
	Granite Reservoir	11%
	Jones Pond	13%
	Pierpoint Meadow Pond	27%
Dudley	Gore Pond	14%

¹⁰ Final TMDLs for lakes and ponds in the Northern Blackstone River Watershed, Chicopee Basin, Connecticut Basin, French Basin, Millers Basin and Bare Hill Pond, Flint Pond, Indian Lake, Lake Boon, Leesville Pond, Salisbury Pond, White Island Pond, Quaboag Pond and Quacumquasit Pond can be found here: <http://www.mass.gov/eea/agencies/massdep/water/watersheds/total-maximum-daily-loads-tmdl.html>

¹¹ Primary municipalities indicate the municipality in which the majority of the lake or pond is located but does not necessarily indicate each municipality that has urbanized area that discharges to the lake or pond or its tributaries.

Primary Municipality	Waterbody Name	Required Percent Reduction
	Larner Pond	55%
	New Pond	56%
	Pierpoint Meadow Pond	27%
	Shepherd Pond	25%
	Tobins Pond	62%
	Wallis Pond	54%
	Gardner	Hilchey Pond
Parker Pond		47%
Bents Pond		52%
Ramsdall Pond		49%
Grafton	Flint Pond/Lake Quinsigamond	59%
Granby	Aldrich Lake East	0%
Hadley	Lake Warner	24%
Harvard	Bare Hill Pond	2%
Hudson	Lake Boon	28%
Leicester	Smiths Pond	30%
	Southwick Pond	64%
	Cedar Meadow Pond	17%
	Dutton Pond	23%
	Greenville Pond	14%
	Rochdale Pond	8%
Ludlow	Minechoag Pond	48%
Millbury	Brierly Pond	14%
	Dorothy Pond	1%
	Howe Reservoir	48%
Oxford	Buffumville Lake	28%
	Hudson Pond	37%
	Lowes Pond	51%
	McKinstry Pond	79%
	Robinson Pond	8%
	Texas Pond	21%
Shrewsbury	Flint Pond/Lake Quinsigamond	49%
	Jordan Pond	60%
	Mill Pond	43%
	Newton Pond	19%
	Shirley Street Pond	30%
Spencer	Quaboag Pond	29%

Primary Municipality	Waterbody Name	Required Percent Reduction
	Quacumquasit Pond	2%
	Jones Pond	13%
	Sugden Reservoir	31%
Springfield	Loon Pond	10%
	Long Pond	56%
	Mona Lake	57%
Stow	Lake Boon	28%
Templeton	Brazell Pond	62%
	Depot Pond	50%
	Bourn-Hadley Pond	49%
	Greenwood Pond 2	56%
Wilbraham	Spectacle Pond	45%
Winchendon	Lake Denison	22%
	Stoddard Pond	24%
	Whitney Pond	16%
	Whites Mill Pond	21%

Table F-6: Phosphorus impaired Lakes or Ponds subject to a TMDL along with primary municipality and required percent reduction of phosphorus from urban stormwater sources

- i. The LPCP shall be implemented in accordance with the following schedule and contain the following elements:
 - a. LPCP Implementation Schedule – The permittee shall complete its LPCP and fully implement all of the control measures in its LPCP as soon as possible but no later than 15 years after the effective date of the permit.
 - b. The LPCP shall be implemented in accordance with the following schedule and contain the following elements:

Number	LPCP Component and Milestones	Completion Date
1	Legal Analysis	2 years after permit effective date
2	Funding source assessment	3 years after permit effective date
3	Define LPCP scope (LPCP Area)	4 years after permit effective date
4	Calculate Baseline Phosphorus, Allowable Phosphorus Load and Phosphorus Reduction Requirement	4 years after permit effective date

5	Description of planned nonstructural and structural controls	5 years after permit effective date
6	Description of Operation and Maintenance (O&M) Program	5 years after permit effective date
7	Implementation schedule	5 years after permit effective date
8	Cost and Funding Source Assessment	5 years after permit effective date
9	Complete written LPCP	5 years after permit effective date
10	Full implementation of nonstructural controls.	6 years after permit effective date
11	Performance Evaluation.	6 and 7 years after permit effective date
12	<ol style="list-style-type: none"> 1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.80 $P_{exp} \leq P_{allow} + (P_{RR} \times 0.80)$ 	8 years after permit effective date
13	Performance Evaluation	9 years after permit effective date
14	<ol style="list-style-type: none"> 1. Performance Evaluation. 2. Update LPCP 3. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.60 $P_{exp} \leq P_{allow} + (P_{RR} \times 0.60)$ OR that the permittee has reduced their phosphorus export rate by 30kg/year (whichever is greater, unless full Phosphorus Reduction Requirement has been met) 	10years after permit effective date
15	Performance Evaluation	11 and 12 years after permit effective date
16	<ol style="list-style-type: none"> 1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable 	13years after permit effective date

	Phosphorus Load(P_{allow}) plus the applicable Phosphorus Reduction Requirement (P_{RR}) multiplied by 0.30 $P_{exp} \leq P_{allow} + (P_{RR} \times 0.30)$	
17	Performance Evaluation	14 years after permit effective date
18	1. Performance Evaluation. 2. Full implementation of all structural controls used to demonstrate that the total phosphorus export rate (P_{exp}) from the LPCP Area in mass/yr is equal to or less than the applicable Allowable Phosphorus Load(P_{allow}) $P_{exp} \leq P_{allow}$	15 years after permit effective date

Table F-7: LPCP components and milestones

c. Description of LPCP Components:

Legal Analysis- The permittee shall develop and implement an analysis that identifies existing regulatory mechanisms available to the MS4 such as by-laws and ordinances and describes any changes to these regulatory mechanisms that may be necessary to effectively implement the LPCP. This may include the creation or amendment of financial and regulatory authorities. The permittee shall adopt necessary regulatory changes by the end of the permit term.

Scope of the LPCP (LPCP Area) - The permittee shall indicate the area in which the permittee plans to implement the LPCP, this area is known as the “LPCP Area”. The permittee must choose one of the following: 1) to implement its LPCP in the entire area within its jurisdiction discharging to the impaired waterbody (for a municipality this would be the municipal boundary) or 2) to implement its LPCP in only the urbanized area portion of its jurisdiction discharging to the impaired waterbody. If the permittee chooses to implement the LPCP in its entire jurisdiction discharging to the impaired waterbody, the permittee may demonstrate compliance with the Phosphorus Reduction Requirement and Allowable Phosphorus Load requirements applicable to it through structural and non-structural controls on discharges that occur both inside and outside the urbanized area. If the permittee chooses to implement the LPCP in its urbanized area only discharging to the impaired waterbody, the permittee must demonstrate compliance with the Phosphorus Reduction Requirement and Allowable Phosphorus Load requirements applicable to it through structural and non-structural controls on discharges that occur within the urbanized area only.

Calculate Baseline Phosphorus Load (P_{base}), Phosphorus Reduction Requirement (P_{RR}) and Allowable Phosphorus Load (P_{allow}) –Permittees shall calculate their numerical Allowable Phosphorus Load and Phosphorus Reduction Requirement in mass/yr by first estimating their Baseline Phosphorus Load in mass/yr from its LPCP Area consistent with the methodology in Attachment 1 to Appendix F, the baseline shall only be estimated using land use phosphorus export coefficients in Attachment 1 to Appendix F and not account for phosphorus reductions resulting from implemented structural BMPs completed to date. Table F-6 contains the

percent phosphorus reduction required from urban stormwater consistent with the TMDL of each impaired waterbody. The permittee shall apply the applicable required percent reduction in Table F-6 to the calculated Baseline Phosphorus Load to obtain the permittee specific Allowable Phosphorus Load. The Allowable Phosphorus Load shall then be subtracted from the Baseline Phosphorus Load to obtain the permittee specific Phosphorus Reduction Requirement in mass/yr.

Description of planned non-structural controls – The permittee shall describe the non-structural stormwater control measures to be implemented to support the achievement of the milestones in Table F-7. The description of non-structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions that are expected to result from their implementation. Annual phosphorus reduction from non-structural BMPs shall be calculated consistent with Attachment 2 to Appendix F. The permittee shall update the description of planned non-structural controls as needed to support the achievement of the milestones in Table F-7, including an update in the updated written LPCP 10 years after the permit effective date.

Description of planned structural controls – The permittee shall develop a priority ranking of areas and infrastructure within the municipality for potential implementation of phosphorus control practices. The ranking shall be developed through the use of available screening and monitoring results collected during the permit term either by the permittee or another entity and the mapping required pursuant to part 2.3.4.6 of the Permit. The permittee shall also include in this prioritization a detailed assessment of site suitability for potential phosphorus control measures based on soil types and other factors. The permittee shall coordinate this activity with the requirements of part 2.3.6.8.b of the Permit. A description and the result of this priority ranking shall be included in the LPCP. The permittee shall describe the structural stormwater control measures necessary to support achievement of the milestones in Table F-7. The description of structural controls shall include the planned measures, the areas where the measures will be implemented, and the annual phosphorus reductions in units of mass/yr that are expected to result from their implementation. Structural measures to be implemented by a third party may be included in the LPCP. Annual phosphorus reduction from structural BMPs shall be calculated consistent with Attachment 3 to Appendix F. The permittee shall update the description of planned structural controls as needed to support the achievement of the milestones in Table F-7, including an update in the updated written LPCP 10 years after the permit effective date.

Description of Operation and Maintenance (O&M) Program for all planned and existing structural BMPs – The permittee shall establish an Operation and Maintenance Program for all structural BMPs being claimed for phosphorus reduction credit as part of Phase 1 and 2 of the PCP. This includes BMPs implemented to date as well as BMPs to be implemented during Phase 2 of the PCP. The Operation and Maintenance Program shall become part of the PCP and include: (1) inspection and maintenance schedule for each BMP according to BMP design or manufacturer specification and (2) program or department responsible for BMP maintenance.

Implementation Schedule – An initial schedule for implementing the BMPs, including, as appropriate: funding, training, purchasing, construction, inspections, monitoring, O&M and other assessment and evaluation components of implementation. Implementation of planned BMPs must begin upon completion of the LPCP, and all non-structural BMPs shall be fully implemented within six years of the permit effective date. Where planned structural BMP retrofits or major drainage infrastructure projects are expected to take additional time to construct, the permittee shall within four years of the effective date of the permit have a schedule for completion of construction consistent with the reduction requirements in Table F-7. The permittee shall complete the implementation of its LPCP as soon as possible or at a minimum in accordance with the milestones set forth in Table F-7. The implementation schedule shall be updated as needed to support the achievement of the milestones in Table F-7, including an update in the updated written LPCP 10 years after the permit effective date.

Cost and funding source assessment – The permittee shall estimate the cost for implementing its LPCP and describe known and anticipated funding mechanisms. The permittee shall describe the steps it will take to implement its funding plan. This may include but is not limited to conceptual development, outreach to affected parties, and development of legal authorities.

Complete written LPCP – The permittee must complete the written LPCP 5 years after permit effective date. The complete LPCP shall include item numbers 1-8 in Table F-7. The permittee shall make the LPCP available to the public for public comment during the LPCP development. EPA encourages the permittee to post the LPCP online to facilitate public involvement. The LPCP shall be updated as needed with an update 10 years after the permit effective date at a minimum to reflect changes in BMP implementation to support achievement of the phosphorus export milestones in Table F-7. The updated LPCP shall build upon the original LPCP and include additional or new BMPs the permittee will use to support the achievement of the milestones in Table F-7.

Performance Evaluation – The permittee shall evaluate the effectiveness of the LPCP by tracking the phosphorus reductions achieved through implementation of structural and non-structural BMPs¹² and tracking increases in phosphorus loading from the LPCP Area beginning six years after the effective date of the permit. Phosphorus reductions shall be calculated consistent with Attachment 2 (non-structural BMP performance), Attachment 3 (structural BMP performance) and Attachment 1 (reductions through land use change), to Appendix F for all BMPs implemented to date¹³. Phosphorus load increases resulting from development shall be calculated consistent with Attachment 1 to Appendix F. Phosphorus

¹² In meeting its phosphorus reduction requirements a permittee may quantify phosphorus reductions by actions undertaken by another entity, except where those actions are credited to MassDOT or another permittee identified in Appendix F Table F-7

¹³ Annual phosphorus reductions from structural BMPs installed in the LPCP Area prior to the effective date of this permit shall be calculated consistent with Attachment 3 to Appendix F. Phosphorus Reduction Credit for previously installed BMPs will only be given if the Permittee demonstrates that the BMP is performing up to design specifications and certifies that the BMP is properly maintained and inspected according to manufacturer design or specifications. This certification shall be part of the annual performance evaluation during the year credit is claimed for the previously installed BMP.

loading increases and reductions in units of mass/yr shall be added or subtracted from the calculated Baseline Phosphorus Load to estimate the yearly phosphorous export rate from the LPCP Area in mass/yr. The permittee shall also include all information required in part II.2 of this Appendix in each performance evaluation.

2. Reporting

Beginning 1 year after the permit effective date, the permittee shall include a progress report in each annual report on the planning and implementation of the LPCP.

Beginning five (5) years after the permit effective date, the permittee shall include the following in each annual report submitted pursuant to part 4.4 of the Permit:

- a. All non-structural control measures implemented during the reporting year along with the phosphorus reduction in mass/yr (P_{NSred}) calculated consistent with Attachment 2 to Appendix F
- b. Structural controls implemented during the reporting year and all previous years including:
 - a. Location information of structural BMPs (GPS coordinates or street address)
 - b. Phosphorus reduction from all structural BMPs implemented to date in mass/yr (P_{Sred}) calculated consistent with Attachment 3 to Appendix F
 - c. Date of last completed maintenance for each Structural control
- c. Phosphorus load increases due to development over the previous reporting period and incurred to date (P_{DEVinc}) calculated consistent with Attachment 1 to Appendix F.
- d. Estimated yearly phosphorus export rate (P_{exp}) from the LPCP Area calculated using Equation 2. Equation 2 calculates the yearly phosphorus export rate by subtracting yearly phosphorus reductions through implemented nonstructural controls and structural controls to date from the Baseline Phosphorus Load and adding loading increases incurred through development to date. This equation shall be used to demonstrate compliance with the phosphorus reduction milestones required as part of each phase of the LPCP.

$$P_{exp} \left(\frac{\text{mass}}{\text{yr}} \right) = P_{base} \left(\frac{\text{mass}}{\text{yr}} \right) - \left(P_{Sred} \left(\frac{\text{mass}}{\text{yr}} \right) + P_{NSred} \left(\frac{\text{mass}}{\text{yr}} \right) \right) + P_{DEVinc} \left(\frac{\text{mass}}{\text{yr}} \right)$$

Equation 2. Equation used to calculate yearly phosphorus export rate from the chosen LPCP Area. P_{exp} =Current phosphorus export rate from the LPCP Area in mass/year. P_{base} =baseline phosphorus export rate from LPCP Area in mass/year. P_{Sred} = yearly phosphorus reduction from implemented structural controls in the LPCP Area in mass/year. P_{NSred} = yearly phosphorus reduction from implemented non-structural controls in the LPCP Area in mass/year. Area in mass/year. P_{DEVinc} = yearly phosphorus increase resulting from development since the year baseline loading was calculated in the LPCP Area in mass/year.

- e. Certification that all structural BMPs are being inspected and maintained according to the O&M program specified as part of the PCP. The certification statement shall be:

I certify under penalty of law that all source control and treatment Best Management Practices being claimed for phosphorus reduction credit have been inspected, maintained and repaired in accordance with manufacturer or design specification. I certify that, to the best of my knowledge, all Best Management

Practices being claimed for a phosphorus reduction credit are performing as originally designed.

- f. Certification that all municipally owned and maintained turf grass areas are being managed in accordance with Massachusetts Regulation 331 CMR 31 pertaining to proper use of fertilizers on turf grasses (see <http://www.mass.gov/courts/docs/lawlib/300-399cmr/330cmr31.pdf>).
3. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.II.1. as follows:
 - a. The permittee is relieved of its additional requirements as of the date when the following conditions are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
 - b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any additional remaining requirements of Appendix F part A.II.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.II.1 to date to reduce phosphorus in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix F part A.I.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications, and the reporting requirements of Appendix F part A.II.2. remain in place.

III. Bacteria and Pathogen TMDL Requirements

There are currently approved 16 approved bacteria (fecal coliform bacteria) or mixed pathogen (fecal coliform, E. coli, and/or enterococcus bacteria) TMDLs for certain waterbodies in Massachusetts.¹⁴ Any permittee (traditional or non-traditional) that discharges to a waterbody segment in Table F-8 is subject to the requirements of this part.

1. Traditional and non-traditional MS4s operating in the municipalities listed in Table F-8 and/or that discharge to a waterbody listed on Table F-8 shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:

- a. Enhanced BMPs

- i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:

1. part 2.3.3. Public Education: The permittee shall supplement its Residential program with an annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee or its agents shall disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The permittee shall also provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.IV, A.V, B.I, B.II and B.III where appropriate.
2. part 2.3.4 Illicit Discharge: Catchments draining to any waterbody impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

Primary Municipality	Segment ID	Waterbody Name	Indicator Organism
Abington	MA62-09	Beaver Brook	Escherichia Coli (E. Coli)
Abington	MA62-33	Shumatuscant River	Escherichia Coli (E. Coli)
Acushnet	MA95-31	Acushnet River	Escherichia Coli (E. Coli)
Acushnet	MA95-32	Acushnet River	Escherichia Coli (E. Coli)
Acushnet	MA95-33	Acushnet River	Fecal Coliform

¹⁴ Final bacteria or pathogen TMDLs can be found here: <http://www.mass.gov/eea/agencies/massdep/water/watersheds/total-maximum-daily-loads-tmdls.html>

Andover	MA83-04	Rogers Brook	Fecal Coliform
Andover	MA83-15	Unnamed Tributary	Fecal Coliform
Andover	MA83-18	Shawsheen River	Fecal Coliform
Andover	MA83-19	Shawsheen River	Fecal Coliform
Avon	MA62-07	Trout Brook	Escherichia Coli (E. Coli)
Barnstable	MA96-01	Barnstable Harbor	Fecal Coliform
Barnstable	MA96-02	Bumps River	Fecal Coliform
Barnstable	MA96-04	Centerville River	Fecal Coliform
Barnstable	MA96-05	Hyannis Harbor	Fecal Coliform
Barnstable	MA96-06	Maraspin Creek	Fecal Coliform
Barnstable	MA96-07	Prince Cove	Fecal Coliform
Barnstable	MA96-08	Shoestring Bay	Fecal Coliform
Barnstable	MA96-36	Lewis Bay	Fecal Coliform
Barnstable	MA96-37	Mill Creek	Fecal Coliform
Barnstable	MA96-63	Cotuit Bay	Fecal Coliform
Barnstable	MA96-64	Seapuit River	Fecal Coliform
Barnstable	MA96-66	North Bay	Fecal Coliform
Barnstable	MA96-81	Snows Creek	Fecal Coliform
Barnstable	MA96-82	Hyannis Inner Harbor	Fecal Coliform
Barnstable	MA96-92	Santuit River	Fecal Coliform
Barnstable	MA96-93	Halls Creek	Fecal Coliform
Barnstable	MA96-94	Stewarts Creek	Fecal Coliform
Bedford	MA83-01	Shawsheen River	Fecal Coliform
Bedford	MA83-05	Elm Brook	Fecal Coliform
Bedford	MA83-06	Vine Brook	Fecal Coliform
Bedford	MA83-08	Shawsheen River	Fecal Coliform
Bedford	MA83-10	Kiln Brook	Fecal Coliform
Bedford	MA83-14	Spring Brook	Fecal Coliform
Bedford	MA83-17	Shawsheen River	Fecal Coliform
Bellingham	MA72-03	Charles River	Pathogens
Bellingham	MA72-04	Charles River	Pathogens
Belmont	MA72-28	Beaver Brook	Pathogens
Berkley	MA62-02	Taunton River	Fecal Coliform
Berkley	MA62-03	Taunton River	Fecal Coliform
Berkley	MA62-20	Assonet River	Fecal Coliform
Beverly	MA93-08	Bass River	Fecal Coliform
Beverly	MA93-09	Danvers River	Fecal Coliform
Beverly	MA93-20	Beverly Harbor	Fecal Coliform
Beverly	MA93-25	Salem Sound	Fecal Coliform
Billerica	MA83-14	Spring Brook	Fecal Coliform
Billerica	MA83-17	Shawsheen River	Fecal Coliform

Billerica	MA83-18	Shawsheen River	Fecal Coliform
Bourne	MA95-01	Buttermilk Bay	Fecal Coliform
Bourne	MA95-14	Cape Cod Canal	Fecal Coliform
Bourne	MA95-15	Phinneys Harbor	Fecal Coliform
Bourne	MA95-16	Pocasset River	Fecal Coliform
Bourne	MA95-17	Pocasset Harbor	Fecal Coliform
Bourne	MA95-18	Red Brook Harbor	Fecal Coliform
Bourne	MA95-47	Back River	Fecal Coliform
Bourne	MA95-48	Eel Pond	Fecal Coliform
Brewster	MA96-09	Quivett Creek	Fecal Coliform
Brewster	MA96-27	Namskaket Creek	Fecal Coliform
Bridgewater	MA62-32	Matfield River	Escherichia Coli (E. Coli)
Brockton	MA62-05	Salisbury Plain River	Escherichia Coli (E. Coli)
Brockton	MA62-06	Salisbury Plain River	Escherichia Coli (E. Coli)
Brockton	MA62-07	Trout Brook	Escherichia Coli (E. Coli)
Brockton	MA62-08	Salisbury Brook	Escherichia Coli (E. Coli)
Brockton	MA62-09	Beaver Brook	Escherichia Coli (E. Coli)
Brookline	MA72-11	Muddy River	Pathogens
Burlington	MA83-06	Vine Brook	Fecal Coliform
Burlington	MA83-11	Long Meadow Brook	Fecal Coliform
Burlington	MA83-13	Sandy Brook	Fecal Coliform
Cambridge	MA72-36	Charles River	Pathogens
Cambridge	MA72-38	Charles River	Pathogens
Canton	MA73-01	Neponset River	Fecal Coliform
Canton	MA73-01	Neponset River	Escherichia Coli (E. Coli)
Canton	MA73-02	Neponset River	Fecal Coliform
Canton	MA73-05	East Branch	Fecal Coliform
Canton	MA73-20	Beaver Meadow Brook	Fecal Coliform
Canton	MA73-22	Pequid Brook	Fecal Coliform
Canton	MA73-25	Pecunit Brook	Escherichia Coli (E. Coli)
Canton	MA73-27	Ponkapog Brook	Fecal Coliform
Chatham	MA96-11	Stage Harbor	Fecal Coliform
Chatham	MA96-41	Mill Creek	Fecal Coliform
Chatham	MA96-42	Taylors Pond	Fecal Coliform
Chatham	MA96-43	Harding Beach Pond	Fecal Coliform
Chatham	MA96-44	Bucks Creek	Fecal Coliform
Chatham	MA96-45	Oyster Pond	Fecal Coliform
Chatham	MA96-46	Oyster Pond River	Fecal Coliform
Chatham	MA96-49	Frost Fish Creek	Pathogens
Chatham	MA96-50	Ryder Cove	Fecal Coliform
Chatham	MA96-51	Muddy Creek	Pathogens

Chatham	MA96-79	Cockle Cove Creek	Fecal Coliform
Chatham	MA96-79	Cockle Cove Creek	Enterococcus Bacteria
Cohasset	MA94-01	Cohasset Harbor	Fecal Coliform
Cohasset	MA94-19	The Gulf	Fecal Coliform
Cohasset	MA94-20	Little Harbor	Fecal Coliform
Cohasset	MA94-32	Cohasset Cove	Fecal Coliform
Concord	MA83-05	Elm Brook	Fecal Coliform
Danvers	MA93-01	Waters River	Fecal Coliform
Danvers	MA93-02	Crane Brook	Escherichia Coli (E. Coli)
Danvers	MA93-04	Porter River	Fecal Coliform
Danvers	MA93-09	Danvers River	Fecal Coliform
Danvers	MA93-36	Frost Fish Brook	Escherichia Coli (E. Coli)
Danvers	MA93-41	Crane River	Fecal Coliform
Dartmouth	MA95-13	Buttonwood Brook	Escherichia Coli (E. Coli)
Dartmouth	MA95-34	Slocums River	Fecal Coliform
Dartmouth	MA95-38	Clarks Cove	Fecal Coliform
Dartmouth	MA95-39	Apponagansett Bay	Fecal Coliform
Dartmouth	MA95-40	East Branch Westport River	Escherichia Coli (E. Coli)
Dartmouth	MA95-62	Buzzards Bay	Fecal Coliform
Dedham	MA72-07	Charles River	Pathogens
Dedham	MA72-21	Rock Meadow Brook	Pathogens
Dedham	MA73-02	Neponset River	Fecal Coliform
Dennis	MA96-09	Quivett Creek	Fecal Coliform
Dennis	MA96-12	Bass River	Fecal Coliform
Dennis	MA96-13	Sesuit Creek	Fecal Coliform
Dennis	MA96-14	Swan Pond River	Fecal Coliform
Dennis	MA96-35	Chase Garden Creek	Fecal Coliform
Dighton	MA62-02	Taunton River	Fecal Coliform
Dighton	MA62-03	Taunton River	Fecal Coliform
Dighton	MA62-50	Broad Cove	Fecal Coliform
Dighton	MA62-51	Muddy Cove Brook	Fecal Coliform
Dighton	MA62-55	Segreganset River	Fecal Coliform
Dighton	MA62-56	Three Mile River	Escherichia Coli (E. Coli)
Dighton	MA62-57	Three Mile River	Fecal Coliform
Dover	MA72-05	Charles River	Pathogens
Dover	MA72-06	Charles River	Pathogens
Duxbury	MA94-15	Duxbury Bay	Fecal Coliform
Duxbury	MA94-30	Bluefish River	Fecal Coliform
East Bridgewater	MA62-06	Salisbury Plain River	Escherichia Coli (E. Coli)
East Bridgewater	MA62-09	Beaver Brook	Escherichia Coli (E. Coli)
East Bridgewater	MA62-32	Matfield River	Escherichia Coli (E. Coli)

East Bridgewater	MA62-33	Shumatuscacant River	Escherichia Coli (E. Coli)
East Bridgewater	MA62-38	Meadow Brook	Escherichia Coli (E. Coli)
Eastham	MA96-15	Boat Meadow River	Fecal Coliform
Eastham	MA96-16	Rock Harbor Creek	Fecal Coliform
Eastham	MA96-34	Wellfleet Harbor	Fecal Coliform
Eastham	MA96-68	Town Cove	Fecal Coliform
Essex	MA93-11	Essex River	Fecal Coliform
Essex	MA93-16	Essex Bay	Fecal Coliform
Essex	MA93-45	Alewife Brook	Escherichia Coli (E. Coli)
Essex	MA93-46	Alewife Brook	Fecal Coliform
Everett	MA93-51	Unnamed Tributary	Enterococcus Bacteria
Fairhaven	MA95-33	Acushnet River	Fecal Coliform
Fairhaven	MA95-42	New Bedford Inner Harbor	Fecal Coliform
Fairhaven	MA95-62	Buzzards Bay	Fecal Coliform
Fairhaven	MA95-63	Outer New Bedford Harbor	Fecal Coliform
Fairhaven	MA95-64	Little Bay	Fecal Coliform
Fairhaven	MA95-65	Nasketucket Bay	Fecal Coliform
Fall River	MA61-06	Mount Hope Bay	Fecal Coliform
Fall River	MA62-04	Taunton River	Fecal Coliform
Falmouth	MA95-20	Wild Harbor	Fecal Coliform
Falmouth	MA95-21	Herring Brook	Fecal Coliform
Falmouth	MA95-22	West Falmouth Harbor	Fecal Coliform
Falmouth	MA95-23	Great Sippewisset Creek	Fecal Coliform
Falmouth	MA95-24	Little Sippewisset Marsh	Fecal Coliform
Falmouth	MA95-25	Quissett Harbor	Fecal Coliform
Falmouth	MA95-46	Harbor Head	Fecal Coliform
Falmouth	MA96-17	Falmouth Inner Harbor	Fecal Coliform
Falmouth	MA96-18	Great Harbor	Fecal Coliform
Falmouth	MA96-19	Little Harbor	Fecal Coliform
Falmouth	MA96-20	Quashnet River	Fecal Coliform
Falmouth	MA96-21	Waquoit Bay	Fecal Coliform
Falmouth	MA96-53	Perch Pond	Fecal Coliform
Falmouth	MA96-54	Great Pond	Fecal Coliform
Falmouth	MA96-55	Green Pond	Fecal Coliform
Falmouth	MA96-56	Little Pond	Fecal Coliform
Falmouth	MA96-57	Bournes Pond	Fecal Coliform
Falmouth	MA96-58	Hamblin Pond	Fecal Coliform
Falmouth	MA96-62	Oyster Pond	Fecal Coliform
Foxborough	MA62-39	Rumford River	Escherichia Coli (E. Coli)
Foxborough	MA62-47	Wading River	Escherichia Coli (E. Coli)
Foxborough	MA73-01	Neponset River	Fecal Coliform

Foxborough	MA73-01	Neponset River	Escherichia Coli (E. Coli)
Franklin	MA72-04	Charles River	Pathogens
Freetown	MA62-04	Taunton River	Fecal Coliform
Freetown	MA62-20	Assonet River	Fecal Coliform
Gloucester	MA93-12	Annisquam River	Fecal Coliform
Gloucester	MA93-16	Essex Bay	Fecal Coliform
Gloucester	MA93-18	Gloucester Harbor	Fecal Coliform
Gloucester	MA93-28	Mill River	Fecal Coliform
Hanover	MA94-05	North River	Fecal Coliform
Hanover	MA94-21	Drinkwater River	Escherichia Coli (E. Coli)
Hanover	MA94-24	Iron Mine Brook	Escherichia Coli (E. Coli)
Hanover	MA94-27	Third Herring Brook	Escherichia Coli (E. Coli)
Hanson	MA62-33	Shumatuscant River	Escherichia Coli (E. Coli)
Harwich	MA96-22	Herring River	Fecal Coliform
Harwich	MA96-23	Saquatucket Harbor	Fecal Coliform
Harwich	MA96-51	Muddy Creek	Pathogens
Holliston	MA72-16	Bogastow Brook	Pathogens
Hopedale	MA72-03	Charles River	Pathogens
Hopkinton	MA72-01	Charles River	Pathogens
Ipswich	MA93-16	Essex Bay	Fecal Coliform
Kingston	MA94-14	Jones River	Fecal Coliform
Kingston	MA94-15	Duxbury Bay	Fecal Coliform
Lawrence	MA83-19	Shawsheen River	Fecal Coliform
Lexington	MA72-28	Beaver Brook	Pathogens
Lexington	MA83-06	Vine Brook	Fecal Coliform
Lexington	MA83-10	Kiln Brook	Fecal Coliform
Lincoln	MA83-05	Elm Brook	Fecal Coliform
Lincoln	MA83-08	Shawsheen River	Fecal Coliform
Lynn	MA93-24	Nahant Bay	Fecal Coliform
Lynn	MA93-44	Saugus River	Fecal Coliform
Lynn	MA93-52	Lynn Harbor	Fecal Coliform
Lynnfield	MA93-30	Beaverdam Brook	Escherichia Coli (E. Coli)
Lynnfield	MA93-32	Hawkes Brook	Escherichia Coli (E. Coli)
Lynnfield	MA93-34	Saugus River	Escherichia Coli (E. Coli)
Lynnfield	MA93-35	Saugus River	Escherichia Coli (E. Coli)
Malden	MA93-51	Unnamed Tributary	Enterococcus Bacteria
Manchester	MA93-19	Manchester Harbor	Fecal Coliform
Manchester	MA93-25	Salem Sound	Fecal Coliform
Manchester	MA93-29	Cat Brook	Escherichia Coli (E. Coli)
Manchester	MA93-47	Causeway Brook	Escherichia Coli (E. Coli)
Mansfield	MA62-39	Rumford River	Escherichia Coli (E. Coli)

Mansfield	MA62-47	Wading River	Escherichia Coli (E. Coli)
Mansfield	MA62-49	Wading River	Escherichia Coli (E. Coli)
Marblehead	MA93-21	Salem Harbor	Fecal Coliform
Marblehead	MA93-22	Marblehead Harbor	Fecal Coliform
Marblehead	MA93-25	Salem Sound	Fecal Coliform
Marion	MA95-05	Weweantic River	Fecal Coliform
Marion	MA95-07	Sippican River	Fecal Coliform
Marion	MA95-08	Sippican Harbor	Fecal Coliform
Marion	MA95-09	Aucoot Cove	Fecal Coliform
Marion	MA95-56	Hammett Cove	Fecal Coliform
Marshfield	MA94-05	North River	Fecal Coliform
Marshfield	MA94-06	North River	Fecal Coliform
Marshfield	MA94-09	South River	Fecal Coliform
Marshfield	MA94-11	Green Harbor	Fecal Coliform
Mashpee	MA96-08	Shoestring Bay	Fecal Coliform
Mashpee	MA96-21	Waquoit Bay	Fecal Coliform
Mashpee	MA96-24	Mashpee River	Fecal Coliform
Mashpee	MA96-39	Popponeset Creek	Fecal Coliform
Mashpee	MA96-58	Hamblin Pond	Fecal Coliform
Mashpee	MA96-61	Little River	Fecal Coliform
Mashpee	MA96-92	Santuit River	Fecal Coliform
Mattapoisett	MA95-09	Aucoot Cove	Fecal Coliform
Mattapoisett	MA95-10	Hiller Cove	Fecal Coliform
Mattapoisett	MA95-35	Mattapoisett Harbor	Fecal Coliform
Mattapoisett	MA95-60	Mattapoisett River	Fecal Coliform
Mattapoisett	MA95-61	Eel Pond	Fecal Coliform
Mattapoisett	MA95-65	Nasketucket Bay	Fecal Coliform
Medfield	MA72-05	Charles River	Pathogens
Medfield	MA72-10	Stop River	Pathogens
Medfield	MA73-09	Mine Brook	Fecal Coliform
Medway	MA72-04	Charles River	Pathogens
Medway	MA72-05	Charles River	Pathogens
Melrose	MA93-48	Bennetts Pond Brook	Escherichia Coli (E. Coli)
Mendon	MA72-03	Charles River	Pathogens
Milford	MA72-01	Charles River	Pathogens
Millis	MA72-05	Charles River	Pathogens
Millis	MA72-16	Bogastow Brook	Pathogens
Milton	MA73-02	Neponset River	Fecal Coliform
Milton	MA73-03	Neponset River	Fecal Coliform
Milton	MA73-04	Neponset River	Fecal Coliform
Milton	MA73-26	Unquity Brook	Fecal Coliform

Milton	MA73-29	Pine Tree Brook	Fecal Coliform
Milton	MA73-30	Gulliver Creek	Fecal Coliform
Nahant	MA93-24	Nahant Bay	Fecal Coliform
Nahant	MA93-52	Lynn Harbor	Fecal Coliform
Nahant	MA93-53	Lynn Harbor	Fecal Coliform
Natick	MA72-05	Charles River	Pathogens
Natick	MA72-06	Charles River	Pathogens
Needham	MA72-06	Charles River	Pathogens
Needham	MA72-07	Charles River	Pathogens
Needham	MA72-18	Fuller Brook	Pathogens
Needham	MA72-21	Rock Meadow Brook	Pathogens
Needham	MA72-25	Rosemary Brook	Pathogens
New Bedford	MA95-13	Buttonwood Brook	Escherichia Coli (E. Coli)
New Bedford	MA95-33	Acushnet River	Fecal Coliform
New Bedford	MA95-38	Clarks Cove	Fecal Coliform
New Bedford	MA95-42	New Bedford Inner Harbor	Fecal Coliform
New Bedford	MA95-63	Outer New Bedford Harbor	Fecal Coliform
Newton	MA72-07	Charles River	Pathogens
Newton	MA72-23	Sawmill Brook	Pathogens
Newton	MA72-24	South Meadow Brook	Pathogens
Newton	MA72-29	Cheese Cake Brook	Pathogens
Newton	MA72-36	Charles River	Pathogens
Norfolk	MA72-05	Charles River	Pathogens
Norfolk	MA72-10	Stop River	Pathogens
North Andover	MA83-19	Shawsheen River	Fecal Coliform
Norton	MA62-49	Wading River	Escherichia Coli (E. Coli)
Norton	MA62-56	Three Mile River	Escherichia Coli (E. Coli)
Norwell	MA94-05	North River	Fecal Coliform
Norwell	MA94-27	Third Herring Brook	Escherichia Coli (E. Coli)
Norwell	MA94-31	Second Herring Brook	Fecal Coliform
Norwood	MA73-01	Neponset River	Fecal Coliform
Norwood	MA73-01	Neponset River	Escherichia Coli (E. Coli)
Norwood	MA73-02	Neponset River	Fecal Coliform
Norwood	MA73-15	Germany Brook	Fecal Coliform
Norwood	MA73-16	Hawes Brook	Fecal Coliform
Norwood	MA73-17	Traphole Brook	Fecal Coliform
Norwood	MA73-24	Purgatory Brook	Fecal Coliform
Norwood	MA73-33	Unnamed Tributary	Escherichia Coli (E. Coli)
Orleans	MA96-16	Rock Harbor Creek	Fecal Coliform
Orleans	MA96-26	Little Namskaket Creek	Fecal Coliform
Orleans	MA96-27	Namskaket Creek	Fecal Coliform

Orleans	MA96-68	Town Cove	Fecal Coliform
Orleans	MA96-72	Paw Wah Pond	Fecal Coliform
Orleans	MA96-73	Pochet Neck	Fecal Coliform
Orleans	MA96-76	The River	Fecal Coliform
Orleans	MA96-78	Little Pleasant Bay	Fecal Coliform
Peabody	MA93-01	Waters River	Fecal Coliform
Peabody	MA93-05	Goldthwait Brook	Escherichia Coli (E. Coli)
Peabody	MA93-39	Proctor Brook	Escherichia Coli (E. Coli)
Pembroke	MA94-05	North River	Fecal Coliform
Plymouth	MA94-15	Duxbury Bay	Fecal Coliform
Plymouth	MA94-16	Plymouth Harbor	Fecal Coliform
Plymouth	MA94-34	Ellisville Harbor	Fecal Coliform
Raynham	MA62-02	Taunton River	Fecal Coliform
Rehoboth	MA53-03	Palmer River	Pathogens
Rehoboth	MA53-04	Palmer River	Pathogens
Rehoboth	MA53-05	Palmer River	Pathogens
Rehoboth	MA53-07	Palmer River - West Branch	Pathogens
Rehoboth	MA53-08	Palmer River - East Branch	Pathogens
Rehoboth	MA53-09	Rumney Marsh Brook	Pathogens
Rehoboth	MA53-10	Beaver Dam Brook	Pathogens
Rehoboth	MA53-11	Bad Luck Brook	Pathogens
Rehoboth	MA53-12	Fullers Brook	Pathogens
Rehoboth	MA53-13	Clear Run Brook	Pathogens
Rehoboth	MA53-14	Torrey Creek	Pathogens
Rehoboth	MA53-15	Old Swamp Brook	Pathogens
Rehoboth	MA53-16	Rocky Run	Pathogens
Revere	MA93-15	Pines River	Fecal Coliform
Revere	MA93-44	Saugus River	Fecal Coliform
Revere	MA93-51	Unnamed Tributary	Enterococcus Bacteria
Revere	MA93-52	Lynn Harbor	Fecal Coliform
Revere	MA93-53	Lynn Harbor	Fecal Coliform
Rockland	MA94-03	French Stream	Escherichia Coli (E. Coli)
Rockport	MA93-17	Rockport Harbor	Fecal Coliform
Salem	MA93-09	Danvers River	Fecal Coliform
Salem	MA93-20	Beverly Harbor	Fecal Coliform
Salem	MA93-21	Salem Harbor	Fecal Coliform
Salem	MA93-25	Salem Sound	Fecal Coliform
Salem	MA93-39	Proctor Brook	Escherichia Coli (E. Coli)
Salem	MA93-40	Proctor Brook	Enterococcus Bacteria
Salem	MA93-42	North River	Fecal Coliform
Sandwich	MA95-14	Cape Cod Canal	Fecal Coliform

Sandwich	MA96-30	Scorton Creek	Fecal Coliform
Sandwich	MA96-84	Old Harbor Creek	Fecal Coliform
Sandwich	MA96-85	Mill Creek	Fecal Coliform
Sandwich	MA96-86	Dock Creek	Fecal Coliform
Sandwich	MA96-87	Springhill Creek	Fecal Coliform
Saugus	MA93-15	Pines River	Fecal Coliform
Saugus	MA93-33	Hawkes Brook	Escherichia Coli (E. Coli)
Saugus	MA93-35	Saugus River	Escherichia Coli (E. Coli)
Saugus	MA93-43	Saugus River	Fecal Coliform
Saugus	MA93-44	Saugus River	Fecal Coliform
Saugus	MA93-48	Bennetts Pond Brook	Escherichia Coli (E. Coli)
Saugus	MA93-49	Shute Brook	Fecal Coliform
Saugus	MA93-50	Shute Brook	Escherichia Coli (E. Coli)
Scituate	MA94-01	Cohasset Harbor	Fecal Coliform
Scituate	MA94-02	Scituate Harbor	Fecal Coliform
Scituate	MA94-05	North River	Fecal Coliform
Scituate	MA94-06	North River	Fecal Coliform
Scituate	MA94-07	Herring River	Fecal Coliform
Scituate	MA94-09	South River	Fecal Coliform
Scituate	MA94-19	The Gulf	Fecal Coliform
Scituate	MA94-32	Cohasset Cove	Fecal Coliform
Scituate	MA94-33	Musquashcut Pond	Fecal Coliform
Seekonk	MA53-01	Runnins River	Fecal Coliform
Seekonk	MA53-12	Fullers Brook	Pathogens
Seekonk	MA53-13	Clear Run Brook	Pathogens
Seekonk	MA53-14	Torrey Creek	Pathogens
Sharon	MA62-39	Rumford River	Escherichia Coli (E. Coli)
Sharon	MA73-17	Traphole Brook	Fecal Coliform
Sharon	MA73-31	Unnamed Tributary	Fecal Coliform
Sherborn	MA72-05	Charles River	Pathogens
Somerset	MA61-01	Lee River	Fecal Coliform
Somerset	MA61-02	Lee River	Fecal Coliform
Somerset	MA61-06	Mount Hope Bay	Fecal Coliform
Somerset	MA62-03	Taunton River	Fecal Coliform
Somerset	MA62-04	Taunton River	Fecal Coliform
Somerset	MA62-50	Broad Cove	Fecal Coliform
Stoughton	MA73-20	Beaver Meadow Brook	Fecal Coliform
Stoughton	MA73-32	Unnamed Tributary	Escherichia Coli (E. Coli)
Swampscott	MA93-24	Nahant Bay	Fecal Coliform
Swansea	MA53-03	Palmer River	Pathogens
Swansea	MA53-06	Warren River Pond	Fecal Coliform

Swansea	MA53-16	Rocky Run	Pathogens
Swansea	MA61-01	Lee River	Fecal Coliform
Swansea	MA61-02	Lee River	Fecal Coliform
Swansea	MA61-04	Cole River	Fecal Coliform
Swansea	MA61-07	Mount Hope Bay	Fecal Coliform
Swansea	MA61-08	Kickemuit River	Pathogens
Taunton	MA62-02	Taunton River	Fecal Coliform
Taunton	MA62-56	Three Mile River	Escherichia Coli (E. Coli)
Taunton	MA62-57	Three Mile River	Fecal Coliform
Tewksbury	MA83-07	Strong Water Brook	Fecal Coliform
Tewksbury	MA83-15	Unnamed Tributary	Fecal Coliform
Tewksbury	MA83-18	Shawsheen River	Fecal Coliform
Wakefield	MA93-31	Mill River	Escherichia Coli (E. Coli)
Wakefield	MA93-34	Saugus River	Escherichia Coli (E. Coli)
Wakefield	MA93-35	Saugus River	Escherichia Coli (E. Coli)
Walpole	MA72-10	Stop River	Pathogens
Walpole	MA73-01	Neponset River	Fecal Coliform
Walpole	MA73-01	Neponset River	Escherichia Coli (E. Coli)
Walpole	MA73-06	School Meadow Brook	Fecal Coliform
Walpole	MA73-09	Mine Brook	Fecal Coliform
Walpole	MA73-17	Traphole Brook	Fecal Coliform
Waltham	MA72-07	Charles River	Pathogens
Waltham	MA72-28	Beaver Brook	Pathogens
Wareham	MA95-01	Buttermilk Bay	Fecal Coliform
Wareham	MA95-02	Onset Bay	Fecal Coliform
Wareham	MA95-03	Wareham River	Fecal Coliform
Wareham	MA95-05	Weweantic River	Fecal Coliform
Wareham	MA95-07	Sippican River	Fecal Coliform
Wareham	MA95-29	Agawam River	Fecal Coliform
Wareham	MA95-49	Broad Marsh River	Fecal Coliform
Wareham	MA95-50	Wankinco River	Fecal Coliform
Wareham	MA95-51	Crooked River	Fecal Coliform
Wareham	MA95-52	Cedar Island Creek	Fecal Coliform
Wareham	MA95-53	Beaverdam Creek	Fecal Coliform
Watertown	MA72-07	Charles River	Pathogens
Watertown	MA72-30	Unnamed Tributary	Pathogens
Watertown	MA72-32	Unnamed Tributary	Pathogens
Watertown	MA72-36	Charles River	Pathogens
Wellesley	MA72-06	Charles River	Pathogens
Wellesley	MA72-07	Charles River	Pathogens
Wellesley	MA72-18	Fuller Brook	Pathogens

Wellesley	MA72-25	Rosemary Brook	Pathogens
Wellfleet	MA96-32	Duck Creek	Fecal Coliform
Wellfleet	MA96-33	Herring River	Fecal Coliform
Wellfleet	MA96-34	Wellfleet Harbor	Fecal Coliform
West Bridgewater	MA62-06	Salisbury Plain River	Escherichia Coli (E. Coli)
Weston	MA72-07	Charles River	Pathogens
Westport	MA95-37	West Branch Westport River	Fecal Coliform
Westport	MA95-40	East Branch Westport River	Escherichia Coli (E. Coli)
Westport	MA95-41	East Branch Westport River	Fecal Coliform
Westport	MA95-44	Snell Creek	Escherichia Coli (E. Coli)
Westport	MA95-45	Snell Creek	Escherichia Coli (E. Coli)
Westport	MA95-54	Westport River	Fecal Coliform
Westport	MA95-58	Bread And Cheese Brook	Escherichia Coli (E. Coli)
Westport	MA95-59	Snell Creek	Fecal Coliform
Westwood	MA72-21	Rock Meadow Brook	Pathogens
Westwood	MA73-02	Neponset River	Fecal Coliform
Westwood	MA73-15	Germany Brook	Fecal Coliform
Westwood	MA73-24	Purgatory Brook	Fecal Coliform
Westwood	MA73-25	Pecunit Brook	Escherichia Coli (E. Coli)
Westwood	MA73-27	Ponkapog Brook	Fecal Coliform
Whitman	MA62-09	Beaver Brook	Escherichia Coli (E. Coli)
Whitman	MA62-33	Shumatuscasant River	Escherichia Coli (E. Coli)
Whitman	MA62-38	Meadow Brook	Escherichia Coli (E. Coli)
Wilmington	MA83-18	Shawsheen River	Fecal Coliform
Winthrop	MA93-53	Lynn Harbor	Fecal Coliform
Yarmouth	MA96-12	Bass River	Fecal Coliform
Yarmouth	MA96-35	Chase Garden Creek	Fecal Coliform
Yarmouth	MA96-36	Lewis Bay	Fecal Coliform
Yarmouth	MA96-37	Mill Creek	Fecal Coliform
Yarmouth	MA96-38	Parkers River	Fecal Coliform
Yarmouth	MA96-80	Mill Creek	Fecal Coliform
Yarmouth	MA96-82	Hyannis Inner Harbor	Fecal Coliform

Table F-8: Bacteria or pathogens impaired waterbody names and segment IDs along with primary municipality and indicator organism identified by the applicable TMDL. The term primary municipality indicates the municipality in which the majority of the segment is located, but does not necessarily indicate each municipality that has regulated discharges to the waterbody segment.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.III.1. as follows:
 - a. The permittee is relieved of additional requirements as of the date when the following conditions are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable to the receiving water

- that indicates that no additional stormwater controls for bacteria/pathogens are necessary for the permittee's discharge based on wasteload allocations in the newly approved TMDL
- b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any additional remaining requirements of Appendix F part A.III.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.III.1 to date to reduce bacteria/pathogens in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix F part A.III.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

IV. Cape Cod Nitrogen TMDL Requirements

There are 19 approved TMDLs for nitrogen for various watersheds, ponds and bays on Cape Cod.¹⁵ The following measures are needed to ensure that current nitrogen loads from MS4 stormwater discharged into the impaired waterbodies do not increase.

1. The operators of traditional and non-traditional MS4s located in municipalities listed in Table F-9 or any other MS4 (traditional and non-traditional) that discharges to any waterbody listed in Table F-9 or their tributaries shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:
 - a. Enhanced BMPs
 - i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:
 1. part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the Fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of nitrogen to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.V, B.I, B.II and B.III where appropriate.
 2. part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs to reduce nitrogen discharges.

¹⁵ Final nitrogen TMDLs for Cape Cod can be found here:

<http://www.mass.gov/eea/agencies/massdep/water/watersheds/total-maximum-daily-loads-tmdls.html>

3. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: establish requirements for use of slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in in part 2.3.7.1; establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two (2) times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

Municipality	Waterbody Name
Barnstable	Centerville River
Barnstable	Popponeset Bay
Barnstable	Shoestring Bay
Barnstable	Cotuit Bay
Barnstable	North Bay
Barnstable	Prince Cove
Barnstable	West Bay
Barnstable	Hyannis Inner Harbor
Barnstable	Lewis Bay
Bourne	Phinneys Harbor
Chatham	Crows Pond
Chatham	Bucks Creek
Chatham	Harding Beach Pond
Chatham	Mill Creek
Chatham	Mill Pond
Chatham	Oyster Pond
Chatham	Oyster Pond River
Chatham	Stage Harbor
Chatham	Taylor's Pond
Chatham	Frost Fish Creek
Chatham	Ryder Cove
Falmouth	Bournes Pond
Falmouth	Great Pond
Falmouth	Green Pond
Falmouth	Perch Pond
Falmouth	Little Pond
Falmouth	Oyster Pond
Falmouth	Quashnet River
Falmouth	Inner West Falmouth Harbor

Municipality	Waterbody Name
Falmouth	West Falmouth Harbor
Falmouth	Snug Harbor
Falmouth	Harbor Head
Harwich	Muddy Creek - Lower
Harwich	Muddy Creek - Upper
Harwich	Round Cove
Mashpee	Mashpee River
Mashpee	Great River
Mashpee	Hamblin Pond
Mashpee	Jehu Pond
Mashpee	Little River
Orleans	Areys Pond
Orleans	Little Pleasant Bay
Orleans	Namequoit River
Orleans	Paw Wah Pond
Orleans	Pleasant Bay
Orleans	Pochet Neck
Orleans	Quanset Pond
Yarmouth	Mill Creek
Yarmouth	Hyannis Inner Harbor
Yarmouth	Lewis Bay

Table F-9: Waterbodies subject to a Cape Cod nitrogen TMDL and the primary municipalities

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.IV.1. applicable to it when in compliance with this part.
 - a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of nitrogen are necessary for the permittee’s discharge based on wasteload allocations in the newly approved TMDL
 - b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part A.IV.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.IV.1 to date to reduce nitrogen in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix F part A.IV.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing

implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

V. Assabet River Phosphorus TMDL Requirements

On September 23, 2004 EPA approved the *Assabet River Total Maximum Daily Load for Total Phosphorus*¹⁶. The following measures are needed to ensure that current phosphorus loads from MS4 stormwater discharged directly or indirectly via tributaries into the Assabet River do not increase.

1. The operators of traditional and non-traditional MS4s located in municipalities listed in Table F-10 within the Assabet River Watershed shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:
 - a. Enhanced BMPs
 - i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:
 1. part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (March/April) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorous-free fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of phosphorous to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.IV, B.I, B.II and B.III where appropriate.
 2. part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.
 3. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: Establish program to properly

¹⁶ Massachusetts Department of Environmental Protection, 2004. *Assabet River Total Maximum Daily Load for Total Phosphorus*. CN 201.0

manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

Municipality
Acton
Berlin
Bolton
Boxborough
Boylston
Carlisle
Clinton
Concord
Grafton
Harvard
Hudson
Littleton
Marlborough
Maynard
Northborough
Shrewsbury
Stow
Westborough
Westford

Table F-10: Municipalities located in the Assabet River Watershed

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part A.V.1. as follows.
 - a. The permittee is relieved of its additional requirements as of the date when following conditions are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee’s discharge based on wasteload allocations in the newly approved TMDL
 - b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part A.V.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part A.V.1 to

date to reduce phosphorus in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs

- ii. The permittee shall continue to implement all requirements of Appendix F part A.V.1 required to be implemented prior to the date of the newly approved TMDL including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

B. Requirements for Discharges to Impaired Waters with an Approved Out of State TMDL

I. Nitrogen TMDL Requirements

Discharges from MS4s in Massachusetts to waters that are tributaries to the Long Island Sound, which has an approved TMDL for nitrogen¹⁷, are subject to the requirements of this part.

1. The operators of traditional and non-traditional MS4s located in municipalities listed in Table F-11 shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:
 - a. Enhanced BMPs
 - i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:
 1. part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the Fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of nitrogen to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.IV, A.V, B.II and B.III where appropriate.
 2. part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs to reduce nitrogen discharges.
 3. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: establish requirements for use of

¹⁷ Connecticut Department of Environmental Protection. 2000. *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound*

slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in in part 2.3.7.1; establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two (2) times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

b. Nitrogen Source Identification Report

- i. Within four years of the permit effective date the permittee shall complete a Nitrogen Source Identification Report. The report shall include the following elements:
 1. Calculation of total urbanized area within the permittee's jurisdiction that is within the Connecticut River Watershed, the Housatonic River Watershed, or the Thames River Watershed, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
 2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s)
 3. Impervious area and DCIA for the target catchment
 4. Identification, delineation and prioritization of potential catchments with high nitrogen loading
 5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during re-development
- ii. The final Nitrogen Source Identification Report shall be submitted to EPA as part of the year 4 annual report.

c. Structural BMPs

- i. Within five years of the permit effective date, the permittee shall evaluate all properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii. or identified in the Nitrogen Source Identification Report. The evaluation shall include:
 1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
 2. The estimated cost of redevelopment or retrofit BMPs; and
 3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.
- ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual

report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high nitrogen load potential. The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

- iii. Any structural BMPs listed in Table 4-3 of Attachment 1 to Appendix H installed in the urbanized area by the permittee or its agents shall be tracked and the permittee shall estimate the nitrogen removal by the BMP consistent with Attachment 1 to Appendix H. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP in each annual report.

Adams	North Adams
Agawam	Northampton
Amherst	Oxford
Ashburnham	Palmer
Ashby	Paxton
Auburn	Pelham
Belchertown	Pittsfield
Charlton	Richmond
Cheshire	Russell
Chicopee	Rutland
Dalton	South Hadley
Douglas	Southampton
Dudley	Southbridge
East Longmeadow	Southwick
Easthampton	Spencer
Gardner	Springfield
Granby	Sturbridge
Hadley	Sutton
Hampden	Templeton
Hatfield	Ware
Hinsdale	Webster
Holyoke	West Springfield
Lanesborough	Westfield
Leicester	Westhampton
Lenox	Westminster
Longmeadow	Wilbraham
Ludlow	Williamsburg
Millbury	Winchendon

Monson	
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Table F-11: Massachusetts municipalities in which MS4 discharges are within the Connecticut River Watershed, the Housatonic River Watershed, or the Thames River Watershed.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part B.I.1. as follows:
 - a. The permittee is relieved of its additional requirements as of the date when the following conditions are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of nitrogen are necessary for the permittee’s discharge based on wasteload allocations in the newly approved TMDL
 - b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part B.I.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part B.I.1 to date to reduce nitrogen in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix F part B.I.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

II. Phosphorus TMDL Requirements

There are currently eight approved phosphorus TMDLs for certain waterbody segments in Rhode Island that identify urban stormwater discharges in Massachusetts as sources that are contributing phosphorus to the impaired segments. The TMDLs include the Kickemuit Reservoir, Upper Kickemuit River, Kickemuit River, Ten Mile River, Central Pond, Turner Reservoir, Lower Ten Mile River, and Omega Pond TMDLs¹⁸. Table F-12 lists municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing phosphorus to the impaired waterbody segments in Rhode Island, the impaired receiving water, and the approved TMDL name. Any permittee (traditional or non-traditional) that operates an MS4 in a municipality listed in Table F-12 and that discharges to a waterbody or tributary of a waterbody listed on Table F-12 is subject to the requirements of this part.

1. The operators of traditional and non-traditional MS4s located in municipalities listed in Table F-12 and that discharge to a waterbody or a tributary of a waterbody identified on Table F-12 shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:
 - a. Enhanced BMPs
 - i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:
 1. part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (March/April) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorous-free fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of phosphorous to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.IV, A.V, B.I, and B.III where appropriate.
 2. part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for

¹⁸ See <http://www.dem.ri.gov/programs/benviron/water/quality/rest/reports.htm> for all RI TMDL documents. (retrieved 6/30/2014)

adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.

3. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: Establish program to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

b. Phosphorus Source Identification Report

- i. Within four years of the permit effective date the permittee shall complete a Phosphorus Source Identification Report. The report shall include the following elements:
 1. Calculation of total urbanized area draining to the water quality limited receiving water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
 2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s)
 3. Impervious area and DCIA for the target catchment
 4. Identification, delineation and prioritization of potential catchments with high phosphorus loading
 5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during re development, including the removal of impervious area of permittee owned properties
- ii. The phosphorus source identification report shall be submitted to EPA as part of the year 4 annual report.

c. Structural BMPs

- i. Within five years of the permit effective date, the permittee shall evaluate all permittee owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the water quality limited water or its tributaries. The evaluation shall include:

1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
 2. The estimated cost of redevelopment or retrofit BMPs; and
 3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.
- ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorus load potential. The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.
- iii. Any structural BMPs installed in the urbanized area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 3 to Appendix F. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each annual report.

Municipality	Receiving Water	TMDL Name
Attleboro	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Omega Pond and Turner Reservoir	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
North Attleborough	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Omega Pond and Turner Reservoir	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Plainville	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Omega Pond and Turner Reservoir	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Rehoboth	Upper Kikemuit River, Kickemuit River, Kickemuit Reservoir	Fecal Coliform and Total Phosphorus TMDLs:

Municipality	Receiving Water	TMDL Name
		Kickemuit Reservoir, Rhode Island (RI0007034L-01) Upper Kickemuit River (RI 0007034R-01) Kickemuit River (MA 61-08 2004)
Seekonk	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Omega Pond and Turner Reservoir	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Swansea	Upper Kikemuit River, Kickemuit River, Kickemuit Reservoir	Fecal Coliform and Total Phosphorus TMDLs: Kickemuit Reservoir, Rhode Island (RI0007034L-01) Upper Kickemuit River (RI 0007034R-01) Kickemuit River (MA 61-08 2004)

Table F-12: Municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing phosphorus to the impaired waterbody segments in Rhode Island, the impaired receiving water, and the approved TMDL name.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part B.II.1. as follows:
 - a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee’s discharge based on wasteload allocations in the newly approved TMDL
 - b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part B.II.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part B.II.1 to date to reduce phosphorus in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix F part B.II.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

III. Bacteria and Pathogen TMDL Requirements

There are currently six approved bacteria (fecal coliform bacteria) or pathogen (fecal coliform and/or enterococcus bacteria) TMDLs for certain waterbody segments in Rhode Island that identify urban stormwater discharges in Massachusetts as sources that are contributing bacteria or pathogens to the impaired segments. The TMDLs include the Kickemuit Reservoir, Upper Kikemuit River, Ten Mile River, Lower Ten Mile River and Omega Pond TMDLs¹⁹ Table F-13 lists municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing bacteria or pathogens to the impaired waterbody segments in Rhode Island,, the impaired receiving water, and the approved TMDL name. Any permittee (traditional or non-traditional) that operates an MS4 in a municipality listed in Table F-13 and that discharges to a waterbody or a tributary of a waterbody listed on Table F-13 is subject to the requirements of this part.

- 1) Traditional and non-traditional MS4s operating in the municipalities identified in Table F-13 and that discharge to a waterbody or a tributary of a waterbody identified on Table F-13 shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below::
 - a. Enhanced BMPs
 - i. Enhancement of BMPs required by part 2.3 of the permit that shall be implemented during this permit term:
 1. part 2.3.3. Public Education: The permittee shall supplement its Residential program with an annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee or its agents shall disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The permittee shall also provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens. All public education messages can be combined with requirements of Appendix H part I, II and III as well as Appendix F part A.III, A.IV, A.V, B.I, and B.II where appropriate.
 2. part 2.3.4 Illicit Discharge: Catchments draining to any waterbody impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.

¹⁹ See <http://www.dem.ri.gov/programs/benviron/water/quality/rest/reports.htm> for all RI TMDL documents. (retrieved 6/30/2014)

Municipality	Receiving Water	TMDL Name
Attleboro	Upper Ten Mile River, Lower Ten Mile River, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
North Attleborough	Upper Ten Mile River, Lower Ten Mile River, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Plainville	Upper Ten Mile River, Lower Ten Mile River, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Rehoboth	Upper Kikemuit River, Kickemuit Reservoir	Fecal Coliform and Total Phosphorus TMDLs: Kickemuit Reservoir, Rhode Island (RI0007034L-01) Upper Kickemuit River (RI 0007034R-01) Kickemuit River (MA 61-08_2004)
Seekonk	Upper Ten Mile River, Lower Ten Mile River, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed

Table F-13: Municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing bacteria or pathogens to the impaired waterbody segments in Rhode Island,, the impaired receiving water, and the approved TMDL name

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part B.III.1. applicable to it when in compliance with this part.
 - a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of bacteria/pathogens are necessary for the permittee’s discharge based on wasteload allocations in the newly approved TMDL
 - b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part B.III.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part B.III.1 to date to reduce bacteria/pathogens in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix F part B.III.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation

of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

IV. Metals TMDL Requirements

There are currently five approved metals TMDL for a waterbody segment in Rhode Island that identifies urban stormwater discharges in Massachusetts as sources that are contributing metals (Cadmium, Lead, Aluminum, Iron) to the impaired segment. The TMDLs include the Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir and Omega Pond TMDLs.²⁰ Table F-14 lists municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing metals to the impaired waterbody segments in Rhode Island, the impaired receiving water, the approved TMDL name, and the pollutant of concern. Any permittee (traditional or non-traditional) that operates an MS4 in a municipality listed in Table F-14 and the discharge is to a waterbody or tributary of a waterbody listed on Table F-14 is subject to the requirements of this part.

- 1) Traditional and non-traditional MS4s operating in the municipalities identified in Table F-14 and that discharge to a waterbody or a tributary of a waterbody identified on Table F-14 shall identify and implement BMPs designed to reduce metals discharges from its MS4. To address metals discharges, each permittee shall comply with the following BMPs in addition to the requirements of part 2.3 of the Permit, as described below:
 - a. Enhanced BMPs
 - i. The permittee remains subject to the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:
 1. part 2.3.6, Stormwater Management in New Development and Redevelopment: stormwater management systems designed on commercial and industrial land use area draining to the water quality limited waterbody shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event. EPA also encourages the permittee to require any stormwater management system designed to infiltrate stormwater on commercial or industrial sites to provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration of the same volume of runoff to be infiltrated, prior to infiltration.
 2. part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: increased street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads. This may include, but is not limited to, increased street sweeping frequency in commercial areas and high density residential areas, or

²⁰ See <http://www.dem.ri.gov/programs/benviron/water/quality/rest/reports.htm> for all RI TMDL documents. (retrieved 6/30/2014)

drainage areas with a large amount of impervious area. Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full. Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings. Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.

Municipality	Receiving Water	TMDL Name
Attleboro	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
North Attleborough	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Plainville	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed
Seekonk	Upper Ten Mile River, Lower Ten Mile River, Central Pond, Turner Reservoir, Omega Pond	Total Maximum Daily Load Analysis For The Ten Mile River Watershed

Table F-14: Municipalities in Massachusetts identified in the TMDLs as containing MS4s contributing metals to the impaired waterbody segments in Rhode Island, the impaired receiving water, the approved TMDL name, and the pollutant of concern.

2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix F part B.IV.1. applicable to it when in compliance with this part.
 - a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - i. The applicable TMDL has been modified, revised or withdrawn and EPA has approved a new TMDL applicable for the receiving water that indicates that no additional stormwater controls for the control of metals (Cadmium, Lead, Aluminum, Iron) are necessary for the permittee’s discharge based on wasteload allocations in the newly approved TMDL

- b. In such a case, the permittee shall document the date of the approved TMDL in its SWMP and is relieved of any remaining requirements of Appendix F part B.IV.1 as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix F part B.IV.1 to date to reduce metals (Cadmium, Lead, Aluminum, Iron) in their discharges including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix F part B.IV.1 required to be implemented prior to the date of the newly approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

C. Requirements for Discharges to Impaired Waters with a Regional TMDL**I. The “Northeast Regional Mercury TMDL (2007)”**

The Northeast Regional Mercury TMDL does not specify a wasteload allocation or other requirements either individually or categorically for the MS4 discharges and specifies that load reductions are to be achieved through reduction in atmospheric deposition sources. No requirements related to this TMDL are imposed on MS4 discharges under this part. However, if the permittee becomes aware, or EPA or MassDEP determines, that an MS4 discharge is causing or contributing to such impairment to an extent that cannot be explained by atmospheric deposition (e.g. chemical spill, acid landfill leachate or other sources), the permittee shall comply with the requirements of part 2.1.1.d and 2.3.4 of the permit.

ATTACHMENT 1 TO APPENDIX F

Method to Calculate Baseline Phosphorus Load (Baseline), Phosphorus Reduction Requirements and Phosphorus load increases due to development (P_{DEVinc})

The methods and annual phosphorus load export rates presented in Attachments 1, 2 and 3 are for the purpose of measuring load reductions for various stormwater BMPs treating runoff from different site conditions (i.e. impervious or pervious) and land uses (e.g. commercial, industrial, residential). The estimates of annual phosphorus load and load reductions due to BMPs are intended for use by the permittee to measure compliance with its Phosphorus Reduction Requirement under the permit.

This attachment provides the method to calculate a baseline phosphorus load discharging in stormwater for the impaired municipalities subject to Lakes and Ponds TMDL. A complete list of municipalities subject to these TMDLs is presented in Appendix F, Table F-6. This method shall be used to calculate the following annual phosphorus loads:

- 1) Baseline Phosphorus Load for Permittees
- 2) Phosphorus Reduction Requirement

This attachment also provides the method to calculate stormwater phosphorus load increases due to development for the municipalities subject to the Charles River TMDL requirements and the Lakes & Ponds TMDL requirements:

- 3) Phosphorus Load Increases due to Development

The **Baseline Phosphorus Load** is a measure of the annual phosphorus load discharging in stormwater from the impervious and pervious areas of the impaired Lake Phosphorus Control Plan (LPCP) Area.

The **Baseline Phosphorus Pounds Reduction** referred to as the permittee's **Phosphorus Reduction Requirement** represents the required reduction in annual phosphorus load in stormwater to meet the WLA for the impaired watershed. The percent phosphorus reduction for each watershed (identified in Appendix F, Table F-6) is applied to the Baseline Phosphorus Load to calculate the Phosphorus Pounds Reduction.

The **Phosphorus load increases due to development (P_{DEVinc})** is the stormwater phosphorus load increases due to development over the previous reporting period and incurred to date. Increases in stormwater phosphorus load from development will increase the permittee's baseline phosphorus load and therefore, the phosphorus reduction requirement.

Examples are provided to illustrate use of the methods. Table 1-1 below provides annual composite phosphorus load export rates (PLERs) by land use category for the Baseline Load and Phosphorus Reduction Requirement calculations. The permittee shall select the land use category that most closely represents the actual use of the watershed. For watersheds with institutional type uses, such as government properties, hospitals, and schools, the permittee shall use the commercial land use category for the purpose of calculating phosphorus loads. Table 1-2 provides annual PLERs by land use category for impervious and pervious areas. The permittee shall select the land use category that most closely represents the actual use of the watershed. For pervious areas, if the hydrologic soil group (HSG) is known, use the appropriate value. If the HSG is not known, assume HSG C conditions for the phosphorus load export rate. For watersheds with

institutional type uses, such as government properties, hospitals, and schools, the permittee shall use the commercial/industrial land use category for the purpose of calculating phosphorus loads. Table 1-3 provides a crosswalk table of land use codes between Tables 1-1 and 1-2 and the codes used by MassGIS.

The composite PLERs in Table 1-1 to be used for calculating Baseline Phosphorus Load are based on the specified directly connected impervious area (DCIA). If the permittee determines through mapping and site investigations that the overall DCIA for the collective area for each land use category is different than the corresponding values in Table 1-1, then the permittee is encouraged to submit this information in its annual report and request EPA to recalculate the composite PLERs for the permittees to use in refining the Baseline Phosphorus Load calculation for the LPCP.

(1) Baseline Phosphorus Load: The permittee shall calculate the **Baseline Phosphorus Load** by the following procedure:

- 1) Determine the total area (acre) associated with the impaired watershed;
- 2) Sort the total area associated with the watershed into land use categories;
- 3) Calculate the annual phosphorus load associated with each land use category by multiplying the total area of land use by the appropriate land use-based composite phosphorus load export rate provided in Table 1-1; and
- 4) Determine the Baseline Phosphorus Load by summing the land use loads.

Example 1-1 to determine Baseline Phosphorus Load:

Watershed A is 18.0 acres, with 11.0 acres of industrial area (e.g. access drives, buildings, and parking lots), 3.0 acres of medium-density residential and 4.0 acres of unmanaged wooded area.

The **Baseline Phosphorus Load** = (Baseline P Load_{IND}) + (Baseline P Load_{MDR}) + (Baseline P Load_{FOR})

Where:

$$\begin{aligned} \text{Baseline P Load}_{\text{IND}} &= (\text{TA}_{\text{IND}}) \times (\text{PLER for industrial use (Table 1-1)}) \\ &= 11.0 \text{ acre} \times 1.27 \text{ lbs/acre/year} \\ &= 14.0 \text{ lbs P/year} \end{aligned}$$

$$\begin{aligned} \text{Baseline P Load}_{\text{MDR}} &= (\text{TA}_{\text{MDR}}) \times (\text{PLER for medium density residential (Table 1-1)}) \\ &= 3.0 \text{ acre} \times 0.49 \text{ lbs/acre/year} \\ &= 1.5 \text{ lbs P/year} \end{aligned}$$

$$\begin{aligned} \text{Baseline P Load}_{\text{FOR}} &= (\text{TA}_{\text{FOR}}) \times (\text{PLER for forest (Table 1-1)}) \\ &= 4.0 \text{ acre} \times 0.12 \text{ lbs/acre/year} \\ &= 0.5 \text{ lbs P/year} \end{aligned}$$

$$\begin{aligned} \text{Baseline Phosphorus Load} &= 14.0 \text{ lbs P/year} + 1.5 \text{ lbs P/year} + 0.5 \text{ lbs P/year} \\ &= \mathbf{16.0 \text{ lbs P/year}} \end{aligned}$$

(2) Baseline Phosphorus Pounds Reduction (Phosphorus Reduction Requirement): The Baselines Phosphorus Reduction requirement is the amount of reduction in annual phosphorus load (in pounds) that the permittee is required to achieve in the Watershed. The permittee shall calculate the **Phosphorus Reduction Requirement** by multiplying the **Baseline Phosphorus Load** by the applicable percent phosphorus reduction for that watershed specified in Table F-6 (Appendix F).

Example 1-2 to determine Watershed Phosphorus Reduction Requirement:
 Table F-6 identifies Watershed A’s percent phosphorus reduction as 45%; therefore the Watershed Phosphorus Reduction Requirement is:

Phosphorus Reduction Requirement = (Baseline Phosphorus Load) x (0.45)
 = (16.0 lbs P/year) x (0.45)
 = **7.2 lbs P/year**

(3) Phosphorus load increases due to development (P_{DEVinc}): To estimate the increases in stormwater phosphorus load due to development in the Watershed (either PCP or LPCP Area), the permittee will use the following procedure:

- 1) Determine the total area of development by land use category and calculate the baseline load from that area using the composite PLERs in Table 1-1;
- 2) Distribute the total development area into impervious and pervious subareas by land use category;
- 3) Calculate the phosphorus load due to development (P_{DEV}) for each land use-based impervious and pervious subarea by multiplying the subarea by the appropriate phosphorus load export rate provided in Table 1-2; and
- 4) Determine the phosphorus load increase (P_{DEVinc}) by subtracting the baseline phosphorus load from the increased phosphorus load due to development.

Note: If structural BMPs are installed as part of new development, the P_{DEVinc} will be reduced by the amount of BMP load treated by that BMP as calculated in Attachment 3.

Example 1-3 to determine Phosphorus Load Increases: For the same 15.11 acre Watershed A as specified in Example 1-1, a permittee has tracked development in the LPCP Area in the last year that resulted in 1.5 acres of medium density residential area and 0.5 acres of forest land being converted to high density residential impervious area as detailed below. The undeveloped MDR area is pervious area, HSG C soil and the undeveloped forest area is pervious, HSG B soil.

Land Use Category	Baseline Area (acres)	P export rate (lbs P/acre/yr)*	Baseline area unchanged (acres)	P export rate (lbs P/acre/yr)**	Developed Area converted to HDR IA (acres)	P export rate (lbs P/acre/yr)**
Industrial	11.0	1.27	No change	--	No change	--
MDR	3.0	0.49	1.5	0.21	1.5	2.32

Forest	4.0	0.12	3.5	0.12	0.5	2.32
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*From Table 1-1; ** From Table 1-2

The phosphorus load increase is calculated as:

$$\begin{aligned} \text{Baseline Load} &= (\text{Baseline P Load}_{\text{IND}}) + \\ &\quad (\text{Baseline P Load}_{\text{MDR}}) + \\ &\quad (\text{Baseline P Load}_{\text{FOR}}) \\ &= \mathbf{16.0 \text{ lb/year}} \text{ (determined in Example 1-1)} \end{aligned}$$

$$\begin{aligned} P_{\text{DEV}} &= (T_{\text{AIND}} \times \text{PLER}_{\text{IND}}) + (I_{\text{AHDR}} \times \text{PLER}_{\text{HDR}}) + (P_{\text{AMDR}} \times \text{PLER}_{\text{MDR}}) + (P_{\text{AFOR}} \times \\ &\quad \text{PLER}_{\text{FOR}}) \\ &= (11.0 \text{ acres} \times 1.27) + (2.0 \text{ acres} \times 2.32) + (1.5 \text{ acres} \times 0.21) + (3.5 \times \\ &\quad 0.12) \\ &= \mathbf{19.0 \text{ lbs P/year}} \end{aligned}$$

$$\begin{aligned} P_{\text{DEVinc}} &= P_{\text{DEV}} - \text{Baseline Load} \\ &= 19.0 - 16.0 \\ &= \mathbf{3.0 \text{ lbs/year}} \end{aligned}$$

Table 1-1. Annual composite phosphorus load export rates

Land Cover	Representative DCIA, %	Composite PLERs, lb/ac/yr	Composite PLERs, kg/ha/yr
Commercial	57	1.13	1.27
Industrial	67	1.27	1.42
High Density Residential	36	1.04	1.16
Medium Density Residential	16	0.49	0.55
Low Density Residential	11	0.30	0.34
Freeway	44	0.73	0.82
Open Space	8	0.26	0.29
Agriculture	0.4	0.45	0.50
Forest	0.1	0.12	0.13

Table 1-2: Proposed average annual distinct P Load export rates for use in estimating P Load reduction credits the MA MS4 Permit

Phosphorus Source Category by Land Use	Land Surface Cover	P Load Export Rate, lbs/acre/year	P Load Export Rate, kg/ha/yr
Commercial (Com) and Industrial (Ind)	Directly connected impervious	1.78	2.0
	Pervious	See* DevPERV	See* DevPERV
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	2.6
	Pervious	See* DevPERV	See* DevPERV
Medium -Density Residential (MDR)	Directly connected impervious	1.96	2.2
	Pervious	See* DevPERV	See* DevPERV
Low Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Highway (HWY)	Directly connected impervious	1.34	1.5
	Pervious	See* DevPERV	See* DevPERV
Forest (For)	Directly connected impervious	1.52	1.7
	Pervious	0.13	0.13
Open Land (Open)	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Agriculture (Ag)	Directly connected impervious	1.52	1.7
	Pervious	0.45	0.5
*Developed Land Pervious (DevPERV)- Hydrologic Soil Group A	Pervious	0.03	0.03
*Developed Land Pervious (DevPERV)- Hydrologic Soil Group B	Pervious	0.12	0.13
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group C	Pervious	0.21	0.24
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group C/D	Pervious	0.29	0.33
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group D	Pervious	0.37	0.41

Table 1-3: Crosswalk of MassGIS land-use categories to land-use groups for P Load Calculations

Mass GIS Land Use LU_CODE	Description	Land Use group for calculating P Load - 2013/14 MA MS4
1	Crop Land	Agriculture
2	Pasture (active)	Agriculture
3	Forest	Forest
4	Wetland	Forest
5	Mining	Industrial
6	Open Land includes inactive pasture	open land
7	Participation Recreation	open land
8	spectator recreation	open land
9	Water Based Recreation	open land
10	Multi-Family Residential	High Density Residential
11	High Density Residential	High Density Residential
12	Medium Density Residential	Medium Density Residential
13	Low Density Residential	Low Density Residential
14	Saltwater Wetland	Water
15	Commercial	Commercial
16	Industrial	Industrial
17	Urban Open	open land
18	Transportation	Highway
19	Waste Disposal	Industrial
20	Water	Water
23	cranberry bog	Agriculture
24	Powerline	open land
25	Saltwater Sandy Beach	open land
26	Golf Course	Agriculture
29	Marina	Commercial
31	Urban Public	Commercial
34	Cemetery	open land
35	Orchard	Forest
36	Nursery	Agriculture
37	Forested Wetland	Forest
38	Very Low Density residential	Low Density Residential
39	Junkyards	Industrial
40	Brush land/Successional	Forest

ATTACHMENT 2 TO APPENDIX F

Phosphorus Reduction Credits for Selected Enhanced Non-Structural BMPs

The permittee shall use the following methods to calculate phosphorus load reduction credits for the following enhanced non-structural control practices implemented in the Watershed:

- 1) Enhanced Sweeping Program;
- 2) Catch Basin Cleaning;
and
- 3) Organic Waste and Leaf Litter Collection program

The methods include the use of default phosphorus reduction factors that EPA has determined are acceptable for calculating phosphorus load reduction credits for these practices.

The methods and annual phosphorus load export rates presented in this attachment are for the purpose of counting load reductions for various BMPs treating storm water runoff from varying site conditions (i.e., impervious or pervious surfaces) and different land uses (e.g. industrial and commercial) within the impaired watershed. Table 2-1 below provides annual phosphorus load export rates by land use category for impervious and pervious areas. The estimates of annual phosphorus load and load reductions resulting from BMP implementation are intended for use by the permittee to measure compliance with its Phosphorus Reduction Requirement under the permit.

Examples are provided to illustrate use of the methods. In calculating phosphorus export rates, the permittee shall select the land use category that most closely represents the actual use for the area in question. For watersheds with institutional type uses, such as government properties, hospitals, and schools, the permittee shall use the commercial land use category for the purpose of calculating phosphorus loads. Table 2-2 provides a crosswalk table of land use codes between land use groups in Table 2-1 and the codes used by Mass GIS. For pervious areas, permittees should use the appropriate value for the hydrologic soil group (HSG) if known, otherwise, assume HSG C conditions.

Alternative Methods and/or Phosphorus Reduction Factors: A permittee may propose alternative methods and/or phosphorus reduction factors for calculating phosphorus load reduction credits for these non-structural practices. EPA will consider alternative methods and/or phosphorus reduction factors, provided that the permittee submits adequate supporting documentation to EPA. At a minimum, supporting documentation shall consist of a description of the proposed method, the technical basis of the method, identification of alternative phosphorus reduction factors, supporting calculations, and identification of references and sources of information that support the use of the alternative method and/or factors in the Watershed. If EPA determines that the alternative methods and/or factors are not adequately supported, EPA will notify the permittee and the permittee may receive no phosphorus reduction credit other than a reduction credit calculated by the permittee following the methods in this attachment for the identified practices.

Table 2-1: Proposed average annual distinct P Load export rates for use in estimating P Load reduction credits in the MA MS4 Permit

Phosphorus Source Category by Land Use	Land Surface Cover	P Load Export Rate, lbs/acre/year	P Load Export Rate, kg/ha/yr
Commercial (Com) and Industrial (Ind)	Directly connected impervious	1.78	2.0
	Pervious	See* DevPERV	See* DevPERV
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	2.6
	Pervious	See* DevPERV	See* DevPERV
Medium -Density Residential (MDR)	Directly connected impervious	1.96	2.2
	Pervious	See* DevPERV	See* DevPERV
Low Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Highway (HWY)	Directly connected impervious	1.34	1.5
	Pervious	See* DevPERV	See* DevPERV
Forest (For)	Directly connected impervious	1.52	1.7
	Pervious	0.13	0.13
Open Land (Open)	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Agriculture (Ag)	Directly connected impervious	1.52	1.7
	Pervious	0.45	0.5
*Developed Land Pervious (DevPERV) – HSG A	Pervious	0.03	0.03
*Developed Land Pervious (DevPERV) – HSG B	Pervious	0.12	0.13
*Developed Land Pervious (DevPERV) – HSG C	Pervious	0.21	0.24
*Developed Land Pervious (DevPERV) – HSG C/D	Pervious	0.29	0.33
*Developed Land Pervious (DevPERV) – HSG D	Pervious	0.37	0.41
Notes:			
<ul style="list-style-type: none"> For pervious areas, if the hydrologic soil group (HSG) is known, use the appropriate value from this table. If the HSG is not known, assume HSG C conditions for the phosphorus load export rate. Agriculture includes row crops. Actively managed hay fields and pasture lands. Institutional land uses such as government properties, hospitals and schools are to be included in the commercial and industrial land use grouping for the purpose of calculating phosphorus loading. Impervious surfaces within the forest land use category are typically roadways adjacent to forested pervious areas. 			

**Table 2-2: Crosswalk of Mass GIS land use categories
to land use groups for P load calculations**

Mass GIS Land Use LU_CODE	Description	Land Use group for calculating P Load - 2013/14 MA MS4
1	Crop Land	Agriculture
2	Pasture (active)	Agriculture
3	Forest	Forest
4	Wetland	Forest
5	Mining	Industrial
6	Open Land includes inactive pasture	open land
7	Participation Recreation	open land
8	spectator recreation	open land
9	Water Based Recreation	open land
10	Multi-Family Residential	High Density Residential
11	High Density Residential	High Density Residential
12	Medium Density Residential	Medium Density Residential
13	Low Density Residential	Low Density Residential
14	Saltwater Wetland	Water
15	Commercial	Commercial
16	Industrial	Industrial
17	Urban Open	open land
18	Transportation	Highway
19	Waste Disposal	Industrial
20	Water	Water
23	cranberry bog	Agriculture
24	Powerline	open land
25	Saltwater Sandy Beach	open land
26	Golf Course	Agriculture
29	Marina	Commercial
31	Urban Public	Commercial
34	Cemetery	open land
35	Orchard	Forest
36	Nursery	Agriculture
37	Forested Wetland	Forest
38	Very Low Density residential	Low Density Residential
39	Junkyards	Industrial
40	Brush land/Successional	Forest

(1) Enhanced Sweeping Program: The permittee may earn a phosphorus reduction credit for conducting an enhanced sweeping program of impervious surfaces. Table 2-2 below outlines the default phosphorus removal factors for enhanced sweeping programs. The credit shall be calculated by using the following equation:

$$\text{Credit}_{\text{sweeping}} = \text{IA}_{\text{swept}} \times \text{PLE}_{\text{IC-land use}} \times \text{PRF}_{\text{sweeping}} \times \text{AF} \quad \text{(Equation 2-1)}$$

Where:

- $\text{Credit}_{\text{sweeping}}$ = Amount of phosphorus load removed by enhanced sweeping program (lb/year)
- IA_{swept} = Area of impervious surface that is swept under the enhanced sweeping program (acres)
- $\text{PLE}_{\text{IC-land use}}$ = Phosphorus Load Export Rate for impervious cover and specified land use (lb/acre/yr) (see Table 2-1)
- $\text{PRF}_{\text{sweeping}}$ = Phosphorus Reduction Factor for sweeping based on sweeper type and frequency (see Table 2-3).
- AF = Annual Frequency of sweeping. For example, if sweeping does not occur in Dec/Jan/Feb, the AF would be 9 mo./12 mo. = 0.75. For year-round sweeping, AF=1.0¹

As an alternative, the permittee may apply a credible sweeping model of the Watershed and perform continuous simulations reflecting build-up and wash-off of phosphorus using long-term local rainfall data.

Table 2-3: Phosphorus reduction efficiency factors (PRF_{sweeping}) for sweeping impervious areas

Frequency ¹	Sweeper Technology	PRF _{sweeping}
2/year (spring and fall) ²	Mechanical Broom	0.01
2/year (spring and fall) ²	Vacuum Assisted	0.02
2/year (spring and fall) ²	High-Efficiency Regenerative Air-Vacuum	0.02
Monthly	Mechanical Broom	0.03
Monthly	Vacuum Assisted	0.04
Monthly	High Efficiency Regenerative Air-Vacuum	0.08
Weekly	Mechanical Broom	0.05
Weekly	Vacuum Assisted	0.08
Weekly	High Efficiency Regenerative Air-Vacuum	0.10

¹For full credit for monthly and weekly frequency, sweeping must be conducted year round. Otherwise, the credit should be adjusted proportionally based on the duration of the sweeping season (using AF factor).

² In order to earn credit for semi-annual sweeping the sweeping must occur in the spring following snow-melt and road sand applications to impervious surfaces and in the fall after leaf-fall and prior to the onset to the snow season.

Example 2-1: Calculation of enhanced sweeping program credit (Credit_{sweeping}): A permittee proposes to implement an enhanced sweeping program and perform weekly sweeping from March 1 – December 1 (9 months) in their Watershed, using a vacuum assisted sweeper on 20.3 acres of parking lots and roadways in a high-density residential area of the Watershed. For this site the needed information is:

- IA_{swept} = 20.3 acres
- PLE_{IC-HDR} = 2.32 lb/acre/yr (from Table 2-1)
- PRF_{sweeping} = 0.08 (from Table 2-3)
- AF = (9 months / 12 months) = 0.75

Substitution into equation 2-1 yields a Credit_{sweeping} of 3.2 pounds of phosphorus removed per year.

$$\begin{aligned} \text{Credit}_{\text{sweeping}} &= \text{IA}_{\text{swept}} \times \text{PLE}_{\text{land use}} \times \text{PRF}_{\text{sweeping}} \times \text{AF} \\ &= 20.3 \text{ acres} \times 2.32 \text{ lbs/acre/yr} \times 0.08 \times 0.75 \\ &= \mathbf{2.8 \text{ lbs/yr}} \end{aligned}$$

(2) Catch Basin Cleaning: The permittee may earn a phosphorus reduction credit, Credit_{CB}, by removing accumulated materials from catch basins (i.e., catch basin cleaning) in the Watershed such that a minimum sump storage capacity of 50% is maintained throughout the year. The credit shall be calculated by using the following equation:

$$\text{Credit}_{\text{CB}} = \text{IA}_{\text{CB}} \times \text{PLE}_{\text{IC-land use}} \times \text{PRF}_{\text{CB}} \quad \text{(Equation 2-2)}$$

Where:

- Credit_{CB} = Amount of phosphorus load removed by catch basin cleaning (lb/year)
- IA_{CB} = Impervious drainage area to catch basins (acres)
- PLE_{IC-and use} = Phosphorus Load Export Rate for impervious cover and specified land use (lb/acre/yr) (see Table 2-1)
- PRF_{CB} = Phosphorus Reduction Factor for catch basin cleaning (see Table 2-4)

Table 2-4: Phosphorus reduction efficiency factor (PRF_{CB}) for semi-annual catch basin cleaning

Frequency	Practice	PRF _{CB}
Semi-annual	Catch Basin Cleaning	0.02

Example 2-2: Calculation for catch basin cleaning credit (Credit_{CB}):

A permittee proposes to clean catch basins in their Watershed (i.e., remove accumulated sediments and contaminants captured in the catch basins) that drain runoff from 15.3 acres of medium-density residential impervious area. For this site the needed information is:

IA _{CB}	= 15.3 acre
PLE _{IC-MDR}	= 1.96 lbs/acre/yr (from Table 2-1)
PRF _{CB}	= 0.02 (from Table 2-4)

Substitution into equation 2-2 yields a Credit_{CB} of 0.6 pounds of phosphorus removed per year:

$$\begin{aligned} \text{Credit}_{CB} &= \text{IA}_{CB} \times \text{PLE}_{IC-MDR} \times \text{PRF}_{CB} \\ &= 15.3 \text{ acre} \times 1.96 \text{ lbs/acre/yr} \times 0.02 \\ &= \mathbf{0.6 \text{ lbs/yr}} \end{aligned}$$

(3) Enhanced Organic Waste and Leaf Litter Collection program: The permittee may earn a phosphorus reduction credit by performing regular gathering, removal and disposal of landscaping wastes, organic debris, and leaf litter from impervious surfaces from which runoff discharges to the TMDL waterbody or its tributaries. In order to earn this credit (Credit_{leaf litter}), the permittee must gather and remove all landscaping wastes, organic debris, and leaf litter from impervious roadways and parking lots at least once per week during the period of September 1 to December 1 of each year. Credit can only be earned for those impervious surfaces that are cleared of organic materials in accordance with the description above. The gathering and removal shall occur immediately following any landscaping activities in the Watershed and at additional times when necessary to achieve a weekly cleaning frequency. The permittee must ensure that the disposal of these materials will not contribute pollutants to any surface water discharges. The permittee may use an enhanced sweeping program (e.g., weekly frequency) as part of earning this credit provided that the sweeping is effective at removing leaf litter and organic materials. The Credit_{leaf litter} shall be determined by the following equation:

$$\text{Credit}_{\text{leaf litter}} = (\text{Watershed Area}) \times (\text{PLE}_{IC\text{-land use}}) \times (0.05) \quad \text{(Equation 2-3)}$$

Where:

Credit _{leaf litter}	= Amount of phosphorus load reduction credit for organic waste and leaf litter collection program (lb/year)
Watershed Area	= All impervious area (acre) from which runoff discharges to the TMDL waterbody or its tributaries in the Watershed
PLE _{IC-land use}	= Phosphorus Load Export Rate for impervious cover and specified land use (lbs/acre/yr) (see Table 2-1)
0.05	= 5% phosphorus reduction factor for organic waste and leaf litter collection program in the Watershed

Example 2-3: Calculation for organic waste and leaf litter collection program credit

(Credit_{leaf litter}): A permittee proposes to implement an organic waste and leaf litter collection program by sweeping the parking lots and access drives at a minimum of once per week using a mechanical broom sweeper for the period of September 1 to December 1 over 12.5 acres of impervious roadways and parking lots in an industrial/commercial area of the Watershed. Also, the permittee will ensure that organic materials are removed from impervious areas immediately following all landscaping activities at the site. For this site the needed information to calculate the Credit_{leaf litter} is:

$$\begin{aligned} \text{Watershed Area} &= 12.5 \text{ acres; and} \\ \text{PLE}_{\text{IC-commercial}} &= 1.78 \text{ lbs/acre/yr (from Table 2-1)} \end{aligned}$$

Substitution into equation 2-4 yields a Credit_{leaf litter} of 1.1 pounds of phosphorus removed per year:

$$\begin{aligned} \text{Credit}_{\text{leaf litter}} &= (12.5 \text{ acre}) \times (1.78 \text{ lbs/acre/yr}) \times (0.05) \\ &= 1.1 \text{ lbs/yr} \end{aligned}$$

The permittee also may earn a phosphorus reduction credit for enhanced sweeping of roads and parking lot areas (i.e., Credit_{sweeping}) for the three months of use. Using equation 2-1, Credit_{sweeping} is:

$$\begin{aligned} \text{Credit}_{\text{sweeping}} &= \text{IA}_{\text{swept}} \times \text{PLE}_{\text{IC-land use}} \times \text{PRF}_{\text{sweeping}} \times \text{AF} && \text{(Equation 2-1)} \\ \text{IA}_{\text{swept}} &= 12.5 \text{ acre} \\ \text{PLE}_{\text{IC-commercial}} &= 1.78 \text{ lbs/acre/yr (from Table 2-1)} \\ \text{PRF}_{\text{sweeping}} &= 0.05 \text{ (from Table 2-3)} \\ \text{AF} &= 3 \text{ mo./12 mo.} = 0.25 \end{aligned}$$

Substitution into equation 2-1 yields a Credit_{sweeping} of 0.28 pounds of phosphorus removed per year.

$$\begin{aligned} \text{Credit}_{\text{sweeping}} &= \text{IA}_{\text{swept}} \times \text{PLE}_{\text{IC-commercial}} \times \text{PRF}_{\text{sweeping}} \times \text{AF} \\ &= 12.5 \text{ acre} \times 1.78 \text{ lbs/acre/yr} \times 0.05 \times 0.25 \\ &= \mathbf{0.3 \text{ lbs/yr}} \end{aligned}$$

ATTACHMENT 3 TO APPENDIX F

Methods to Calculate Phosphorus Load Reductions for Structural Stormwater Best Management Practices

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Methods to Calculate Phosphorus Load Reductions for Structural Stormwater Best Management Practices in the Watershed

This attachment provides methods to determine design storage volume capacities and to calculate phosphorus load reductions for the following structural Best Management Practices (structural BMPs) for a Watershed:

- 1) Infiltration Trench;
- 2) Infiltration Basin or other surface infiltration practice;
- 3) Bio-filtration Practice;
- 4) Gravel Wetland System;
- 5) Porous Pavement;
- 6) Wet Pond or wet detention basin;
- 7) Dry Pond or detention basin; and
- 8) Dry Water Quality Swale/ Grass Swale.

Additionally, this attachment provides methods to design and quantify associated phosphorus load reduction credits for the following four types of semi-structural/non-structural BMPs

- 9) Impervious Area Disconnection through Storage (e.g., rain barrels, cisterns, etc);
- 10) Impervious Area Disconnection;
- 11) Conversions of Impervious Area to Permeable Pervious Area; and
- 12) Soil Amendments to Enhance Permeability of Pervious Areas.

Methods and examples are provided in this Attachment to calculate phosphorus load reductions for structural BMPs for the four following purposes:

- 1) To determine the design volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area is 100% impervious;
- 2) To determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area is 100% impervious;
- 3) To determine the design volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area has impervious and pervious surfaces; and
- 4) To determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area has impervious and pervious surfaces.

Examples are also provided for estimating phosphorus load reductions associated with the four semi-structural/non-structural BMPs.

Also, this attachment provides the methodology for calculating the annual stormwater phosphorus load that will be delivered to BMPs for treatment (BMP Load) and to be used for quantifying phosphorus load reduction credits. The methods and annual phosphorus export load rates presented in this attachment are for the purpose of counting load reductions for various BMPs treating storm water runoff from varying site conditions (i.e., impervious or pervious surfaces) and different land uses (e.g. commercial and industrial). The estimates of annual phosphorus load and load reductions by BMPs are to demonstrate compliance with the permittee's Phosphorus Reduction Requirement under the permit.

Appendix F Attachment 3

Structural BMP performance credits: For each structural BMP type identified above (BMPs 1-8), long-term cumulative performance information is provided to calculate phosphorus load reductions or to determine needed design storage volumes to achieve a specified reduction target (e.g., 65% phosphorus load reduction). The performance information is expressed as cumulative phosphorus load removed (% removed) depending on the physical storage capacity of the structural BMP (expressed as inches of runoff from impervious area) and is provided at the end of this Attachment (see Tables 3-1 through 3-18 and performance curves Figures 3-1 through 3-17). Multiple tables and performance curves are provided for the infiltration practices to represent cumulative phosphorus load reduction performance for six infiltration rates (IR), 0.17, 0.27, 0.53, 1.02, 2.41, and 8.27 inches/hour. These infiltration rates represent the saturated hydraulic conductivity of the soils. The permittee may use the performance curves provided in this attachment to interpolate phosphorus load removal reductions for field measured infiltration rates that are different than the infiltration rates used to develop the performance curves. Otherwise, the permittee shall use the performance curve for the IR that is nearest, but less than, the field measured rate. Physical storage capacity equals the total physical storage volume of the control structure to contain water at any instant in time. Typically, this storage capacity is comprised of the surface ponding storage volume prior to overflow and subsurface storage volumes in storage units and pore spaces of coarse filter media. Table 3-30 provides the formulae to calculate physical storage capacities for the structural control types for using the performance curves.

Semi-Structural/Non-structural BMP performance credits: For each semi-structural/non-structural BMP type identified above (BMPs 9-12), long-term cumulative performance information is provided to calculate phosphorus load reductions or to determine needed design specifications to achieve a desired reduction target (e.g., 50% phosphorus load reduction). The performance information is expressed as cumulative runoff volume reduction (% removed) depending on the design specifics and actual field conditions. Cumulative percent runoff volume reduction is being used to estimate the cumulative phosphorus load reduction credit for these BMPs. To represent a wide range of potential conditions for implementing these types of BMPs, numerous performance tables and curves have been developed to reflect a wide range of potential conditions and designs such as varying storage volumes (expressed in terms of varying ratios of storage volume to impervious area (0.1 to 2.0 inches)); varying ratios of impervious source area to receiving pervious area based on hydrologic soil groups (HSGs) A, B, C and D (8:1, 6:1, 4:1, 2: 1 and 1:1); and varying discharge time periods for temporary storage (1, 2 or 3 days) . The default credits are provided at the end of this Attachment (see Tables 3-19 through 3-26 and performance curves Figures 3-18 through 3-38).

EPA will consider phosphorus load reductions calculated using the methods provided below to be valid for the purpose of complying with the terms of this permit for BMPs that have not been explicitly modeled if the desired BMP has functionality that is similar to one of the simulated BMP types. Please note that only the surface infiltration and the infiltration trench BMP types were simulated to direct storm water runoff into the ground (i.e., infiltration). All of the other simulated BMPs represent practices that have either under-drains or impermeable liners and therefore, are not hydraulically connected to the sub-surface soils (i.e., no infiltration). Following are some simple guidelines for selecting the BMP type and/or determining whether the results of any of the BMP types provided are appropriate for another BMP of interest.

Infiltration Trench is a practice that provides temporary storage of runoff using the void spaces within the soil/sand/gravel mixture that is used to backfill the trench for subsequent infiltration into the surrounding sub-soils. Performance results for the infiltration trench can be used for all subsurface infiltration practices including systems that include pipes and/or chambers that provide temporary storage. Also, the results for this BMP type can be used for bio-retention systems that rely on infiltration when the majority of the temporary storage capacity is provided in the void spaces of the soil filter media and porous pavements that allow infiltration to occur.

Surface Infiltration represents a practice that provides temporary surface storage of runoff (e.g., ponding) for subsequent infiltration into the ground. Appropriate practices for use of the surface infiltration performance estimates include infiltration basins, infiltration swales, rain gardens and bio-retention systems that rely on infiltration and provide the majority of storage capacity through surface-ponding. If an infiltration system includes both surface storage through ponding and a lesser storage volume within the void spaces of a coarse filter media, then the physical storage volume capacity used to determine the long-term cumulative phosphorus removal efficiency from the infiltration basin performance curves would be equal to the sum of the surface storage volume and the void space storage volume. General design specifications for various surface infiltration systems are provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (<http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf>).

Bio-filtration is a practice that provides temporary storage of runoff for filtering through an engineered soil media. The storage capacity is typically made of void spaces in the filter media and temporary ponding at the surface of the practice. Once the runoff has passed through the filter media it is collected by an under-drain pipe for discharge. The performance curve for this control practice assumes zero infiltration. If a filtration system has subsurface soils that are suitable for infiltration, then user should use the either performance curves for the infiltration trench or the infiltration basin depending on the predominance of storage volume made up by free standing storage or void space storage. Depending on the design of the filter media manufactured or packaged bio-filter systems such as tree box filters may be suitable for using the bio-filtration performance results. Design specifications for bio-filtration systems are provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (<http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf>).

Gravel Wetland performance results should be used for practices that have been designed in accordance or share similar features with the design specifications for gravel wetland systems provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (<http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf>).

Porous Pavement performance results represent systems with an impermeable under-liner and an under-drain. *If porous pavement systems do not have an impermeable under-liner so that filtered runoff can infiltrate into sub-soils then the performance results for an infiltration trench may be used for these systems.* Design specifications for porous pavement systems are provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (<http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf>).

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Extended Dry Detention Pond performance results should only be used for practices that have been designed in accordance with the design specifications for extended dry detention ponds provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (<http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf>)

Dry Water Quality Swale/ Grass Swale performance results should only be used for practices that have been designed in accordance with the design specifications for a water quality dry swale provided in the most recent version of *the Massachusetts Stormwater Handbook, Volume 2/Chapter2* (<http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/v2c2.pdf>)

Impervious Area Disconnection using Storage (e.g., rain barrels, cistern, etc) performance results are for collecting runoff volumes from impervious areas such as roof tops, providing temporary storage of runoff volume using rain barrels, cisterns or other storage containers, and discharging stored volume to adjacent permeable pervious surfaces over an extended period of time.

Impervious Area Disconnection performance results are for diverting runoff volumes from impervious areas such as roadways, parking lots and roof tops, and discharging it to adjacent vegetated permeable surfaces that are of sufficient size with adequate soils to receive the runoff without causing negative impacts to adjacent down-gradient properties. Careful consideration must be given to the ratio of impervious area to the pervious area that will receive the discharge. Also, devices such as level spreaders to disperse the discharge and provide sheet flow should be employed whenever needed to increase recharge and avoid flow concentration and short circuiting through the pervious area. Soil testing is needed to classify the permeability of the receiving pervious area in terms of HSG.

Conversion of Impervious Area to Permeable Pervious Area phosphorus load reduction credits are for replacing existing impervious surfaces (such as traditional pavements and buildings with roof tops) with permeable surfaces. To be eligible for credit, it is essential that the area previously covered with impervious surface be restored to provide natural or enhanced hydrologic functioning so that the surface is permeable. Sub-soils beneath pavements are typically highly compacted and will require reworking to loosen the soil and the possible addition of soil amendments to restore permeability. Soil testing is needed to classify the permeability (in terms of HSG) of the restored pervious area.

Soil Amendments to Increase Permeability of Pervious Areas performance results are for the practice of improving the permeability of pervious areas through incorporation of soil amendments, tilling and establishing dense vegetation. This practice may be used to complement other practices such as impervious area disconnection to improve overall performance and increase reduction credits earned. Soil testing is needed to classify the permeability (in terms of HSG) of the restored pervious area.

Alternative Methods:

Appendix F Attachment 3

A permittee may propose alternative long-term cumulative performance information or alternative methods to calculate phosphorus load reductions for the structural BMPs identified above or for other structural BMPs not identified in this Attachment.

EPA will consider alternative long-term cumulative performance information and alternative methods to calculate phosphorus load reductions for structural BMPs provided that the permittee provides EPA with adequate supporting documentation. At a minimum, the supporting documentation shall include:

- 1) Results of continuous BMP model simulations representing the structural BMP, using a verified BMP model and representative long-term (i.e., 10 years) climatic data including hourly rainfall data;
- 2) Supporting calculations and model documentation that justify use of the model, model input parameters, and the resulting cumulative phosphorus load reduction estimate;
- 3) If pollutant removal performance data are available for the specific BMP, model calibration results should be provided; and
- 4) Identification of references and sources of information that support the use of the alternative information and method.

If EPA determines that the long-term cumulative phosphorus load reductions developed based on alternative information are not adequately supported, EPA will notify the permittee in writing, and the permittee may receive no phosphorus reduction credit other than a reduction credit calculated by the permittee using the default phosphorus reduction factors provided in this attachment for the identified practices. The permittee is required to submit to EPA valid phosphorus load reductions for structural BMPs in the watershed in accordance with the submission schedule requirements specified in the permit and Appendix F.

Method to Calculate Annual Phosphorus Load Delivered to BMPs (BMP Load)

The **BMP Load** is the annual phosphorus load from the drainage area to each proposed or existing BMP used by permittee to claim credit against its stormwater phosphorus load reduction requirement (i.e., Phosphorus Reduction Requirement). The BMP Load is the starting point from which the permittee calculates the reduction in phosphorus load achieved by each existing and proposed BMP.

Examples are provided to illustrate use of the methods. Table 3-1 below provides annual phosphorus load export rates (PLERs) by land use category for impervious and pervious areas. The permittee shall select the land use category that most closely represents the actual use of the watershed. For pervious areas, if the hydrologic soil group (HSG) is known, use the appropriate value. If the HSG is not known, assume HSG C conditions for the phosphorus load export rate. For watersheds with institutional type uses, such as government properties, hospitals, and schools, the permittee shall use the commercial/industrial land use category for the purpose of calculating phosphorus loads. Table 3-2 provides a crosswalk table of land use codes between land use groups in Table 3-1 and the codes used by MassGIS.

Appendix F Attachment 3

BMP Load: To estimate the annual phosphorus load reduction that a storm water BMP can achieve, it is first necessary to estimate the amount of annual phosphorus load that the BMP will receive or treat (BMP Load).

For a given BMP:

- 1) Determine the total drainage area to the BMP;
- 2) Distribute the total drainage area into impervious and pervious subareas by land use category as defined by Tables 3-1 and 3-2;
- 3) Calculate the phosphorus load for each land use-based impervious and pervious subarea by multiplying the subarea by the appropriate phosphorus load export rate provided in Table 3-1; and
- 4) Determine the total annual phosphorus load to the BMP by summing the calculated impervious and pervious subarea phosphorus loads.

Example 3-1 to determine phosphorus load to a proposed BMP: A permittee is proposing a surface stormwater infiltration system that will treat runoff from an industrial site with an area of 12.87 acres (5.21 hectares) and is made up of 10.13 acres of impervious cover (e.g., roadways, parking areas and rooftops), 1.85 acres of landscaped pervious area and 0.89 acres of wooded area both with HSG C soils. The drainage area information for the proposed BMP is:

BMP Subarea ID	Land Use Category	Cover Type	Area (acres)	P export rate (lb/acre/yr)*
1	Industrial	impervious	10.13	1.78
2	Landscaped (HSG C)	pervious	1.85	0.21
3	Forest (HSG C)	pervious	0.89	0.12

*From Table 3-1

The phosphorus load to the proposed BMP (BMP Load) is calculated as:

$$\begin{aligned}
 \text{BMP Load} &= (IA_{\text{Ind}} \times \text{PLER}_{\text{Ind}}) + (PA_{\text{Ind}} \times \text{PLER}_{\text{Ind}}) + (PA_{\text{FOREST}} \times \text{PLER}_{\text{For}}) \\
 &= (10.13 \times 1.78) + (1.85 \times 0.21) + (0.89 \times 0.12) \\
 &= \mathbf{18.53 \text{ lbs P/year}}
 \end{aligned}$$

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Table 3-1: Average annual distinct phosphorus load (P Load) export rates for use in estimating phosphorus load reduction credits the MA MS4 Permit

Phosphorus Source Category by Land Use	Land Surface Cover	P Load Export Rate, lbs/acre/year	P Load Export Rate, kg/ha/yr
Commercial (Com) and Industrial (Ind)	Directly connected impervious	1.78	2.0
	Pervious	See* DevPERV	See* DevPERV
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	2.6
	Pervious	See* DevPERV	See* DevPERV
Medium -Density Residential (MDR)	Directly connected impervious	1.96	2.2
	Pervious	See* DevPERV	See* DevPERV
Low Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Highway (HWY)	Directly connected impervious	1.34	1.5
	Pervious	See* DevPERV	See* DevPERV
Forest (For)	Directly connected impervious	1.52	1.7
	Pervious	0.13	0.13
Open Land (Open)	Directly connected impervious	1.52	1.7
	Pervious	See* DevPERV	See* DevPERV
Agriculture (Ag)	Directly connected impervious	1.52	1.7
	Pervious	0.45	0.5
*Developed Land Pervious (DevPERV)- Hydrologic Soil Group A	Pervious	0.03	0.03
*Developed Land Pervious (DevPERV)- Hydrologic Soil Group B	Pervious	0.12	0.13
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group C	Pervious	0.21	0.24
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group C/D	Pervious	0.29	0.33
*Developed Land Pervious (DevPERV) - Hydrologic Soil Group D	Pervious	0.37	0.41

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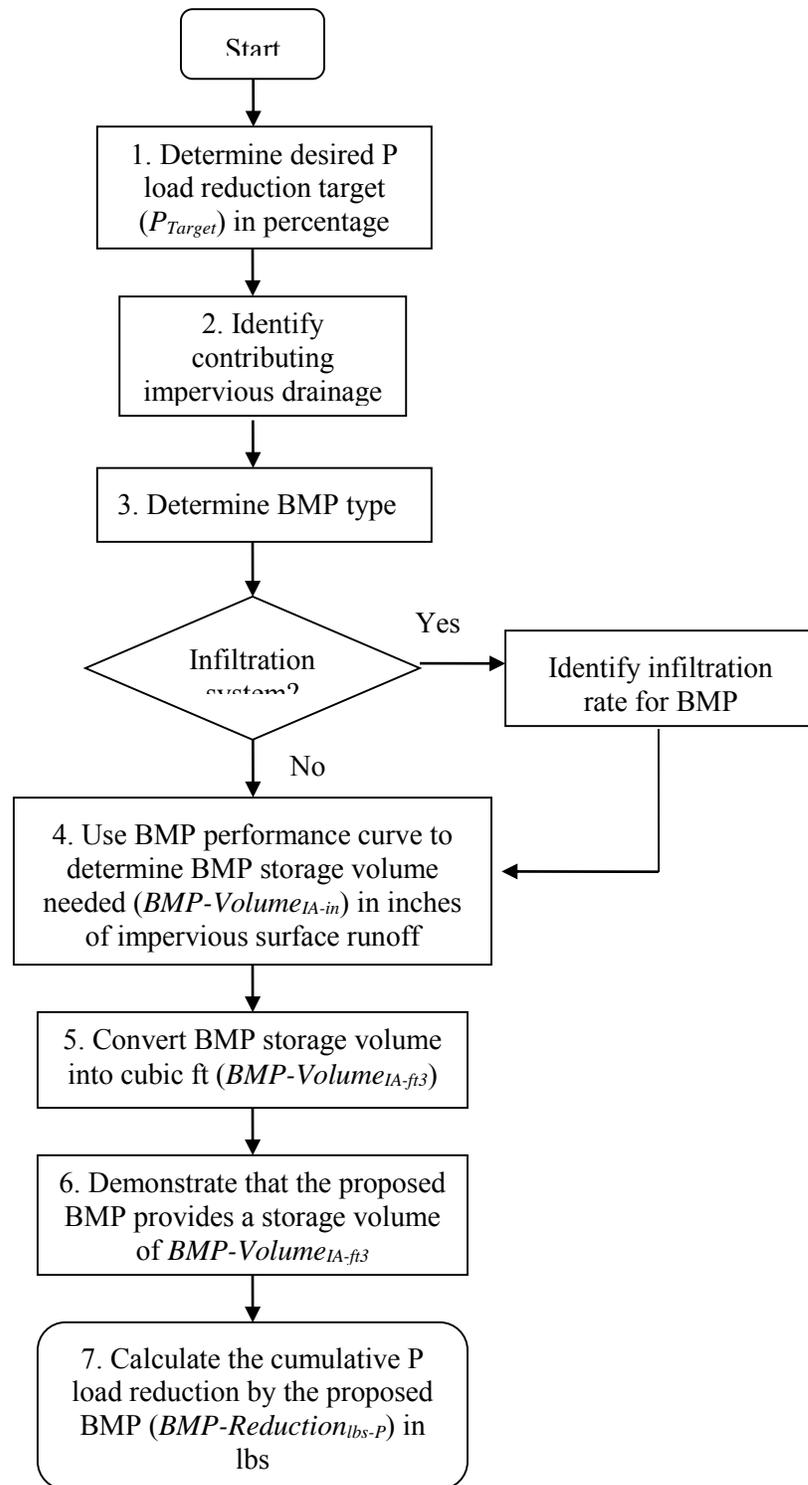
Table 3- 2: MassGIS land-use categories with associated land-use groups for phosphorus load calculations

Mass GIS Land Use LU_CODE	Description	Land Use group for calculating P Load - 2013/14 MA MS4
1	Crop Land	Agriculture
2	Pasture (active)	Agriculture
3	Forest	Forest
4	Wetland	Forest
5	Mining	Industrial
6	Open Land includes inactive pasture	open land
7	Participation Recreation	open land
8	spectator recreation	open land
9	Water Based Recreation	open land
10	Multi-Family Residential	High Density Residential
11	High Density Residential	High Density Residential
12	Medium Density Residential	Medium Density Residential
13	Low Density Residential	Low Density Residential
14	Saltwater Wetland	Water
15	Commercial	Commercial
16	Industrial	Industrial
17	Urban Open	open land
18	Transportation	Highway
19	Waste Disposal	Industrial
20	Water	Water
23	cranberry bog	Agriculture
24	Powerline	open land
25	Saltwater Sandy Beach	open land
26	Golf Course	Agriculture
29	Marina	Commercial
31	Urban Public	Commercial
34	Cemetery	open land
35	Orchard	Forest
36	Nursery	Agriculture
37	Forested Wetland	Forest
38	Very Low Density residential	Low Density Residential
39	Junkyards	Industrial
40	Brush land/Successional	Forest

(1) Method to determine the design volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area is 100% impervious:

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Flow Chart 1 illustrates the steps to determine the design volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area is 100% impervious.



Flow Chart 1: Method to determine BMP design volume to achieve a known phosphorous load reduction when contributing drainage area is 100% impervious.

- 1) Determine the desired cumulative phosphorus load reduction target (P_{target}) in percentage for the structural BMP;
- 2) Determine the contributing impervious drainage area (IA) in acres to the structural BMP;
- 3) Determine the structural BMP type (e.g., infiltration trench, gravel wetland). For infiltration systems, determine the appropriate infiltration rate for the location of the BMP in the Watershed;
- 4) Using the cumulative phosphorus removal performance curve for the selected structural BMP (Figures 3-1 through 3-18), determine the storage volume for the BMP (BMP-Volume $_{\text{IA-in}}$), in inches of runoff, needed to treat runoff from the contributing IA to achieve the reduction target;
- 5) Calculate the corresponding BMP storage volume in cubic feet (BMP-Volume $_{\text{IA-ft}^3}$) using BMP-Volume $_{\text{IA-in}}$ determined from step 4 and equation 3-1:

$$\text{BMP-Volume}_{\text{IA-ft}^3} = \text{IA (acre)} \times \text{BMP-Volume}_{\text{IA-in}} \times 3630 \text{ ft}^3/\text{ac-in} \quad \text{(Equation 3-1)}$$

- 6) Provide supporting calculations using the dimensions and specifications of the proposed structural BMP showing that the necessary storage volume, BMP-Volume $_{\text{IA-ft}^3}$, determined from step 5 will be provided to achieve the P_{Target} ; and
- 7) Calculate the cumulative phosphorus load reduction in pounds of phosphorus (BMP-Reduction $_{\text{lbs-P}}$) for the structural BMP using the BMP Load (as calculated from the procedure in Attachment 1 to Appendix F) and P_{target} by using equation 3-2:

$$\text{BMP-Reduction}_{\text{lbs-P}} = \text{BMP Load} \times (P_{\text{target}} / 100) \quad \text{(Equation 3-2)}$$

Example 3-2 to determine design volume of a structural BMP with a 100% impervious drainage area to achieve a known phosphorus load reduction target:

A permittee is considering a surface infiltration practice to capture and treat runoff from 2.57 acres (1.04 ha) of commercial impervious area that will achieve a 70% reduction in annual phosphorus load. The infiltration practice would be located adjacent to the impervious area. The permittee has measured an infiltration rate (IR) of 0.39 inches per hour (in/hr) in the vicinity of the proposed infiltration practice. Determine the:

- A) Design storage volume needed for an surface infiltration practice to achieve a 70% reduction in annual phosphorus load from the contributing drainage area (BMP-Volume $_{\text{IA-ft}^3}$); and
- B) Cumulative phosphorus reduction in pounds that would be accomplished by the BMP (BMP-Reduction $_{\text{lbs-P}}$)

Solution:

- 1) Contributing impervious drainages area (IA) = 2.57 acres

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BMP type is a surface infiltration practice (i.e., basin) with an infiltration rate (IR) of 0.39 in/hr

Solution continued:

3) Phosphorus load reduction target (P_{target}) = 70%

4) The performance curve for the infiltration basin (i.e., surface infiltration practice), Figure 3-8, IR = 0.27 in/hr is used to determine the design storage volume of the BMP (BMP-Volume_{IA-in}) needed to treat runoff from the contributing IA and achieve a P_{target} = 70%. The curve for an infiltration rate of 0.27 in/hr is chosen because 0.27 in/hr is the nearest simulated IR that is less than the field measured IR of 0.39 in/hr. From Figure 3-8, the BMP-Volume_{IA-in} for a P_{target} = 70% is 0.36 in.

5) The BMP-Volume_{IA-in} is converted to cubic feet (BMP-Volume_{IA-ft³}) using Equation 3-1:

$$\begin{aligned} \text{BMP-Volume}_{IA-ft^3} &= \text{IA (acre)} \times \text{BMP-Volume}_{IA-in} \times 3,630 \text{ ft}^3/\text{acre-in} \\ \text{BMP-Volume}_{IA-ft^3} &= 2.57 \text{ acre} \times 0.36 \text{ in} \times 3,630 \text{ ft}^3/\text{acre-in} \\ &= \mathbf{3,359 \text{ ft}^3} \end{aligned}$$

6) A narrow trapezoidal infiltration basin with the following characteristics is proposed to achieve the P_{Target} of 70%:

Length (ft)	Design Depth (ft)	Side Slopes	Bottom area (ft ²)	Pond surface area (ft ²)	Design Storage Volume (ft ³)
355	1.25	3:1	1,387	4,059	3,404

The volume of the proposed infiltration practice, 3,404 ft³, exceeds the BMP-Volume_{IA-ft³} needed, 3,359 ft³ and is sufficient to achieve the P_{Target} of 70%.

7) The cumulative phosphorus load reduction in pounds of phosphorus for the infiltration practice (BMP-Reduction_{lbs-P}) is calculated using Equation 3-2. The BMP Load is first determined using the method described above.

$$\begin{aligned} \text{BMP Load} &= \text{IA} \times \text{impervious cover phosphorus export loading rate for commercial use (see Table 3-1)} \\ &= 2.57 \text{ acres} \times 1.78 \text{ lbs/acre/yr} \\ &= 4.58 \text{ lbs/yr} \end{aligned}$$

$$\begin{aligned} \text{BMP-Reduction}_{lbs-P} &= \text{BMP Load} \times (P_{target} / 100) \\ \text{BMP-Reduction}_{lbs-P} &= 4.58 \text{ lbs/yr} \times (70/100) \\ &= \mathbf{3.21 \text{ lbs/yr}} \end{aligned}$$

Alternate Solution: Alternatively, the permittee could determine the design storage volume needed for an IR = 0.39 in/hr by performing interpolation of the results from the surface

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infiltration performance curves for IR = 0.27 in/hr and IR = 0.52 in/hr as follows (replacing steps 3 and 4 on the previous page):

Alternate solution continued:

Using the performance curves for the infiltration basin (i.e., surface infiltration practice), Figures 3-8, IR = 0.27 in/hr and 3-9, IR = 0.52 in/hr, interpolate between the curves to determine the design storage volume of the BMP (BMP-Volume_{IA-in}) needed to treat runoff from the contributing IA and achieve a P_{target} = 70%.

First calculate the interpolation adjustment factor (IAF) to interpolate between the infiltration basin performance curves for infiltration rates of 0.27 and 0.52 in/hr:

$$IAF = (0.39 - 0.27) / (0.52 - 0.27) = 0.48$$

From the two performance curves, develop the following table to estimate the general magnitude of the needed storage volume for an infiltration swale with an IR = 0.39 in/hr and a P_{target} of 70%.

Table Example 3-1-1: Interpolation Table for determining design storage volume of infiltration basin with IR = 0.39 in/hr and a phosphorus load reduction target of 70%

BMP Storage Volume	% Phosphorus Load Reduction IR = 0.27 in/hr (PR _{IR=0.27})	% Phosphorus Load Reduction IR = 0.52 in/hr (PR _{IR=0.52})	Interpolated % Phosphorus Load Reduction IR = 0.39 in/hr (PR _{IR=0.39}) PR _{IR=0.39} = IAF(PR _{IR=0.52} - PR _{IR=0.27}) + PR _{IR=0.27}
0.3	64%	67%	65%
0.4	74%	77%	75%
0.5	79%	82%	80%

As indicated from Table Example 3-1, the BMP-Volume_{IA-in} for PR_{IR=0.39} of 70% is between 0.3 and 0.4 inches and can be determined by interpolation:

$$\begin{aligned} \text{BMP-Volume}_{IA-in} &= (70\% - 65\%) / (75\% - 65\%) \times (0.4 \text{ in} - 0.3 \text{ in}) + 0.3 \text{ in} \\ &= 0.35 \text{ inches} \end{aligned}$$

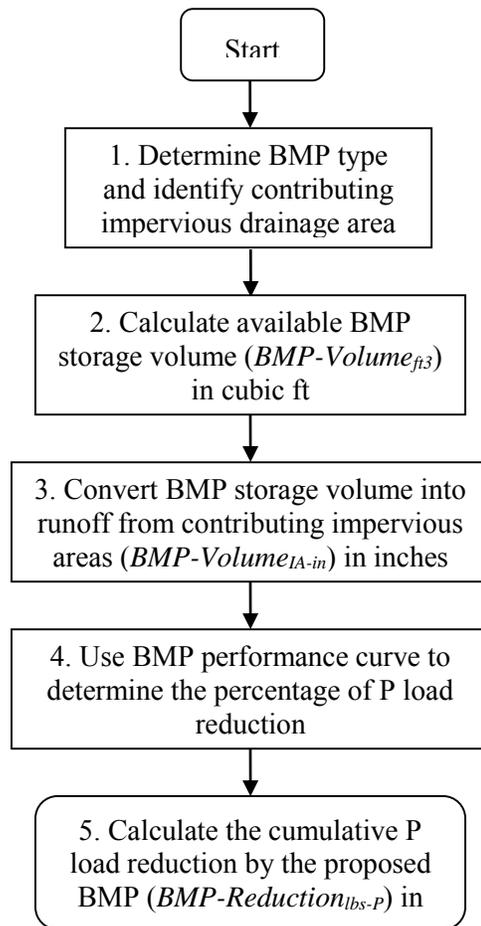
5 alternative) Convert the resulting BMP-Volume_{IA-in} to cubic feet (BMP-Volume_{IA-ft³}) using equation 3-1:

$$\begin{aligned} \text{BMP-Volume}_{IA-ft^3} &= 2.57 \text{ acre} \times 0.35 \text{ in} \times 3,630 \text{ ft}^3/\text{acre-in} \\ &= \mathbf{3,265 \text{ ft}^3} \end{aligned}$$

(2) Method to determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area is 100% impervious:

Flow Chart 2 illustrates the steps to determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area is 100% impervious.

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Flow Chart 2: Method to determine the phosphorus load reduction for a BMP with a known design volume when contributing drainage area is 100% impervious.

- 1) Identify the structural BMP type and contributing impervious drainage area (IA);
- 2) Document the available storage volume (ft^3) of the structural BMP (BMP-Volume ft^3) using the BMP dimensions and design specifications (e.g., maximum storage depth, filter media porosity);
- 3) Convert BMP-Volume ft^3 into inches of runoff from the contributing impervious area (BMP-Volume IA-in) using equation 3-3:

$$\text{BMP-Volume}_{\text{IA-in}} = \text{BMP-Volume}_{\text{ft}^3} / \text{IA (acre)} \times 12 \text{ in/ft} \times 1 \text{ acre}/43560 \text{ ft}^2 \text{ (Equation 3-3)}$$

- 4) Determine the % phosphorus load reduction for the structural BMP (BMP Reduction $\%_{\text{-P}}$) using the appropriate BMP performance curve (Figures 3-1 through 3-18) and the BMP-Volume IA-in calculated in step 3; and

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- 5) Calculate the cumulative phosphorus load reduction in pounds of phosphorus for the structural BMP (BMP Reduction_{lbs-P}) using the BMP Load as calculated from the procedure described above and the percent phosphorus load reduction determined in step 4 by using equation 3-4:

$$\text{BMP Reduction}_{\text{lbs-P}} = \text{BMP Load} \times (\text{BMP Reduction}_{\%-\text{P}}/100) \quad \text{(Equation 3-4)}$$

Example 3-2: Determine the phosphorus load reduction for a structural BMP with a known storage volume capacity when the contributing drainage area is 100% impervious:

A permittee is considering a bio-filtration system to treat runoff from 1.49 acres of high density residential (HDR) impervious area. Site constraints would limit the bio-filtration system to have a surface area of 1200 ft² and the system would have to be located next to the impervious drainage area to be treated. The design parameters for the bio-filtration system are presented in Table Example 3-2-1.

Table Example 3-2-1: Design parameters for bio-filtration system for Example 3-2

Components of representation	Parameters	Value
Ponding	Maximum depth	0.5 ft
	Surface area	1200 ft ²
	Vegetative parameter ^a	85-95%
Soil mix	Depth	2.5 ft
	Porosity	0.40
	Hydraulic conductivity	4 inches/hour
Gravel layer	Depth	0.67 ft
	Porosity	0.40
	Hydraulic conductivity	14 inches/hour
Orifice #1	Diameter	0.5 ft

^a Refers to the percentage of surface covered with vegetation

Determine the:

- A) Percent phosphorus load reduction (BMP Reduction_{%-P}) for the specified bio-filtration system and contributing impervious drainage area; and
- B) Cumulative phosphorus reduction in pounds that would be accomplished by the bio-filtration system (BMP-Reduction_{lbs-P})

Solution:

- 1) The BMP is a bio-filtration system that will treat runoff from 1.49 acres of impervious area (IA = 1.49 acre);
- 2) The available storage volume capacity (ft³) of the bio-filtration system (BMP-Volume_{BMP-ft³}) is determined using the surface area of the system, depth of ponding, and the porosity of the filter media:

$$\begin{aligned} \text{BMP-Volume}_{\text{BMP-ft}^3} &= (\text{surface area} \times \text{pond maximum depth}) + ((\text{soil mix depth} + \\ &\quad \text{gravel layer depth})/12 \text{ in/ft}) \times \text{surface area} \times \text{gravel layer porosity}) \\ &= (1,200 \text{ ft}^2 \times 0.5 \text{ ft}) + ((38/12) \times 1,200 \text{ ft}^2 \times 0.4) \\ &= 2,120 \text{ ft}^3 \end{aligned}$$

Solution continued:

- 3) The available storage volume capacity of the bio-filtration system in inches of runoff from the contributing impervious area (BMP-Volume_{IA-in}) is calculated using equation 3-3:

$$\begin{aligned} \text{BMP-Volume}_{\text{IA-in}} &= (\text{BMP-Volume}_{\text{ft}^3} / \text{IA (acre)} \times 12 \text{ in/ft} \times 1 \text{ acre} / 43560 \text{ ft}^2) \\ \text{BMP-Volume}_{\text{IA-in}} &= (2120 \text{ ft}^3 / 1.49 \text{ acre}) \times 12 \text{ in/ft} \times 1 \text{ acre} / 43560 \text{ ft}^2 \\ &= 0.39 \text{ in} \end{aligned}$$

- 4) Using the bio-filtration performance curve shown in Figure 3-13, a **51%** phosphorus load reduction (BMP Reduction %-P) is determined for a bio-filtration system sized for 0.39 in of runoff from 1.49 acres of impervious area; and
- 5) Calculate the cumulative phosphorus load reduction in pounds of phosphorus for the bio-filtration system (BMP Reduction_{lbs-P}) using the BMP Load as calculated from the procedure described above and the BMP Reduction %-P determined in step 4 by using equation 3-4. First, the BMP Load is determined as specified above:

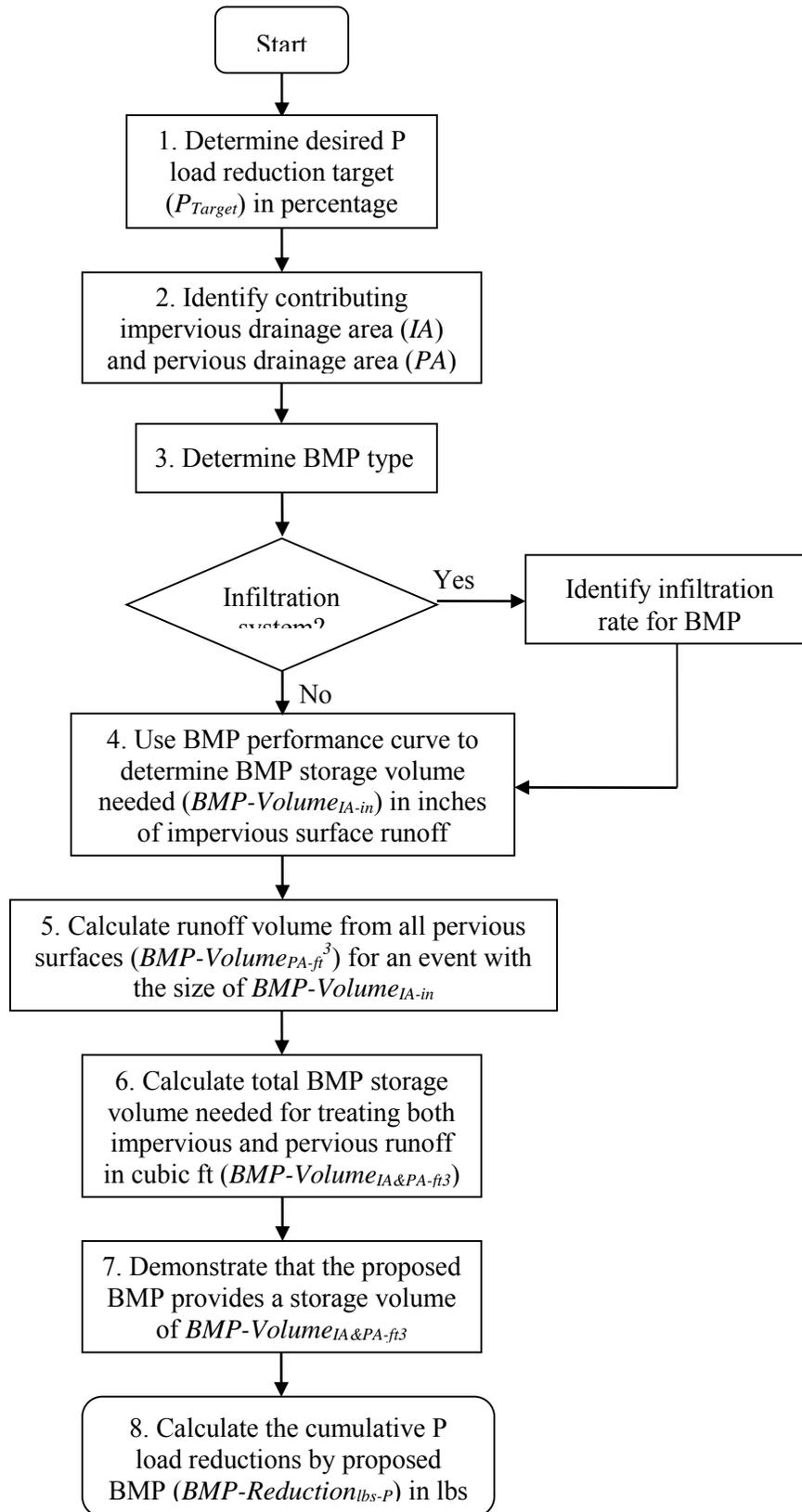
$$\begin{aligned} \text{BMP Load} &= \text{IA} \times \text{impervious cover phosphorus export loading rate for HDR (see Table 3-1)} \\ &= 1.49 \text{ acres} \times 2.32 \text{ lbs/acre/yr} \\ &= 3.46 \text{ lbs/yr} \end{aligned}$$

$$\begin{aligned} \text{BMP Reduction}_{\text{lbs-P}} &= \text{BMP Load} \times (\text{BMP Reduction \% - P} / 100) \\ \text{BMP Reduction}_{\text{lbs-P}} &= 3.46 \text{ lbs/yr} \times (51 / 100) \\ &= \mathbf{1.76 \text{ lbs/yr}} \end{aligned}$$

(3) Method to determine the design storage volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area has impervious and pervious surfaces:

Flow Chart 3 illustrates the steps to determine the design storage volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area has impervious and pervious surfaces.

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Flow Chart 3: Method to determine the design storage volume of a BMP to reach a known P load reduction when both impervious and pervious drainage areas are present.

- 1) Determine the desired cumulative phosphorus load reduction target (P_{target}) in percentage for the structural BMP;
- 2) Characterize the contributing drainage area to the structural BMP by identifying the following information for the impervious and pervious surfaces:
Impervious area (IA) - Area (acre) and land use (e.g., commercial)

Pervious area (PA) – Area (acre) and runoff depths based on hydrologic soil group (HSG) and rainfall depth. Table 3-3 provides values of runoff depth from pervious areas for various rainfall depths and HSGs. Soils are assigned to an HSG on the basis of their permeability. HSG A is the most permeable, and HSG D is the least permeable. HSG categories for pervious areas in the drainage area shall be estimated by consulting local soil surveys prepared by the National Resource Conservation Service (NRCS) or by a storm water professional evaluating soil testing results from the drainage area. If the HSG condition is not known, a HSG D soil condition should be assumed.

Table 3- 3: Developed Land Pervious Area Runoff Depths based on Precipitation depth and Hydrological Soil Groups (HSGs)

Developed Land Pervious Area Runoff Depths based on Precipitation depth and Hydrological Soil Groups					
Rainfall Depth, Inches	Runoff Depth, inches				
	Pervious HSG A	Pervious HSG B	Pervious HSG C	Pervious HSG C/D	Pervious HSG D
0.10	0.00	0.00	0.00	0.00	0.00
0.20	0.00	0.00	0.01	0.02	0.02
0.40	0.00	0.00	0.03	0.05	0.06
0.50	0.00	0.01	0.05	0.07	0.09
0.60	0.01	0.02	0.06	0.09	0.11
0.80	0.02	0.03	0.09	0.13	0.16
1.00	0.03	0.04	0.12	0.17	0.21
1.20	0.04	0.05	0.14	0.27	0.39
1.50	0.08	0.11	0.39	0.55	0.72
2.00	0.14	0.22	0.69	0.89	1.08

Notes: Runoff depths derived from combination of volumetric runoff coefficients from Table 5 of *Small Storm Hydrology and Why it is Important for the Design of Stormwater Control Practices*, (Pitt, 1999), and using the Stormwater Management Model (SWMM) in continuous model mode for hourly precipitation data for Boston, MA, 1998-2002.

- 3) Determine the structural BMP type (e.g., infiltration trench, gravel wetland). For infiltration systems, determine the appropriate infiltration rate for the location of the BMP in the Watershed;
- 4) Using the cumulative phosphorus removal performance curve for the selected structural BMP, determine the storage volume capacity of the BMP in inches needed to treat runoff from the contributing impervious area (BMP-Volume_{IA-in});

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- 5) Using Equation 3-5 below and the pervious area runoff depth information from Table 3-3-1, determine the total volume of runoff from the contributing pervious drainage area in cubic feet (BMP Volume $_{PA-ft^3}$) for a rainfall size equal to the sum of BMP Volume $_{IA-in}$, determined in step 4. The runoff volume for each distinct pervious area must be determined;

$$\text{BMP-Volume}_{PA-ft^3} = \sum (PA \times (\text{runoff depth}) \times 3,630 \text{ ft}^3/\text{acre-in}) \quad (PA_1, \dots, PA_n)$$

(Equation 3-5)

- 6) Using equation 3-6 below, calculate the BMP storage volume in cubic feet (BMP-Volume $_{IA\&PA-ft^3}$) needed to treat the runoff depth from the contributing impervious (IA) and pervious areas (PA);

$$\text{BMP-Volume}_{IA\&PA-ft^3} = \text{BMP Volume}_{PA-ft^3} + (\text{BMP Volume}_{IA-in} \times IA \text{ (acre)}) \times 3,630 \text{ ft}^3/\text{acre-in}$$

(Equation 3-6)

- 7) Provide supporting calculations using the dimensions and specifications of the proposed structural BMP showing that the necessary storage volume determined in step 6, BMP-Volume $_{IA\&PA-ft^3}$, will be provided to achieve the P_{Target} ; and
- 8) Calculate the cumulative phosphorus load reduction in pounds of phosphorus (BMP-Reduction $_{lbs-P}$) for the structural BMP using the BMP Load (as calculated from the procedure in Attachment 1 to Appendix F) and the P_{target} by using equation 3-2:

$$\text{BMP-Reduction}_{lbs-P} = \text{BMP Load} \times (P_{\text{target}} / 100) \quad \text{(Equation 3-2)}$$

Example 3-3: Determine the design storage volume of a structural BMP to achieve a known phosphorus load reduction target when the contributing drainage area has impervious and pervious surfaces

A permittee is considering a gravel wetland system to treat runoff from a high-density residential (HDR) site. The site is 7.50 acres of which 4.00 acres are impervious surfaces and 3.50 acres are pervious surfaces. The pervious area is made up of 2.5 acres of lawns in good condition surrounding cluster housing units and 1.00 acre of stable unmanaged woodland. Soils information indicates that all of the woodland and 0.50 acres of the lawn is hydrologic soil group (HSG) B and the other 2.00 acres of lawn are HSG C. The permittee wants to size the gravel wetland system to achieve a cumulative phosphorus load reduction (P_{Target}) of 55% from the entire 7.50 acres.

Determine the:

- A)** Design storage volume needed for a gravel wetland system to achieve a 55% reduction in annual phosphorus load from the contributing drainage area (BMP-Volume $_{IA\&PA-ft^3}$); and
- B)** Cumulative phosphorus reduction in pounds that would be accomplished by the BMP (BMP-Reduction $_{lbs-P}$)

Example 3-3 continued:

Solution:

- 1) The BMP type is gravel wetland system.
- 2) The phosphorus load reduction target ($P_{\text{Target}} = 55\%$).
- 3) Using the cumulative phosphorus removal performance curve for the gravel wetland system shown in Figure 3-14, the storage volume capacity in inches needed to treat runoff from the contributing impervious area (BMP Volume $_{IA-in}$) is 0.71 in;

Using equation 3-5 and the pervious runoff depth information from Table 3-3, the volume of runoff from the contributing pervious drainage area in cubic feet (BMP Volume $_{PA-ft^3}$) for a rainfall size equal to 0.71 in is summarized in Table Example 3-3-A. As indicated from Table 3-3, the runoff depth for a rainfall size equal to 0.71 inches is between 0.6 and 0.8 inches and can be determined by interpolation (example shown for runoff depth of HSG C):

$$\begin{aligned} \text{Runoff depth (HSG C)} &= (0.71 - 0.6)/(0.8 - 0.6) \times (0.09 \text{ in} - 0.06 \text{ in}) + 0.06 \text{ in} \\ &= 0.07 \text{ inches} \end{aligned}$$

Table Example 3-3-A: Runoff contributions from pervious areas for HDR site

ID	Type	Pervious Area (acre)	HSG	Runoff (in)	Runoff = (runoff) x PA (acre-in)	Runoff = Runoff (acre-in) x 3630 $\text{ft}^3/\text{acre-in}$ (ft^3)
PA1	Grass	2.00	C	0.07	0.14	508
PA2	Grass	0.50	B	0.01	0.0	0.0
PA3	Woods	1.00	B	0.01	0.0	0.0
Total	-----	3.50	-----	-----	0.14	508

- 4) Using equation 3-6, determine the BMP storage volume in cubic feet (BMP-Volume $_{IA\&PA-ft^3}$) needed to treat 0.71 inches of runoff from the contributing impervious area (IA) and the runoff of 0.14 acre-in from the contributing pervious areas, determined in step 5 is:

$$\text{BMP Volume}_{IA\&PA-ft^3} = \text{BMP Volume}_{PA \text{ ac-in}} + (\text{BMP Volume}_{IA-in} \times \text{IA (acre)}) \times 3,630 \text{ ft}^3/\text{acre-in}$$

$$\begin{aligned} \text{BMP Volume}_{IA\&PA-ft^3} &= (508 \text{ ft}^3 + (0.71 \text{ in} \times 4.00 \text{ acre})) \times 3,630 \text{ ft}^3/\text{acre-in} \\ &= 10,817 \text{ ft}^3 \end{aligned}$$

- 5) Table Example 3-3-B provides design details for of a potential gravel wetland system

Solution continued:

Table Example 3-3-B: Design details for gravel wetland system

Gravel Wetland System Components	Design Detail	Depth (ft)	Surface Area (ft ²)	Volume (ft ³)
Sediment Forebay	10% of Treatment Volume			
Pond area	---	1.33	896	1,192
Wetland Cell #1	45% of Treatment Volume	-----	-----	-----
Pond area	---	2.00	1,914	3,828
Gravel layer	porosity = 0.4	2.00	1,914	1,531
Wetland Cell #2	45% of Treatment Volume	-----	-----	-----
Pond area	---	2.00	1,914	3,828
Gravel layer	porosity = 0.4	2.00	1,914	1,531

The total design storage volume for the proposed gravel wetland system identified in Table Example 3-3-C is 11,910 ft³. This volume is greater than 11,834 ft³ ((BMP-Volume_{IA&PA-ft³}), calculated in step 6) and is therefore sufficient to achieve a P_{Target} of 55%.

- 6) The cumulative phosphorus load reduction in pounds of phosphorus (BMP-Reduction_{lbs-P}) for the proposed gravel wetland system is calculated by using equation 3-2 with the BMP Load and the P_{target} = 55%.

$$\text{BMP-Reduction}_{\text{lbs-P}} = \text{BMP Load} \times (\text{P}_{\text{target}} / 100) \quad \text{(Equation 3-2)}$$

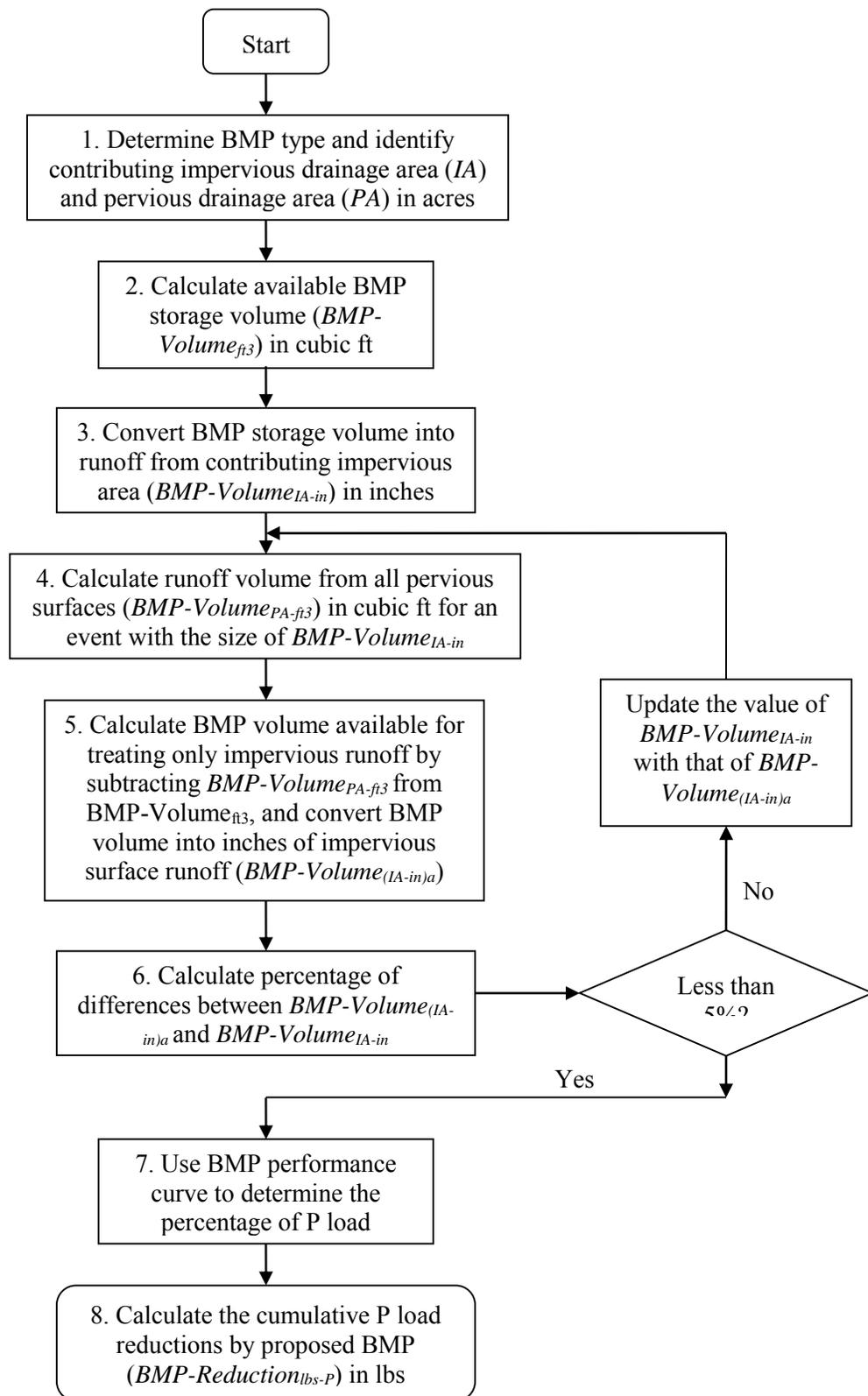
Using Table 3-1, the BMP Load is calculated:

$$\begin{aligned} \text{BMP Load} &= (\text{IA} \times \text{PLER}_{\text{HDR}}) + (\text{PA}_{\text{lawn HSG B}} \times \text{PLER}_{\text{HSG B}}) + (\text{PA}_{\text{lawn HSG C}} \times \text{PLER}_{\text{HSG C}}) + (\text{PA}_{\text{forest}} \times \text{PA}_{\text{PLER}_{\text{For}}}) \\ &= (4.00 \text{ acre} \times 2.32 \text{ lbs/acre/yr}) + (0.50 \text{ acres} \times 0.12 \text{ lbs/acre/yr}) + (1.00 \text{ acre} \times 0.21 \text{ lbs/acre/yr}) + (1.00 \text{ acres} \times 0.13) \\ &= 9.68 \text{ lbs/yr} \\ \text{BMP-Reduction}_{\text{lbs-P}} &= \text{BMP Load} \times (\text{P}_{\text{target}} / 100) \\ \text{BMP-Reduction}_{\text{lbs-P}} &= 9.68 \text{ lbs/yr} \times 55/100 \\ &= \mathbf{5.32 \text{ lbs/yr}} \end{aligned}$$

(4) Method to determine the phosphorus load reduction for a structural BMP with a known storage volume when the contributing drainage area has impervious and pervious surfaces:

Flow Chart 4 illustrates the steps to determine the phosphorus load reduction for a structural BMP with a known storage volume when the contributing drainage area has impervious and pervious surfaces.

Appendix F Attachment 3



Flow Chart 4: Method to determine the phosphorus load reduction for a BMP with known storage volume when both pervious and impervious drainage areas are present.

- 1) Identify the type of structural BMP and characterize the contributing drainage area to the structural BMP by identifying the following information for the impervious and pervious surfaces:

Impervious area (IA) – Area (acre) and land use (e.g., commercial)

Pervious area (PA) – Area (acre) and runoff depth based on hydrologic soil group (HSG) and size of rainfall event. Table 3-3 provides values of runoff depth for various rainfall depths and HSGs. Soils are assigned to an HSG based on their permeability. HSG categories for pervious areas in the Watershed shall be estimated by consulting local soil surveys prepared by the National Resource Conservation Service (NRCS) or by a storm water professional evaluating soil testing results from the Watershed. If the HSG condition is not known, a HSG C/D soil condition should be assumed.

- 2) Determine the available storage volume (ft³) of the structural BMP (BMP-Volume ft³) using the BMP dimensions and design specifications (e.g., maximum storage depth, filter media porosity);
- 3) To estimate the phosphorus load reduction of a BMP with a known storage volume capacity, it is first necessary to determine the portion of available BMP storage capacity (BMP-Volume ft³) that would treat the runoff volume generated from the contributing impervious area (IA) for a rainfall event with a depth of *i* inches (in). This will require knowing the corresponding amount of runoff volume that would be generated from the contributing pervious area (PA) for the same rainfall event (depth of *i* inches). Using equation 3-6a below, solve for the BMP capacity that would be available to treat runoff from the contributing impervious area for the unknown rainfall depth of *i* inches (see equation 3-6b):

$$\text{BMP-Volume}_{\text{ft}^3} = \text{BMP-Volume}_{(\text{IA-ft}^3)_i} + \text{BMP-Volume}_{(\text{PA-ft}^3)_i} \quad \text{(Equation 3-6a)}$$

Where:

BMP-Volume_{ft³} = the available storage volume of the BMP;

BMP-Volume_{(IA-ft³)_i} = the available storage volume of the BMP that would fully treat runoff generated from the contributing impervious area for a rainfall event of size *i* inches; and

BMP-Volume_{(PA-ft³)_i} = the available storage volume of the BMP that would fully treat runoff generated from the contributing pervious area for a rainfall event of size *i* inches

Solving for BMP-Volume_{(IA-ft³)_i}:

Appendix F Attachment 3

$$\text{BMP-Volume}_{(IA-ft^3)_i} = \text{BMP-Volume}_{ft^3} - \text{BMP-Volume}_{(PA-ft^3)_i} \quad \text{(Equation 3-6b)}$$

To determine BMP-Volume_{(IA-ft³)_i}, requires performing an iterative process of refining estimates of the rainfall depth used to calculate runoff volumes until the rainfall depth used results in the sum of runoff volumes from the contributing IA and PA equaling the available BMP storage capacity (BMP-Volume_{ft³}). For the purpose of estimating BMP performance, it will be considered adequate when the IA runoff depth (in) is within 5% IA runoff depth used in the previous iteration.

For the first iteration (1), convert the BMP-Volume_{ft³} determined in step 2 into inches of runoff from the contributing impervious area (BMP Volume_{(IA-in)₁}) using equation 3-7a.

$$\text{BMP-Volume}_{(IA-in)_1} = (\text{BMP-Volume}_{ft^3} / \text{IA (acre)}) \times (12 \text{ in/ft} / 43,560 \text{ ft}^2/\text{acre}) \quad \text{(Equation 3-7a)}$$

For iterations 2 through n (2...n), convert the BMP Volume_{(IA-ft³)_{2...n}}, determined in step 5a below, into inches of runoff from the contributing impervious area (BMP Volume_{(IA-in)_{2...n}}) using equation 3-7b.

$$\text{BMP-Volume}_{(IA-in)_{2...n}} = (\text{BMP-Volume}_{(IA-ft^3)_{2...n}} / \text{IA (acre)}) \times (12 \text{ in/ft} / 43,560 \text{ ft}^2/\text{acre}) \quad \text{(Equation 3-7b)}$$

- 4) For 1 to n iterations, use the pervious runoff depth information from Table 3-3 and equation 3-8 to determine the total volume of runoff (ft³) from the contributing PA (BMP Volume_{PA-ft³}) for a rainfall size equal to the sum of BMP-Volume_{(IA-in)₁}, determined in step 3. The runoff volume for each distinct pervious area must be determined.

$$\text{BMP Volume}_{(PA-ft^3)_{1...n}} = \sum ((\text{PA} \times (\text{runoff depth})_{(PA1, PA2...PAN)}) \times (3,630 \text{ ft}^3/\text{acre-in})) \quad \text{(Equation 3-8)}$$

- 5) For iteration 1, estimate the portion of BMP Volume that is available to treat runoff from only the IA by subtracting BMP-Volume_{PA-ft³}, determined in step 4, from BMP-Volume_{ft³}, determined in step 2, and convert to inches of runoff from IA (see equations 3-9a and 3-9b):

$$\text{BMP-Volume}_{(IA-ft^3)_2} = ((\text{BMP-Volume}_{ft^3} - \text{BMP Volume}_{(PA-ft^3)_1}) \quad \text{(Equation 3-9a)}$$

$$\text{BMP-Volume}_{(IA-in)_2} = (\text{BMP-Volume}_{(IA-ft^3)_2} / \text{IA (acre)}) \times (12 \text{ in/ft} \times 1 \text{ acre} / 43,560 \text{ ft}^2) \quad \text{(Equation 3-9b)}$$

If additional iterations (i.e., 2 through n) are needed, estimate the portion of BMP volume that is available to treat runoff from only the IA (BMP-Volume_{(IA-in)_{3...n+1}}) by subtracting BMP Volume_{(PA-ft³)_{2...n}}, determined in step 4, from BMP Volume_{(IA-ft³)_{3...n+1}}, determined in step 5, and by converting to inches of runoff from IA using equation 3-9b):

Appendix F Attachment 3

- 6) For iteration a (an iteration between 1 and n+1), compare BMP Volume $(IA-in)_a$ to BMP Volume $(IA-in)_{a-1}$ determined from the previous iteration (a-1). If the difference in these values is greater than 5% of BMP Volume $(IA-in)_a$ then repeat steps 4 and 5, using BMP Volume $(IA-in)_a$ as the new starting value for the next iteration (a+1). If the difference is less than or equal to 5 % of BMP Volume $(IA-in)_a$ then the permittee may proceed to step 7;
- 7) Determine the % phosphorus load reduction for the structural BMP (BMP Reduction %_{-P}) using the appropriate BMP performance curve and the BMP-Volume $(IA-in)_n$ calculated in the final iteration of step 5; and
- 8) Calculate the cumulative phosphorus load reduction in pounds of phosphorus for the structural BMP (BMP Reduction _{lbs-P}) using the BMP Load as calculated from the procedure in Attachment 1 to Appendix F and the percent phosphorus load reduction (BMP Reduction %_{-P}) determined in step 7 by using equation 3-4:

$$\text{BMP Reduction}_{\text{lbs-P}} = \text{BMP Load} \times (\text{BMP Reduction \%}_{-P} / 100) \quad \text{(Equation 3-4)}$$

Example 3-4: Determine the phosphorus load reduction for a structural BMP with a known design volume when the contributing drainage area has impervious and pervious surfaces

A permittee is considering an infiltration basin to capture and treat runoff from a portion of the medium density residential area (MDR). The contributing drainage area is 16.55 acres and has 11.75 acres of impervious area and 4.8 acres of pervious area (PA) made up mostly of lawns and landscaped areas that is 80% HSG D and 20% HSG C. An infiltration basin with the following specifications can be placed at the down-gradient end of the contributing drainage area where soil testing results indicates an infiltration rate (IR) of 0.28 in/hr:

Table Example 3-4-A: Infiltration basin characteristics

Structure	Bottom area (acre)	Top surface area (acre)	Maximum pond depth (ft)	Design storage volume (ft ³)	Infiltration Rate (in/hr)
Infiltration basin	0.65	0.69	1.65	48,155	0.28

Determine the:

- A) Percent phosphorus load reduction (BMP Reduction %_{-P}) for the specified infiltration basin and the contributing impervious and pervious drainage area; and
- B) Cumulative phosphorus reduction in pounds that would be accomplished by the BMP (BMP-Reduction _{lbs-P})

Example continued:**Solution:**

- 1) A surface infiltration basin is being considered. Information for the contributing impervious (IA) and pervious (PA) areas are summarized in Tables Example 3-4-A and Example 3-4-B, respectively.

Table Example 3-4-B: Impervious area characteristics

ID	Land use	Area (acre)
IA1	MDR	11.75

Table Example 3-4-C: Pervious area characteristics

ID	Area (acre)	Hydrologic Soil Group (HSG)
PA1	3.84	D
PA2	0.96	C

- 2) The available storage volume (ft^3) of the infiltration basin (BMP-Volume ft^3) is determined from the design details and basin dimensions; BMP-Volume $\text{ft}^3 = 48,155 \text{ ft}^3$.
- 3) To determine what the BMP design storage volume is in terms of runoff depth (in) from IA, an iterative process is undertaken:

Solution Iteration 1

For the first iteration (1), the BMP-Volume ft^3 is converted into inches of runoff from the contributing impervious area (BMP Volume $(\text{IA-in})_1$) using equation 3-5a.

$$\begin{aligned} \text{BMP Volume } (\text{IA-in})_1 &= (48,155 \text{ ft}^3 / 11.75 \text{ acre}) \times (12 \text{ in/ft} / 43,560 \text{ ft}^2/\text{acre}) \\ &= 1.13 \text{ in} \end{aligned}$$

- 4-1) The total volume of runoff (ft^3) from the contributing PA (BMP Volume PA-ft^3) for a rainfall size equal to the sum of BMP Volume $(\text{IA-in})_1$ determined in step 3 is determined for each distinct pervious area identified in Table Example 3-4-B using the information from Table 3-3 and equation 3-5. Interpolation was used to determine runoff depths.

$$\begin{aligned} \text{BMP Volume } (\text{PA-ft}^3)_1 &= ((3.84 \text{ acre} \times (0.33 \text{ in}) + (0.96 \text{ acre} \times (0.13 \text{ in})) \times 3,630 \text{ ft}^3/\text{acre-in}) \\ &= 5052 \text{ ft}^3 \end{aligned}$$

- 5-1) For iteration 1, the portion of BMP Volume that is available to treat runoff from only the IA is estimated by subtracting the BMP Volume $(\text{PA-ft}^3)_1$, determined in step 4-1, from BMP Volume ft^3 , determined in step 2, and converted to inches of runoff from IA:

$$\begin{aligned} \text{BMP Volume } (\text{IA-ft}^3)_2 &= 48,155 \text{ ft}^3 - 5052 \text{ ft}^3 \\ &= 43,103 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{BMP Volume } (\text{IA-in})_2 &= (43,103 \text{ ft}^3 / 11.75 \text{ acre}) \times (12 \text{ in/ft} \times 1 \text{ acre} / 43,560 \text{ ft}^2) \\ &= 1.01 \text{ in} \end{aligned}$$

Solution continued:

- 6-1)** The % difference between BMP Volume $(IA-in)_2$, 1.01 in, and BMP Volume $(IA-in)_1$, 1.13 in is determined and found to be significantly greater than 5%:

$$\begin{aligned}\% \text{ Difference} &= ((1.13 \text{ in} - 1.01 \text{ in})/1.01 \text{ in}) \times 100 \\ &= 12\%\end{aligned}$$

Therefore, steps 4 through 6 are repeated starting with BMP Volume $(IA-in)_2 = 1.01$ in.

Solution Iteration 2

- 4-2)** $BMP\text{-Volume}_{(PA-ft^3)_2} = ((3.84 \text{ acre} \times 0.21 \text{ in}) + (0.96 \text{ acre} \times 0.12 \text{ in})) \times 3,630 \text{ ft}^3/\text{acre-in}$
 $= 3,358 \text{ ft}^3$

- 5-2)** $BMP\text{-Volume}_{(IA-ft^3)_3} = 48,155 \text{ ft}^3 - 3,358 \text{ ft}^3$
 $= 44,797 \text{ ft}^3$

$$\begin{aligned}BMP\text{-Volume}_{(IA-in)_3} &= (44,797 \text{ ft}^3/11.75 \text{ acre}) \times (12 \text{ in/ft} \times 1 \text{ acre}/43,560 \text{ ft}^2) \\ &= 1.05 \text{ in}\end{aligned}$$

- 6-2)** % Difference = $((1.05 \text{ in} - 1.01 \text{ in})/1.05 \text{ in}) \times 100$
 $= 4\%$

The difference of 4% is acceptable.

- 7)** The % phosphorus load reduction for the infiltration basin (BMP Reduction %-P) is determined by using the infiltration basin performance curve for an infiltration rate of 0.27 in/hr and the treatment volume ($BMP\text{-Volume}_{Net\ IA-in} = 1.05$ in) calculated in step 5-2 and is **BMP Reduction %-P = 93%**.

The performance curve for IR = 0.27 is used rather than interpolating between the performance curves for IR = 0.27 in/hr and 0.52 in/hr to estimate performance for IR = 0.28 in/hr. An evaluation of the performance curves for IR = 0.27 in/hr and IR = 0.52 in/hr for a design storage volume of 1.05 in indicate a small difference in estimated performance (BMP Reduction %-P = 93% for IR = 0.27 in/hr and BMP Reduction %-P = 95% for IR = 0.52 in/hr).

- 8)** The cumulative phosphorus load reduction in pounds of phosphorus ($BMP\text{-Reduction}_{lbs-P}$) for the proposed infiltration basin is calculated by using equation 3-2 with the BMP Load and the P_{target} of 93%.

$$BMP\text{-Reduction}_{lbs-P} = BMP \text{ Load} \times (P_{target}/100) \quad \text{(Equation 3-2)}$$

Using Table 3-1, the BMP load is calculated:

$$\begin{aligned}BMP \text{ Load} &= (IA \times \text{impervious cover phosphorus export loading rate for industrial}) \\ &\quad + (PA_{HSG D} \times \text{pervious cover phosphorus export loading rate for HSG D}) \\ &\quad + (PA_{HSG C} \times \text{pervious cover phosphorus export loading rate for HSG C})\end{aligned}$$

Solution continued:

$$= (11.75 \text{ acre} \times 1.96 \text{ lbs/acre/yr}) + (3.84 \text{ acre} \times 0.37 \text{ lbs/acre/yr}) \\ + (0.96 \text{ acre} \times 0.21 \text{ lbs/acre/yr}) \\ = 24.65 \text{ lbs/yr}$$

$$\text{BMP-Reduction}_{\text{lbs-P}} = 24.22 \text{ lbs/yr} \times 93/100 = \mathbf{22.93 \text{ lbs/yr}}$$

Example 3-5: Determine the phosphorus load reduction for disconnecting impervious area using storage with delayed release.

A commercial operation has an opportunity to divert runoff from 0.75 acres of impervious roof top to a 5000 gallon (668.4 ft³) storage tank for temporary storage and subsequent release to 0.09 acres of pervious area (PA) with HSG C soils.

Determine the:

- A) Percent phosphorus load reduction rates (BMP Reduction %_{-P}) for the specified impervious area (IA) disconnection and storage system assuming release times of 1, 2 and 3 days for the stored volumes to discharge to the pervious area; and
- B) Cumulative phosphorus reductions in pounds that would be accomplished by the system (BMP-Reduction_{lbs-P}) for the three storage release times, 1, 2 and 3 days.

Solution:

1. Determine the storage volume in units of inches of runoff depth from contributing impervious area:

$$\text{Storage Volume}_{\text{IA-in}} = (668.4 \text{ ft}^3 / (0.75 \text{ acre} \times 43.560 \text{ ft}^2/\text{acre})) \times 12 \text{ inch/ft} \\ = 0.25 \text{ inches}$$
2. Determine the ratio of the contributing impervious area to the receiving pervious area:

$$\text{IA:PA} = 0.75 \text{ acres} / 0.09 \text{ acres} \\ = 8.3$$
3. Using Table 3-21 for a IA:PA ratio of 8:1, determine the phosphorus load reduction rates for a storage volume of 0.25 inches that discharges to HSG C with release rates of 1, 2 and 3 days: Using interpolation the reduction rates are shown in Table 3-5-A:

Table Example 3-5-A: Reduction Rates

Percent Phosphorus load reduction for IA disconnection with storage HSG C			
Storage Volume _{IA-in}	Storage release rate, days		
	1	2	3
0.25	39%	42%	43%

4. The cumulative phosphorus load reduction in pounds of phosphorus for the IA disconnection with storage (BMP-Reduction_{lbs-P}) is calculated using Equation 3-2. The BMP Load is first determined using the method described above.

Solution continued:

$$\begin{aligned} \text{BMP Load} &= \text{IA} \times \text{phosphorus export loading rate for commercial IA (see Table 3-1)} \\ &= 0.75 \text{ acres} \times 1.78 \text{ lbs/acre/yr} \\ &= 1.34 \text{ lbs/yr} \end{aligned}$$

$$\text{BMP Reduction}_{\text{lbs-P}} = \text{BMP Load} \times (\text{BMP Reduction}_{\%-\text{P}}/100)$$

$$\begin{aligned} \text{BMP Reduction}_{\text{lbs-P}} &= 1.34 \text{ lbs/yr} \times (39/100) \\ &= \mathbf{0.53 \text{ lbs/yr}} \end{aligned}$$

Table Example 3-5-B presents the BMP Reduction_{lbs-P} for each of the release rates:

Table Example 3-5-B: Reduction Load

Phosphorus load reduction for IA disconnection with storage HSG C, lbs			
Storage Volume _{IA-in}	Storage release rate, days		
	1	2	3
0.25	0.53	0.56	0.58

Example 3-6: Determine the phosphorus load reduction for disconnecting impervious area with and without soil augmentation in the receiving pervious area.

The same commercial property as in example 3-5 wants to evaluate disconnecting drainage from the 0.75 acre impervious roof top and discharging it directly to 0.09 acres of pervious area (PA) with HSG C. Also, the property has the opportunity to purchase a small adjoining area (0.06 acres), also HSG C, to increase the size of the receiving PA from 0.09 to 0.15 acres and to allow the property owner to avoid having to install a drainage structure to capture overflow runoff from the PA. The property owner has been informed that the existing PA soil can be tilled and augmented with soil amendments to support denser vegetative growth and improve hydrologic function to approximate HSG B.

Determine the:

- A) Percent phosphorus load reduction rates (BMP Reduction_{%-P}) for the specified impervious area (IA) disconnection to both the 0.09 and 0.15 acre receiving PAs with and without soil augmentation; and
- B) Cumulative phosphorus reductions in pounds that would be accomplished by the IA disconnection for the various scenarios (BMP-Reduction_{lbs-P}).

Solution:

1. Determine the ratio of the contributing impervious area to the receiving pervious area:
 - IA:PA = 0.75 acres/0.09 acres
= 8.3
 - IA:PA = 0.75 acres/0.15 acres
= 5.0

Solution Continued:

- Using Table 3-26 and Figure 3-40 for a IA:PA ratios of 8:1 and 5:1, respectively, determine the phosphorus load reduction rates for IA disconnections to HSG C and HSG B:

Table Example 3-6-A: Reduction Rates

Percent Phosphorus load reduction rates for IA disconnection		
Receiving PA	IA:PA	
	8:1	5:1
HSG C	7%	14%
HSG B (soil augmentation)	14%	22%

- The cumulative phosphorus load reduction in pounds of phosphorus for the IA disconnection with storage (BMP-Reduction_{lbs-P}) is calculated using Equation 3-2. The BMP Load was calculated in example 3-5 and is 1.34 lbs/yr.

$$\text{BMP Reduction}_{\text{lbs-P}} = \text{BMP Load} \times (\text{BMP Reduction}_{\%-\text{P}}/100)$$

For PA of 0.09 acres HSG C the BMP Reduction_{lbs-P} is calculated as follows:

$$\begin{aligned} \text{BMP Reduction}_{\text{lbs-P}(0.09\text{ac-HSG C})} &= 1.34 \text{ lbs/yr} \times (7/100) \\ &= \mathbf{0.09 \text{ lbs/yr}} \end{aligned}$$

Table Example 3-6-B presents the BMP Reduction_{lbs-P} for each of the scenarios:

Table Example 3-6-B: Reduction

Pounds Phosphorus load reduction for IA disconnection, lbs/yr		
Receiving PA	Area of Receiving PA, acres	
	0.09	0.15
HSG C	0.09	0.19
HSG B (soil augmentation)	0.19	0.29

Example 3-7: Determine the phosphorus load reduction for converting impervious area to permeable/pervious area.

A municipality is planning upcoming road reconstruction work in medium density residential (MDR) neighborhoods and has identified an opportunity to convert impervious surfaces to permeable/pervious surfaces by narrowing the road width of 3.7 miles (mi) of roadway from 32 feet (ft) to 28 ft and eliminating 3.2 miles of 4 ft wide paved sidewalk (currently there are sidewalks on both sides of the roadways targeted for restoration). The newly created permeable/pervious area will be tilled and treated with soil amendments to support vegetated growth in order to restore hydrologic function to at least HSG B.

Determine the:

- A) Percent phosphorus load reduction rate (BMP Reduction %_{-P}) for the conversion of impervious area (IA) to permeable/pervious area (PA); and
- B) Cumulative phosphorus reduction in pounds that would be accomplished by the project (BMP-Reduction lbs_{-P}).

Solution:

1. Determine the area of IA to be converted to PA:

$$\text{New PA} = (((3.7 \text{ mi} \times 4 \text{ ft}) + (3.2 \text{ mi} \times 4 \text{ ft})) \times 5280 \text{ ft/mi}) / 43,560 \text{ ft}^2/\text{acre}$$

$$= 3.35 \text{ acres}$$
2. Using Table 3-27, the phosphorus load reduction rate for converting IA to HSG B is 94.1%
3. The BMP Load is first determined using the method described above.

$$\text{BMP Load} = \text{IA} \times \text{phosphorus export loading rate for MDR IA (see Table 3-1)}$$

$$= 3.35 \text{ acres} \times 1.96 \text{ lbs/acre/yr}$$

$$= 6.57 \text{ lbs/yr}$$
4. The cumulative phosphorus load reduction in pounds of phosphorus for the IA conversion (BMP-Reduction lbs_{-P}) is calculated using Equation 3-2.

$$\text{BMP Reduction lbs}_{-P} = \text{BMP Load} \times (\text{BMP Reduction \%}_{-P} / 100)$$

$$\text{BMP Reduction lbs}_{-P} = 6.57 \text{ lbs/yr} \times (94.1 / 100)$$

$$= 6.18 \text{ lbs/yr}$$

Table 3- 4: Infiltration Trench (IR = 0.17 in/hr) BMP Performance Table

Infiltration Trench (IR = 0.17 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	14.7%	27.6%	48.6%	64.1%	74.9%	82.0%	91.6%	95.4%
Cumulative Phosphorus Load Reduction	18%	33%	57%	73%	83%	90%	97%	99%

Figure 3- 1: BMP Performance Curve: Infiltration Trench (infiltration rate = 0.17 in/hr)

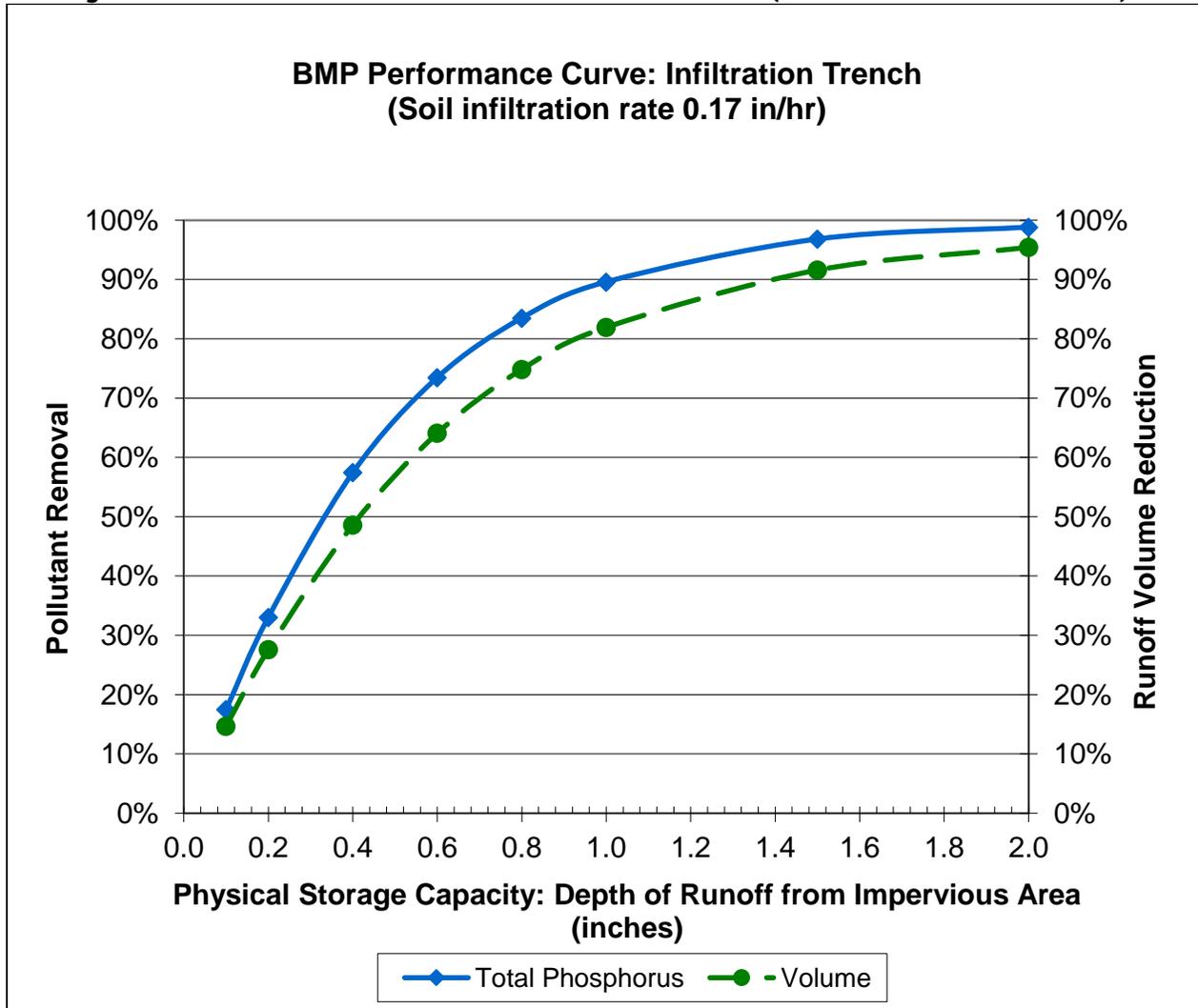


Table 3- 5: Infiltration Trench (IR = 0.27 in/hr) BMP Performance Table

Infiltration Trench (IR = 0.27 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	17.8%	32.5%	55.0%	70.0%	79.3%	85.2%	93.3%	96.3%
Cumulative Phosphorus Load Reduction	20%	37%	63%	78%	86%	92%	97%	99%

Figure 3- 2: BMP Performance Curve: Infiltration Trench (infiltration rate = 0.27 in/hr)

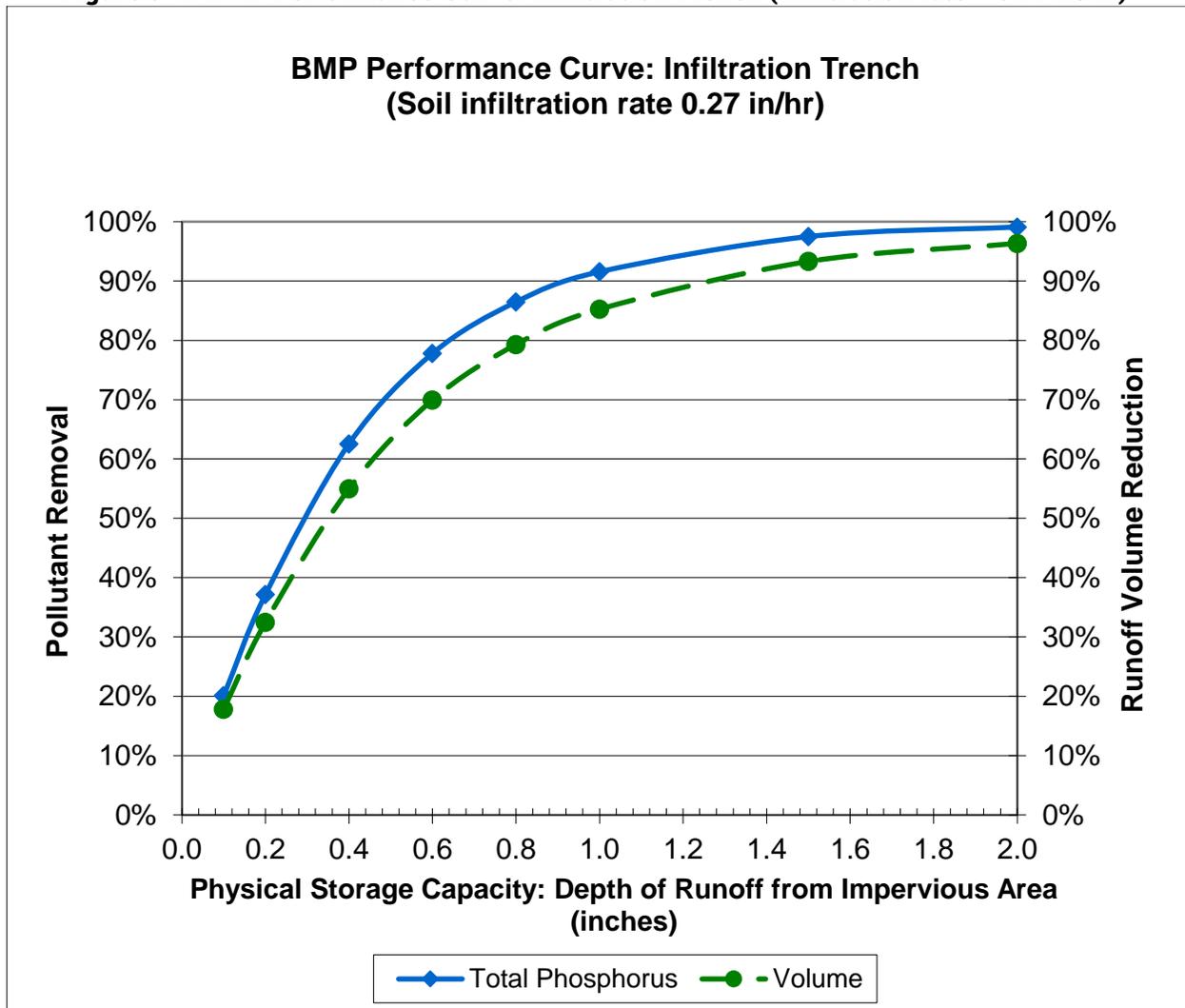


Table 3- 6: Infiltration Trench (IR = 0.52 in/hr) BMP Performance Table

Infiltration Trench (IR = 0.52 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	22.0%	38.5%	61.8%	75.7%	83.7%	88.8%	95.0%	97.2%
Cumulative Phosphorus Load Reduction	23%	42%	68%	82%	89%	94%	98%	99%

Figure 3- 3: BMP Performance Curve: Infiltration Trench (infiltration rate = 0.52 in/hr)

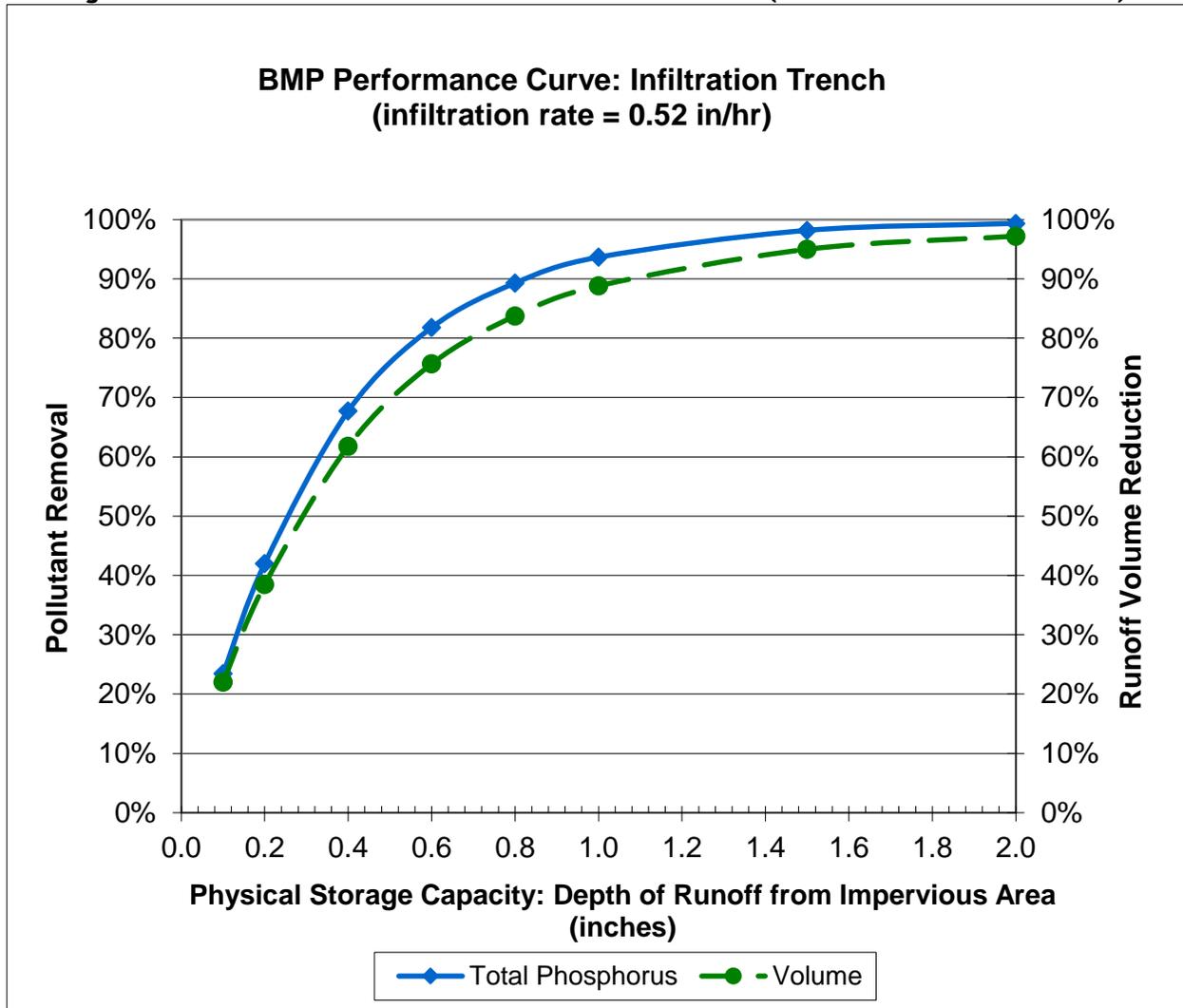


Table 3- 7: Infiltration Trench (IR = 1.02 in/hr) BMP Performance Table

Infiltration Trench (IR = 1.02 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	26.3%	44.6%	68.2%	81.0%	88.0%	92.1%	96.5%	98.3%
Cumulative Phosphorus Load Reduction	27%	47%	73%	86%	92%	96%	99%	100%

Figure 3- 4: BMP Performance Curve: Infiltration Trench (infiltration rate = 1.02 in/hr)

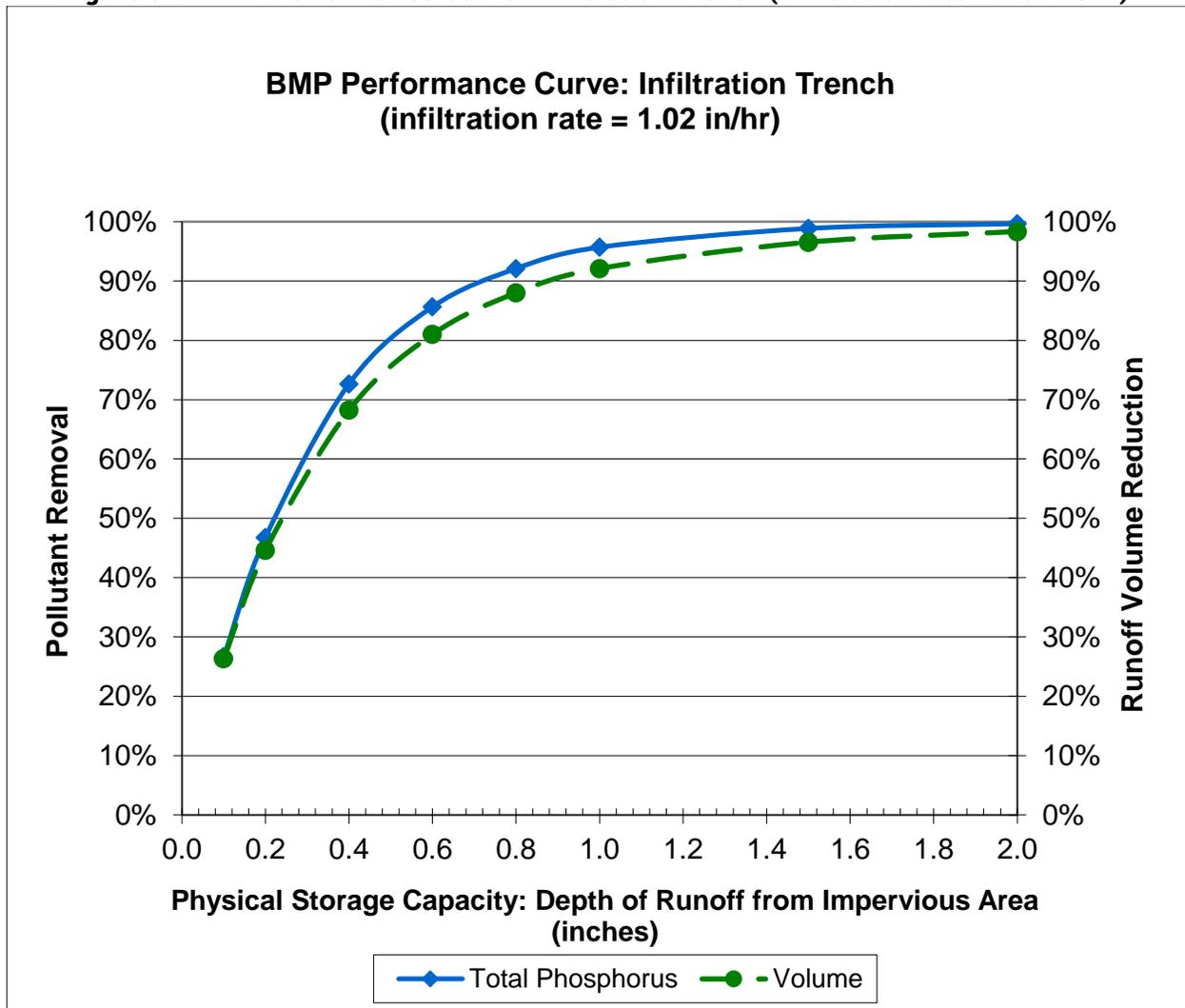


Table 3- 8: Infiltration Trench (IR = 2.41 in/hr) BMP Performance Table

Infiltration Trench (IR = 2.41 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	34.0%	54.7%	78.3%	88.4%	93.4%	96.0%	98.8%	99.8%
Cumulative Phosphorus Load Reduction	33%	55%	81%	91%	96%	98%	100%	100%

Figure 3- 5: BMP Performance Curve: Infiltration Trench (infiltration rate = 2.41 in/hr)

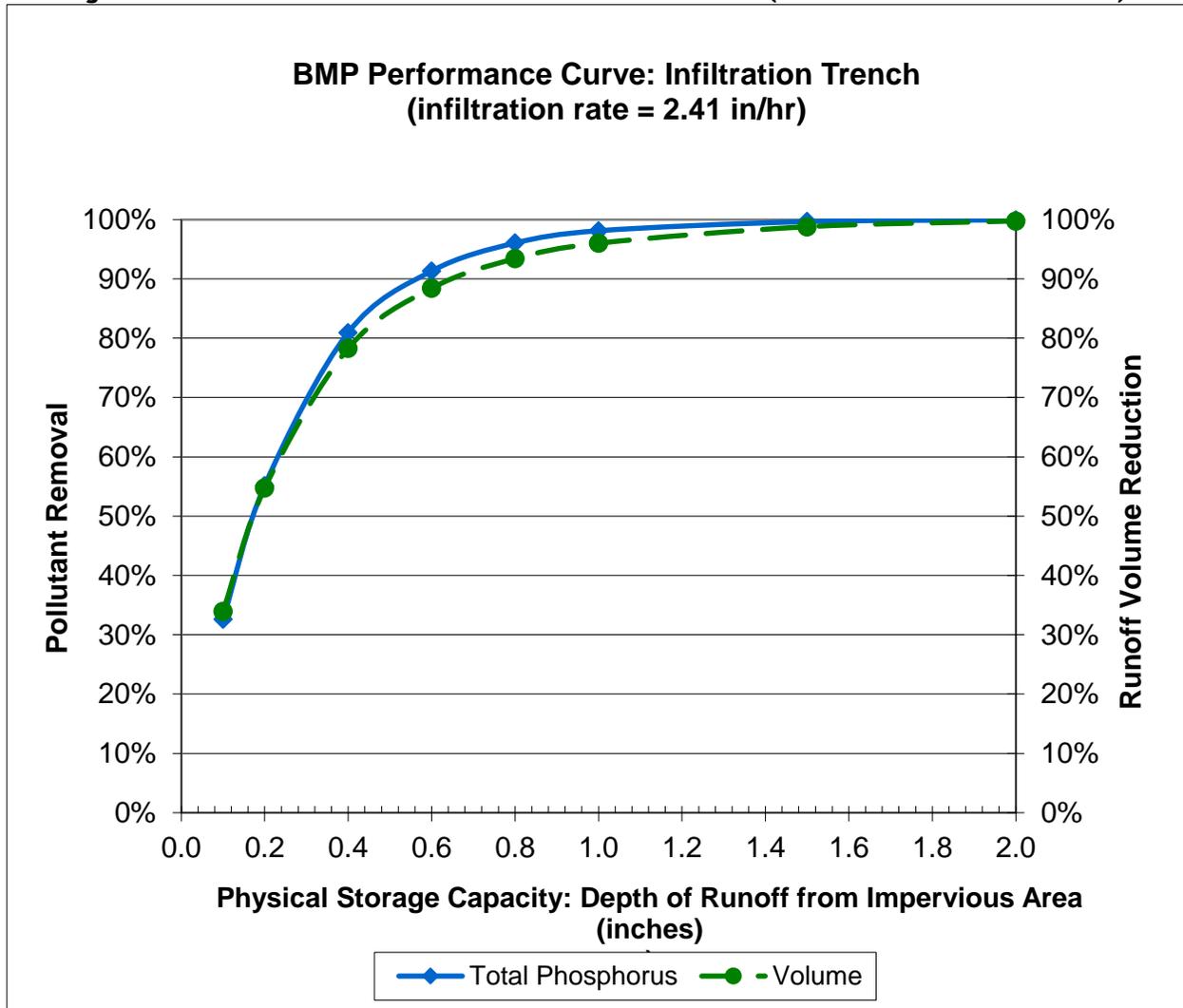


Table 3- 9: Infiltration Trench (8.27 in/hr) BMP Performance Table

Infiltration Trench (8.27 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	53.6%	76.1%	92.6%	97.2%	98.9%	99.5%	100.0%	100.0%
Cumulative Phosphorus Load Reduction	50%	75%	94%	98%	99%	100%	100%	100%

Figure 3- 6: BMP Performance Curve: Infiltration Trench (infiltration rate = 8.27 in/hr)

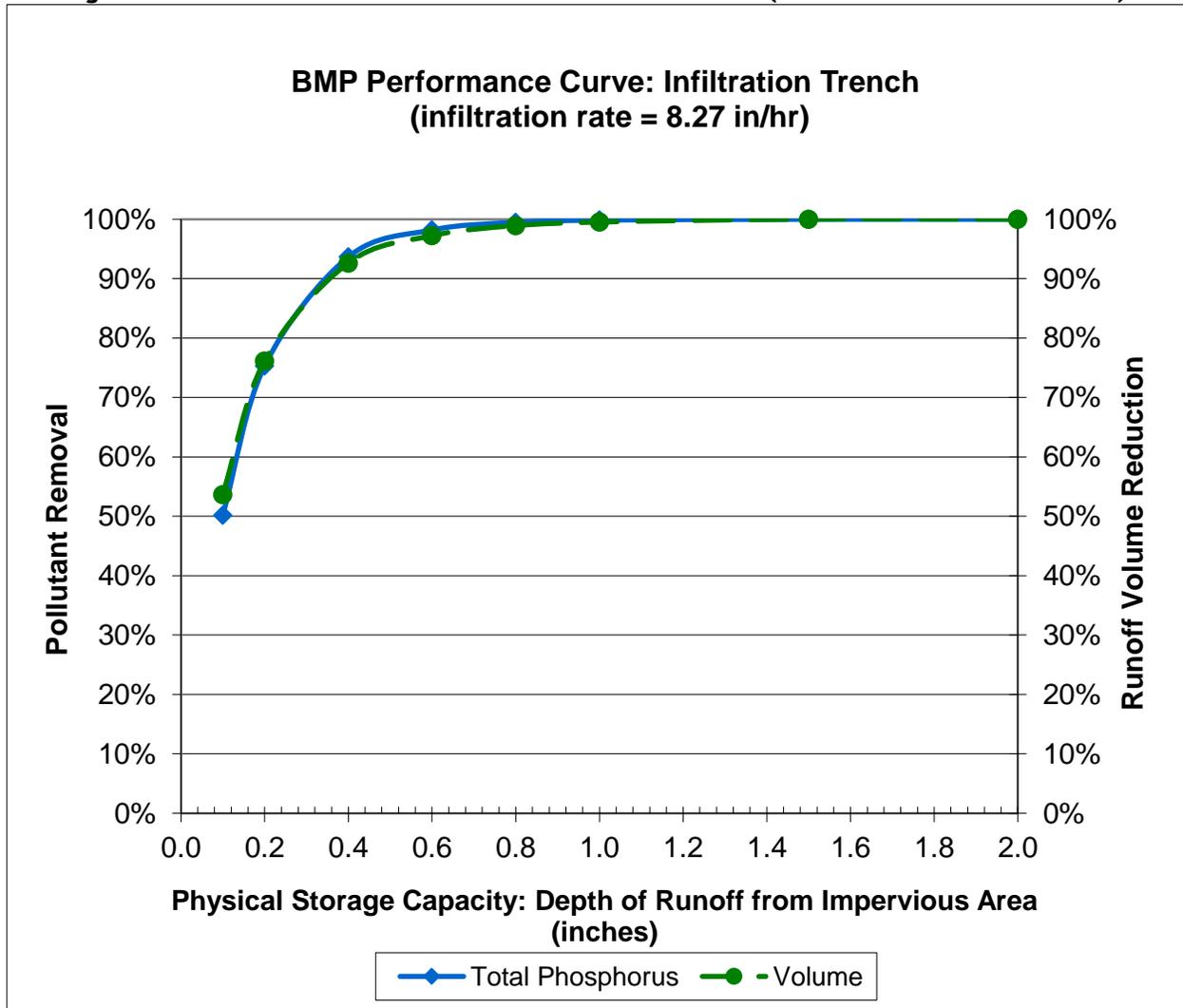


Table 3- 10: Infiltration Basin (0.17 in/hr) BMP Performance Table

Infiltration Basin (0.17 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	13.0%	24.6%	44.2%	59.5%	70.6%	78.1%	89.2%	93.9%
Cumulative Phosphorus Load Reduction	35%	52%	72%	82%	88%	92%	97%	99%

Figure 3- 7: BMP Performance Curve: Infiltration Basin (infiltration rate = 0.17 in/hr)

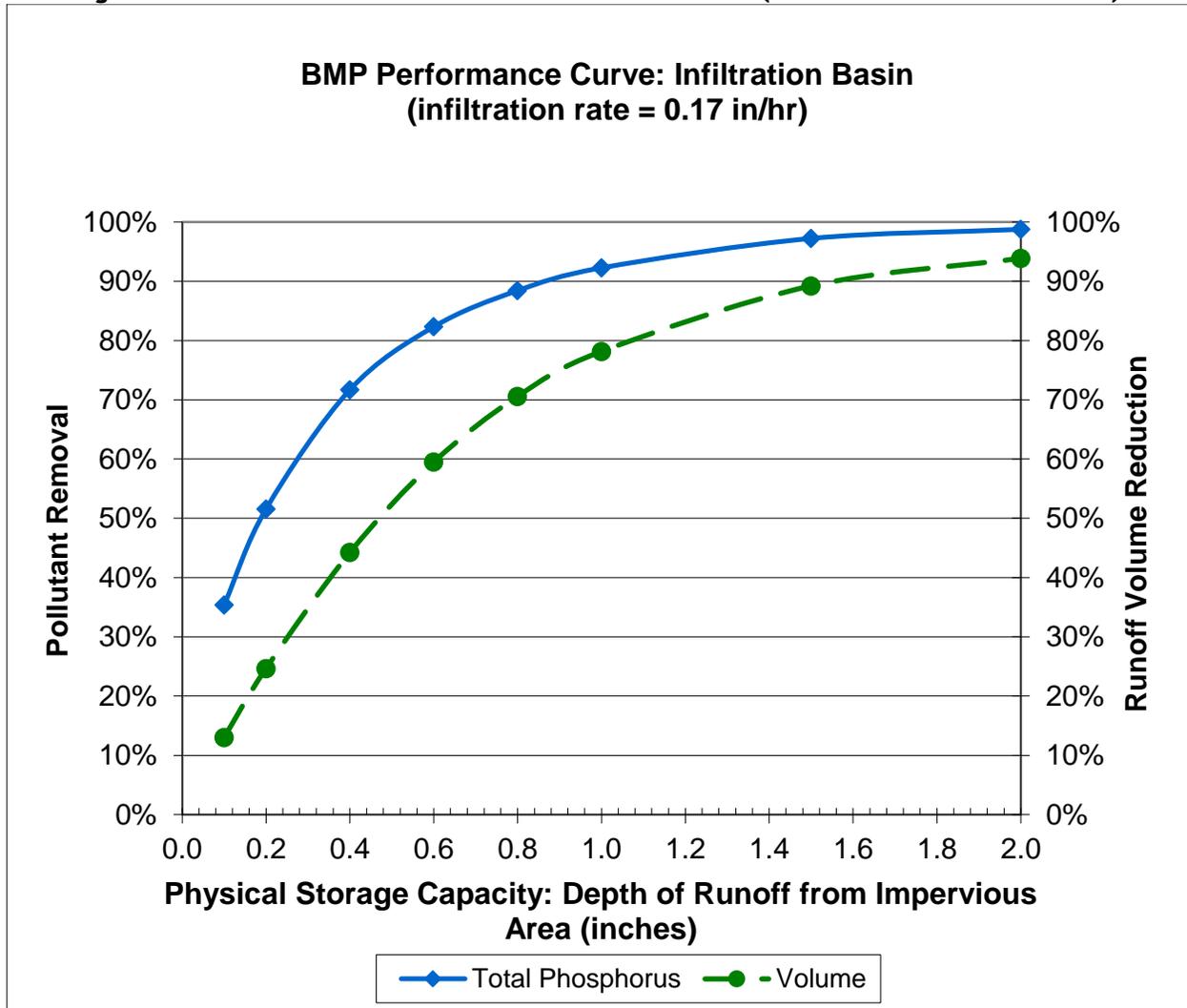


Table 3- 11: Infiltration Basin (0.27 in/hr) BMP Performance Table

Infiltration Basin (0.27 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	16.3%	29.8%	51.0%	66.0%	76.0%	82.4%	91.5%	95.2%
Cumulative Phosphorus Load Reduction	37%	54%	74 %	85%	90%	93%	98%	99%

Figure 3- 8: BMP Performance Curve: Infiltration Basin (infiltration rate = 0.27 in/hr)

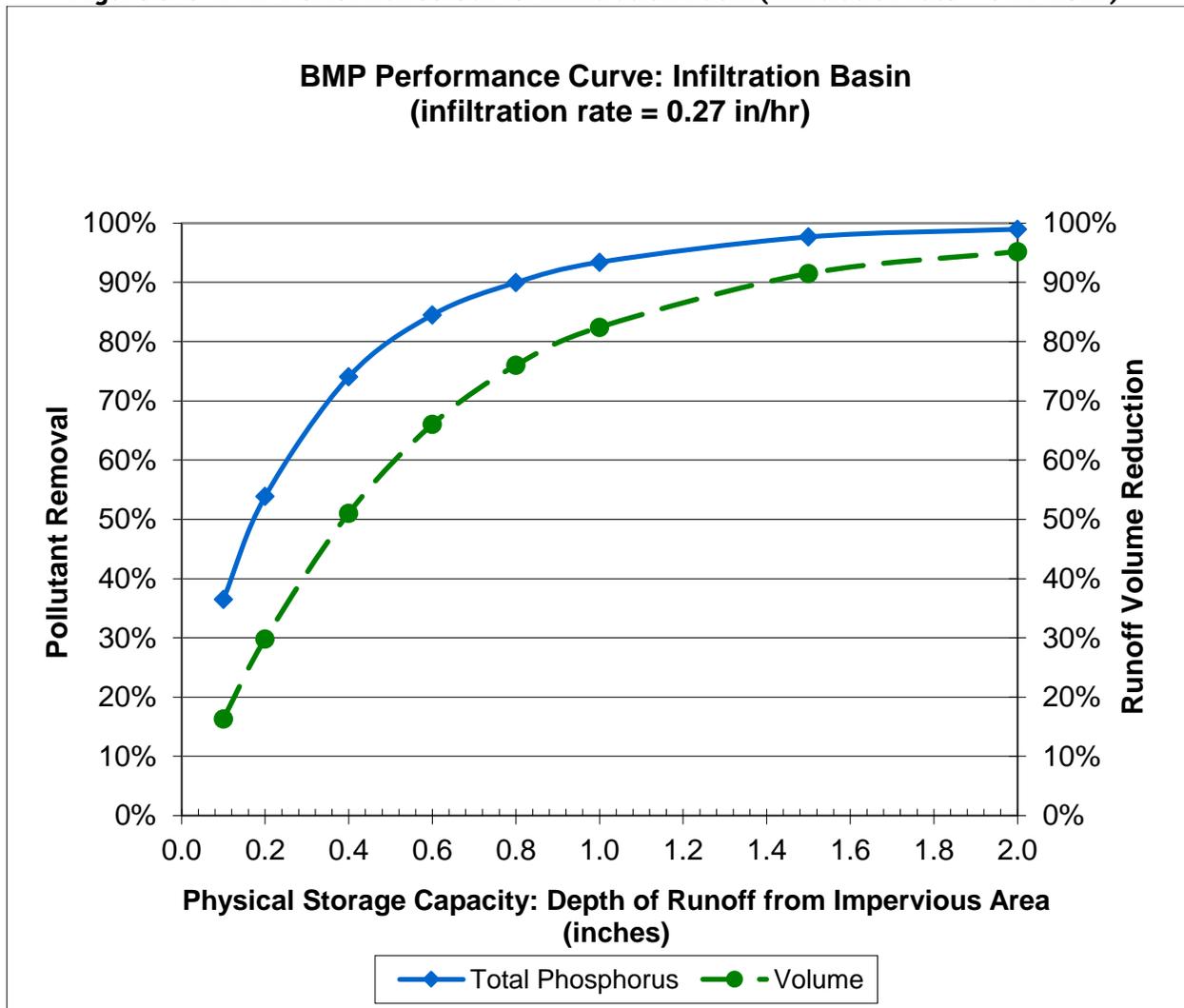


Table 3- 12: Infiltration Basin (0.52 in/hr) BMP Performance Table

Infiltration Basin (0.52 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	20.2%	35.6%	58.0%	72.6%	81.3%	86.9%	94.2%	96.7%
Cumulative Phosphorus Load Reduction	38%	56%	77%	87%	92%	95%	98%	99%

Figure 3- 9: BMP Performance Curve: Infiltration Basin (infiltration rate = 0.52 in/hr)

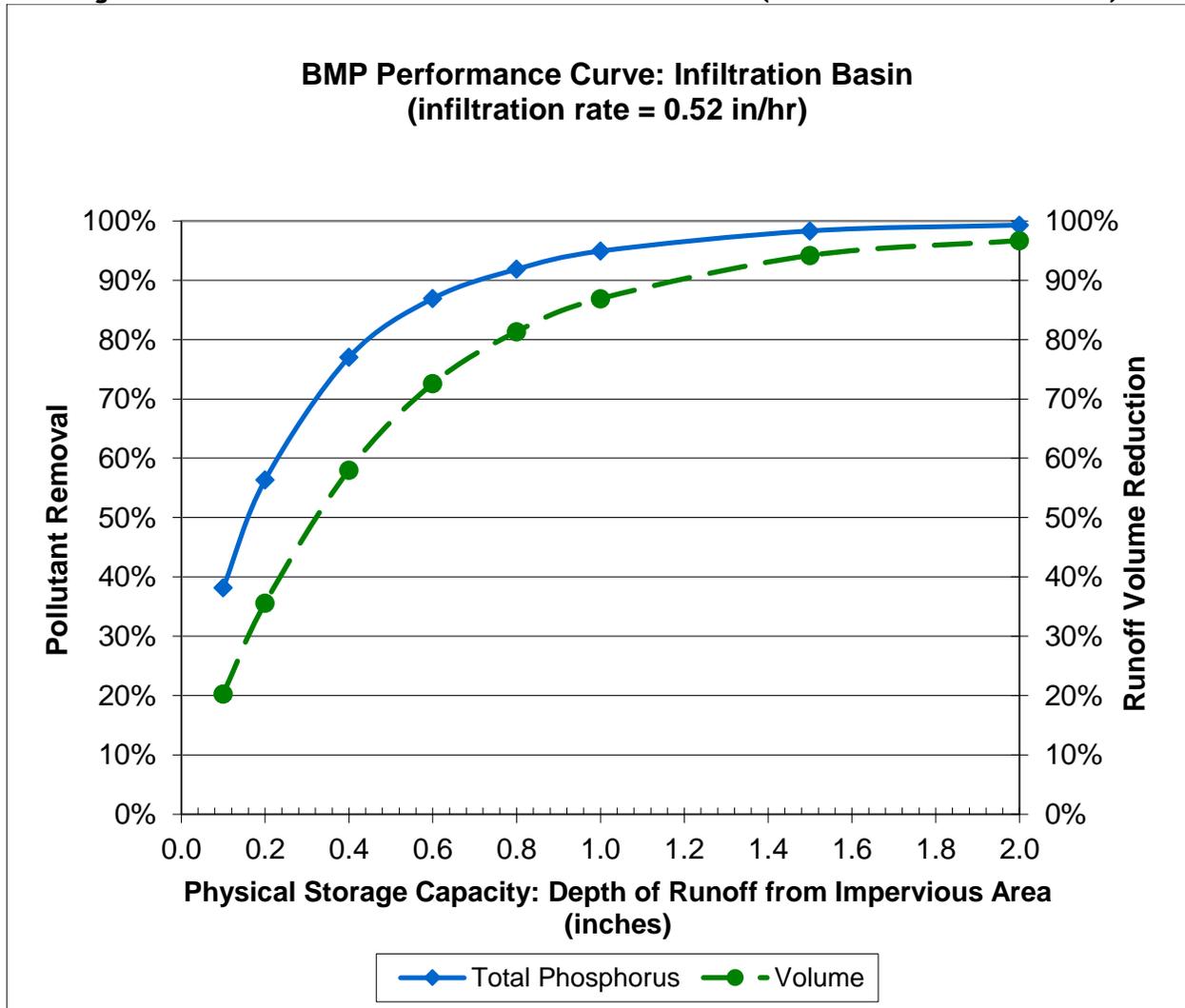


Table 3- 13: Infiltration Basin (1.02 in/hr) BMP Performance Table

Infiltration Basin (1.02 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	24.5%	42.0%	65.6%	79.4%	86.8%	91.3%	96.2%	98.1%
Cumulative Phosphorus Load Reduction	41%	60%	81%	90%	94%	97%	99%	100%

Figure 3- 10: BMP Performance Curve: Infiltration Basin (Soil infiltration rate = 1.02 in/hr)

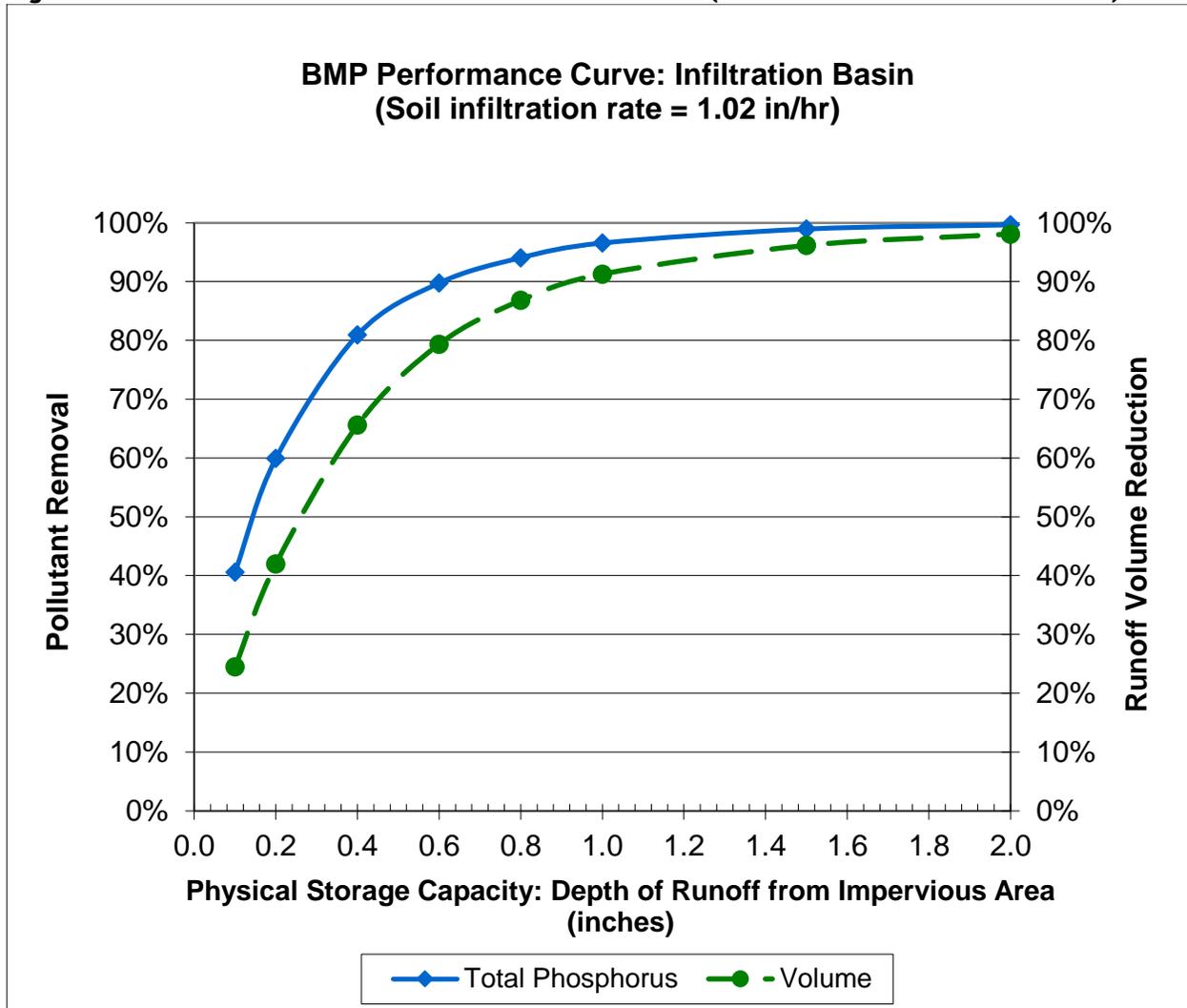


Table 3- 14: Infiltration Basin (2.41 in/hr) BMP Performance Table

Infiltration Basin (2.41 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	32.8%	53.8%	77.8%	88.4%	93.4%	96.0%	98.8%	99.8%
Cumulative Phosphorus Load Reduction	46%	67%	87%	94%	97%	98%	100%	100%

Figure 3- 11: BMP Performance Curve: Infiltration Basin (infiltration rate = 2.41 in/hr)

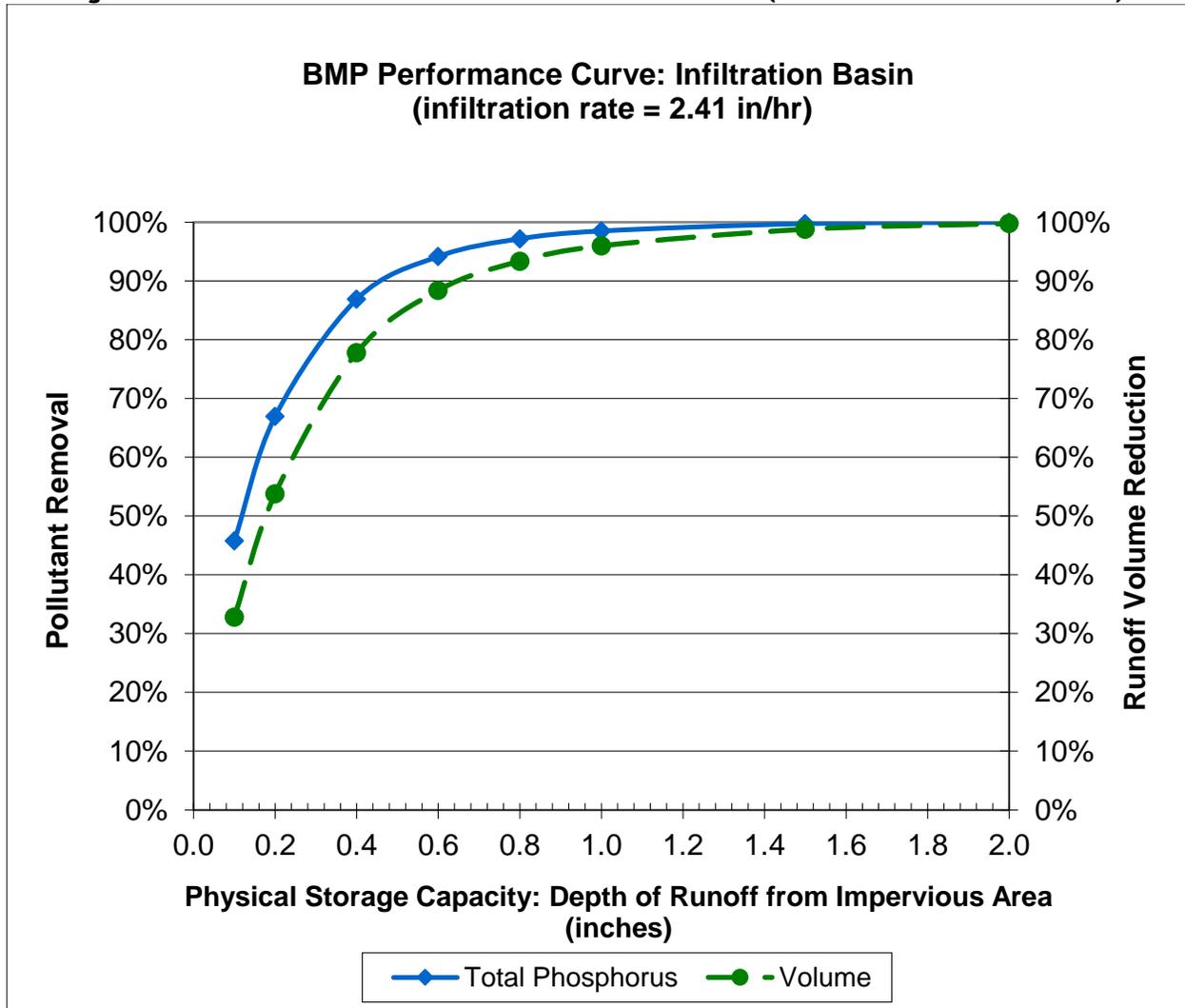


Table 3- 15: Infiltration Basin (8.27 in/hr) BMP Performance Table

Infiltration Basin (8.27 in/hr) BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Runoff Volume Reduction	54.6%	77.2%	93.4%	97.5%	99.0%	99.6%	100.0%	100.0%
Cumulative Phosphorus Load Reduction	59%	81%	96%	99%	100%	100%	100%	100%

Figure 3- 12: BMP Performance Curve: Infiltration Basin (infiltration rate = 8.27 in/hr)

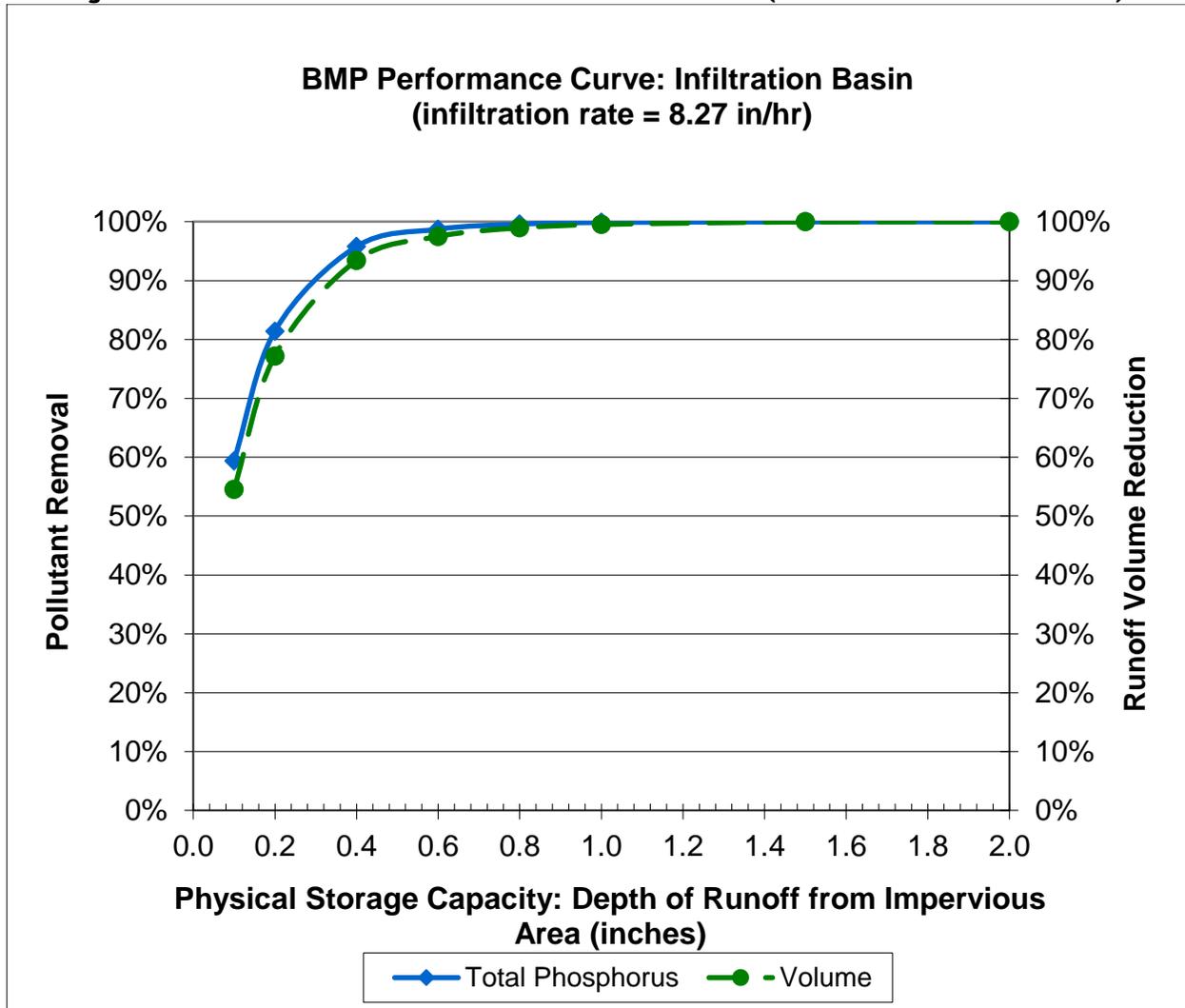


Table 3- 16: Biofiltration BMP Performance Table

Biofiltration BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	19%	34%	53%	64%	71%	76%	84%	89%

Figure 3- 13: BMP Performance Curve: Biofiltration

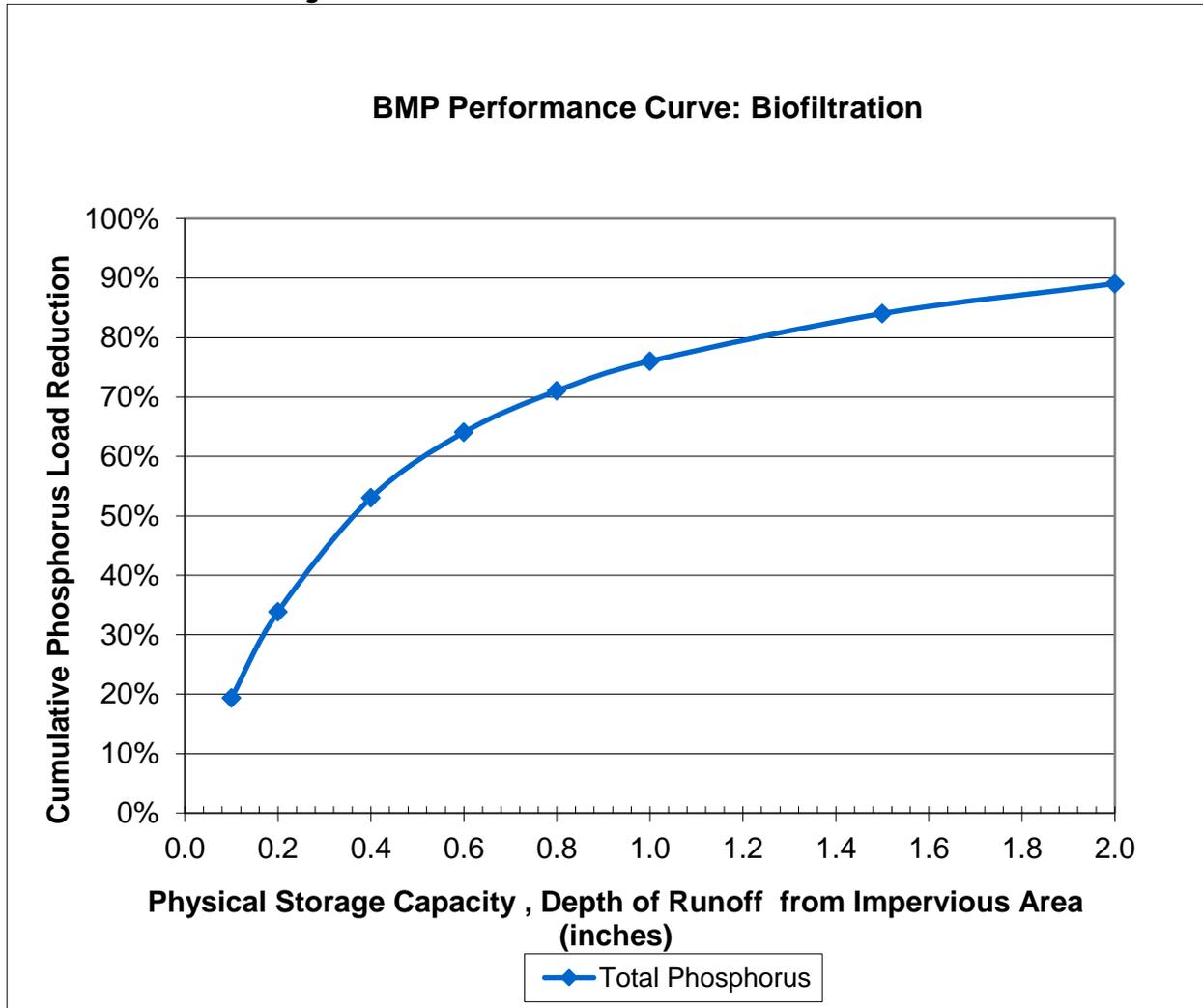


Table 3- 17: Gravel Wetland BMP Performance Table

Gravel Wetland BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	19%	26%	41%	51%	57%	61%	65%	66%

Figure 3- 14: BMP Performance Curve: Gravel Wetland

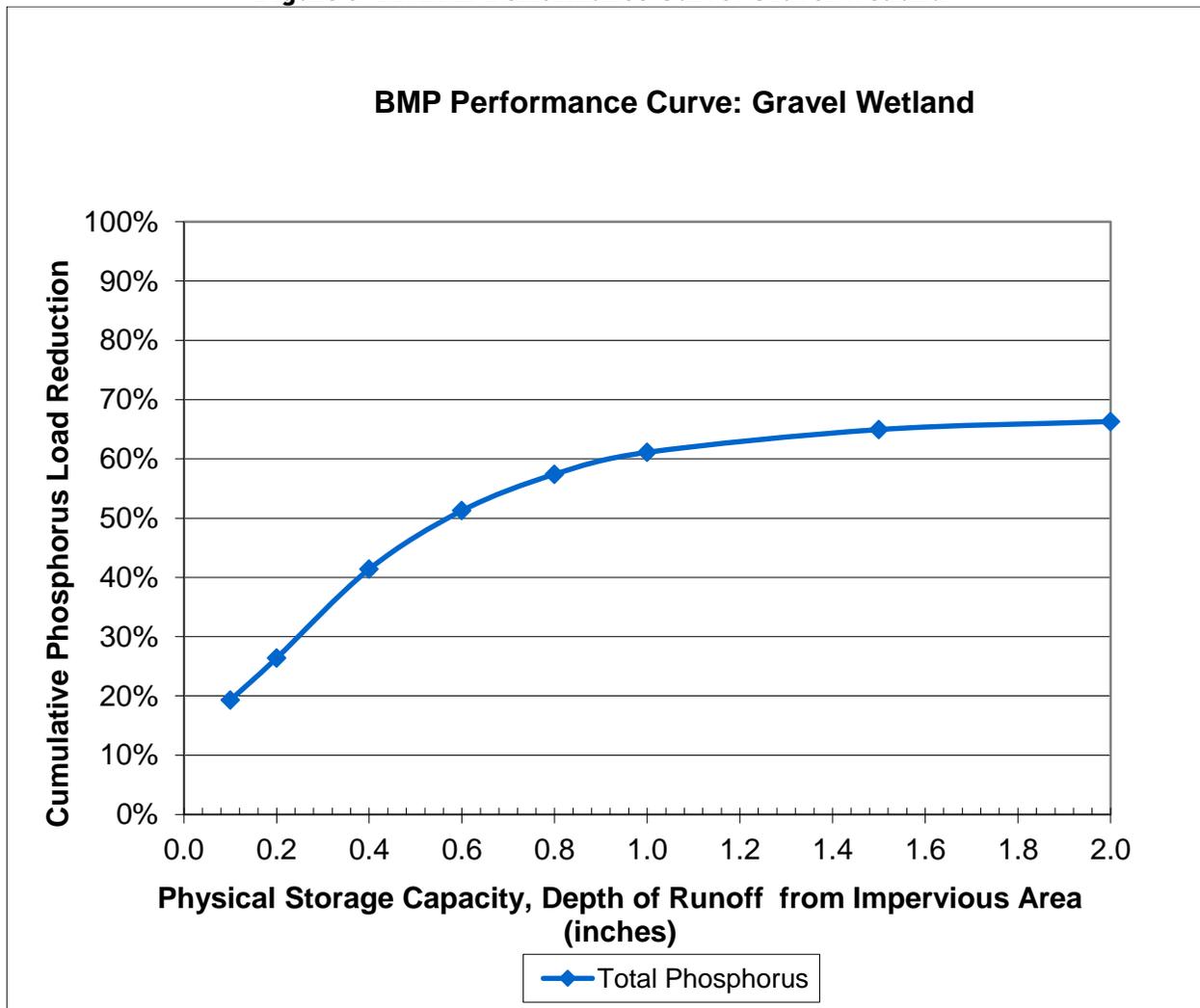


Table 3- 18: Porous Pavement BMP Performance Table

Porous Pavement BMP Performance Table: Long-Term Phosphorus Load Reduction				
BMP Capacity: Depth of Filter Course Area (inches)	12.0	18.0	24.0	32.0
Cumulative Phosphorus Load Reduction	62%	70%	75%	78%

Figure 3- 15: BMP Performance Curve: Porous Pavement

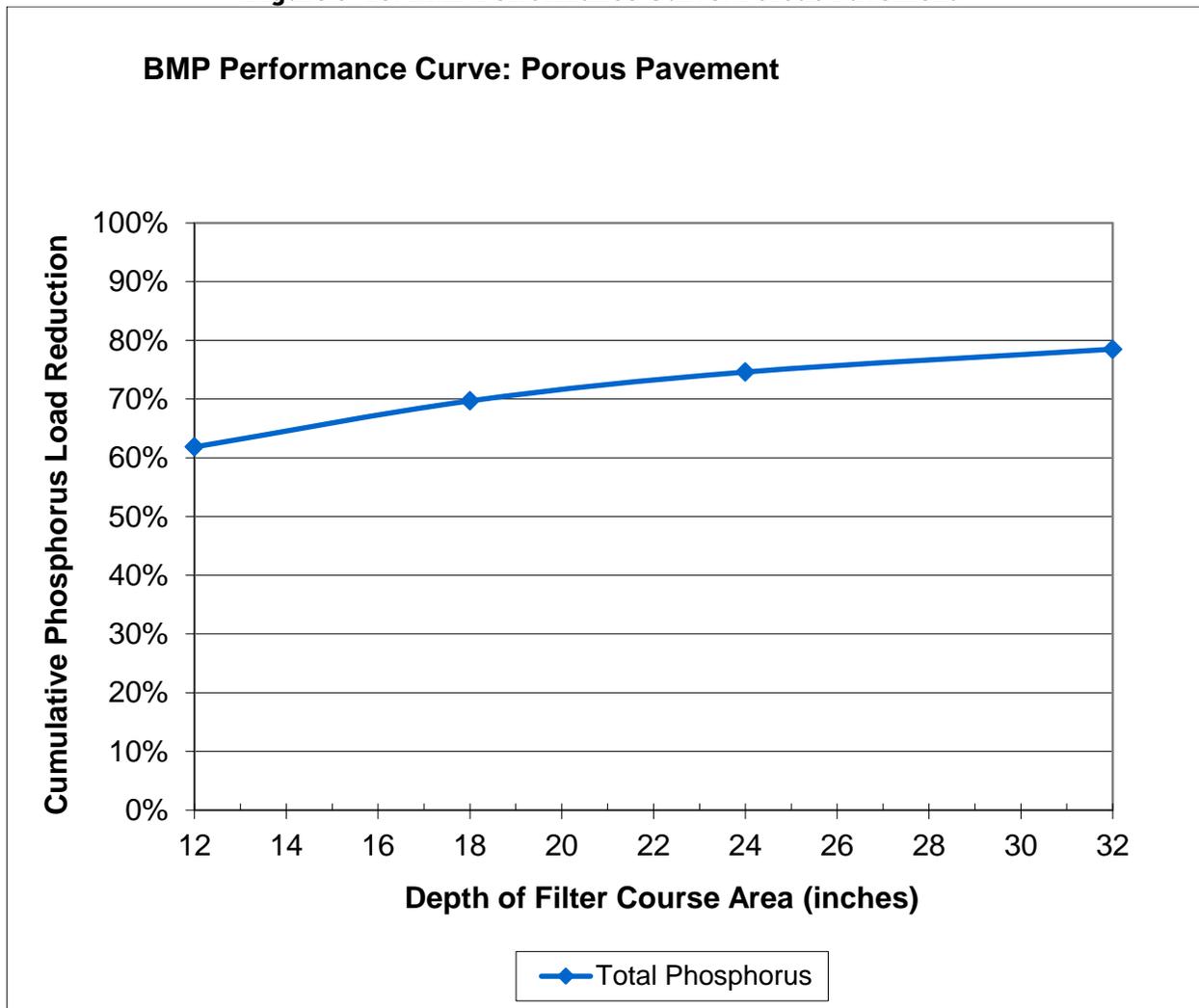


Table 3- 19: Wet Pond BMP Performance Table

Wet Pond BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	14%	25%	37%	44%	48%	53%	58%	63%

Table 3- 20: Dry Pond BMP Performance Table

Dry Pond BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	3%	6%	8%	9%	11%	12%	13%	14%

Figure 3- 16: BMP Performance Curve: Dry Pond

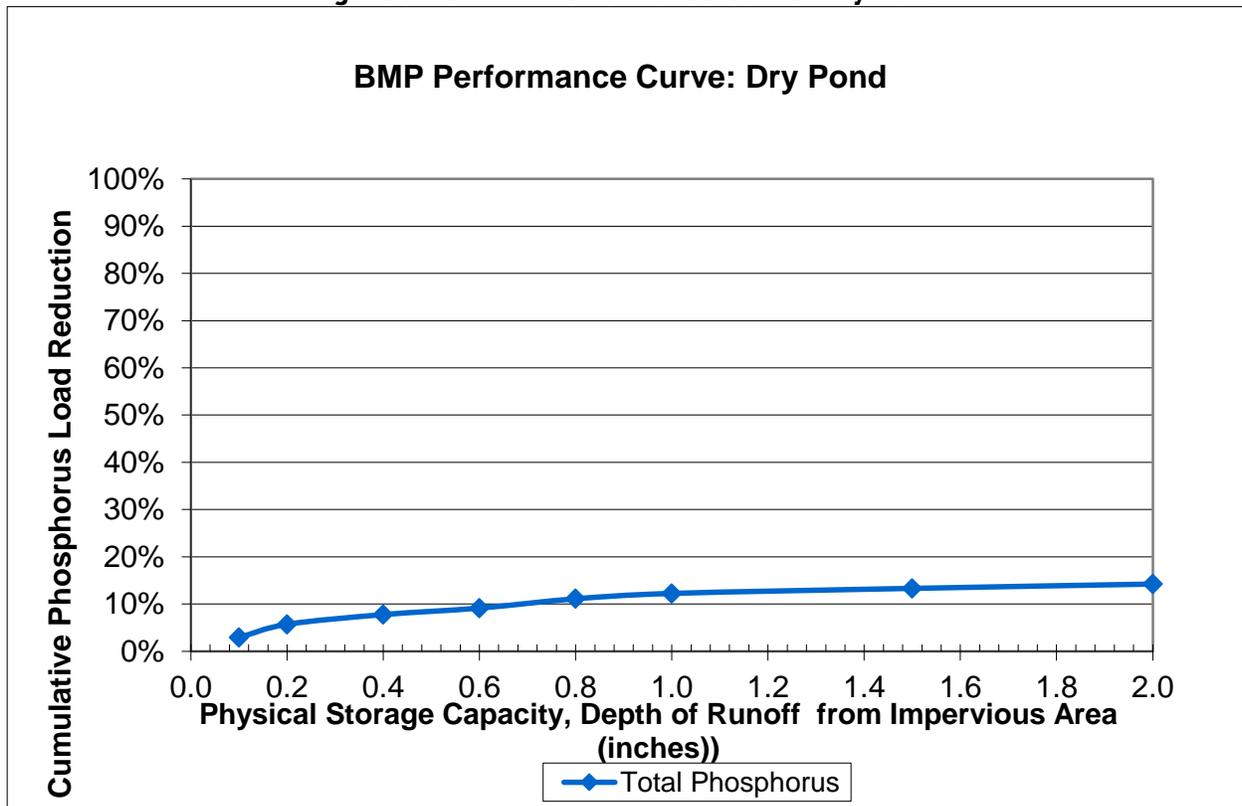


Table 3- 21: Grass Swale BMP Performance Table

Grass Swale BMP Performance Table: Long-Term Phosphorus Load Reduction								
BMP Capacity: Depth of Runoff Treated from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	2%	5%	9%	13%	17%	21%	29%	36%

Figure 3- 17: BMP Performance Curve: Grass Swale

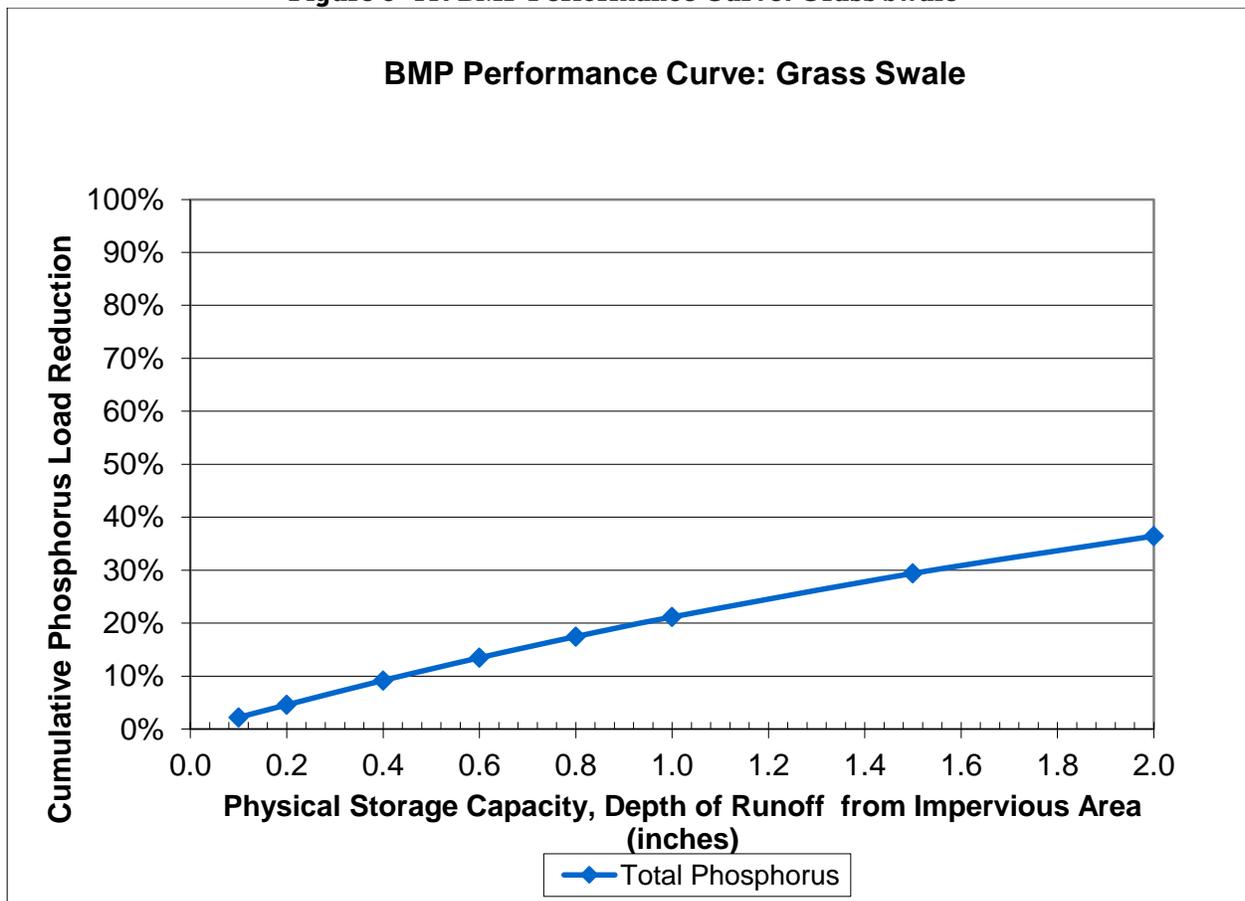


Table 3- 22: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1

Impervious Area Disconnection through Storage : Impervious Area to Pervious Area Ratio = 8:1												
Storage volume to impervious area ratio	Total Runoff Volume (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	22%	22%	21%
0.2 in	40%	38%	37%	40%	38%	37%	37%	38%	37%	24%	26%	27%
0.3 in	52%	50%	49%	52%	50%	49%	40%	46%	49%	24%	26%	27%
0.4 in	61%	59%	58%	59%	59%	58%	40%	48%	54%	24%	26%	27%
0.5 in	67%	66%	64%	62%	66%	64%	40%	48%	56%	24%	26%	27%
0.6 in	70%	71%	70%	62%	70%	70%	40%	48%	56%	24%	26%	27%
0.8 in	71%	78%	77%	62%	73%	77%	40%	48%	56%	24%	26%	27%
1.0 in	71%	80%	80%	62%	73%	79%	40%	48%	56%	24%	26%	27%
1.5 in	71%	81%	87%	62%	73%	81%	40%	48%	56%	24%	26%	27%
2.0 in	71%	81%	88%	62%	73%	81%	40%	48%	56%	24%	26%	27%

Figure 3- 18: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1 for HSG A Soils

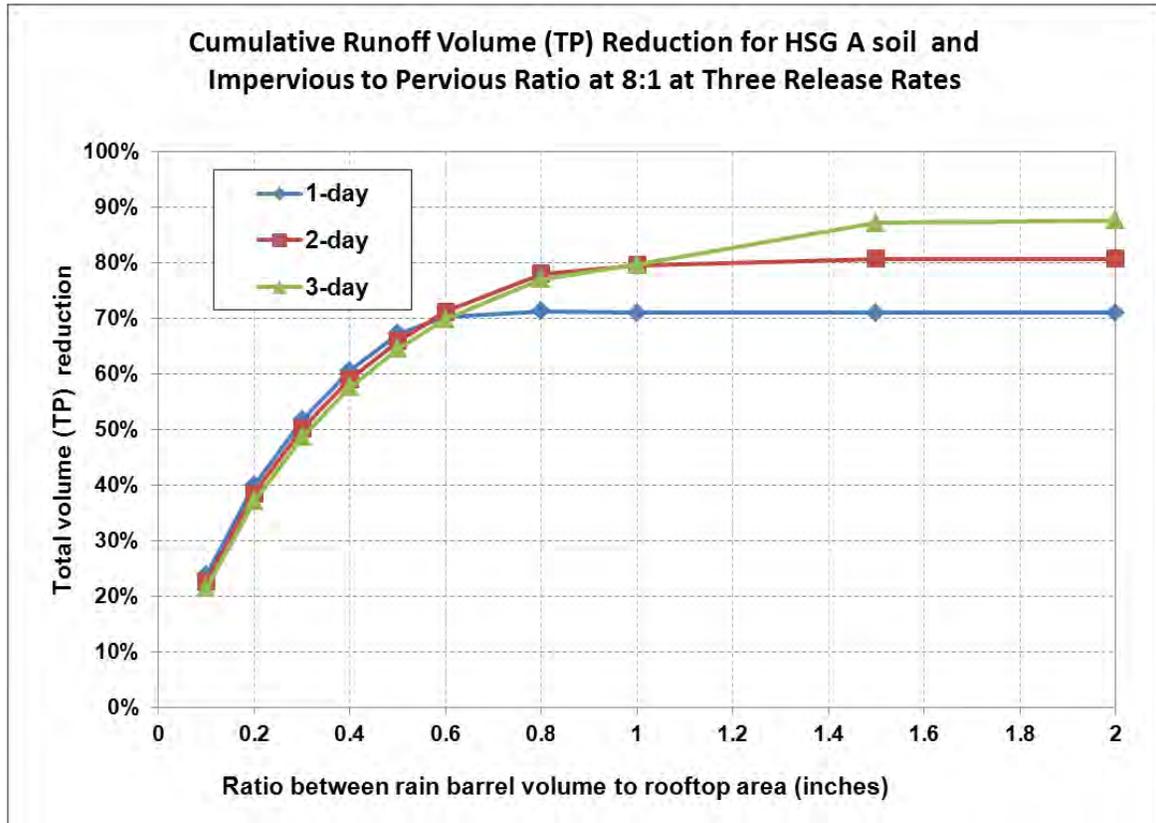


Figure 3- 19: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1 for HSG B Soils

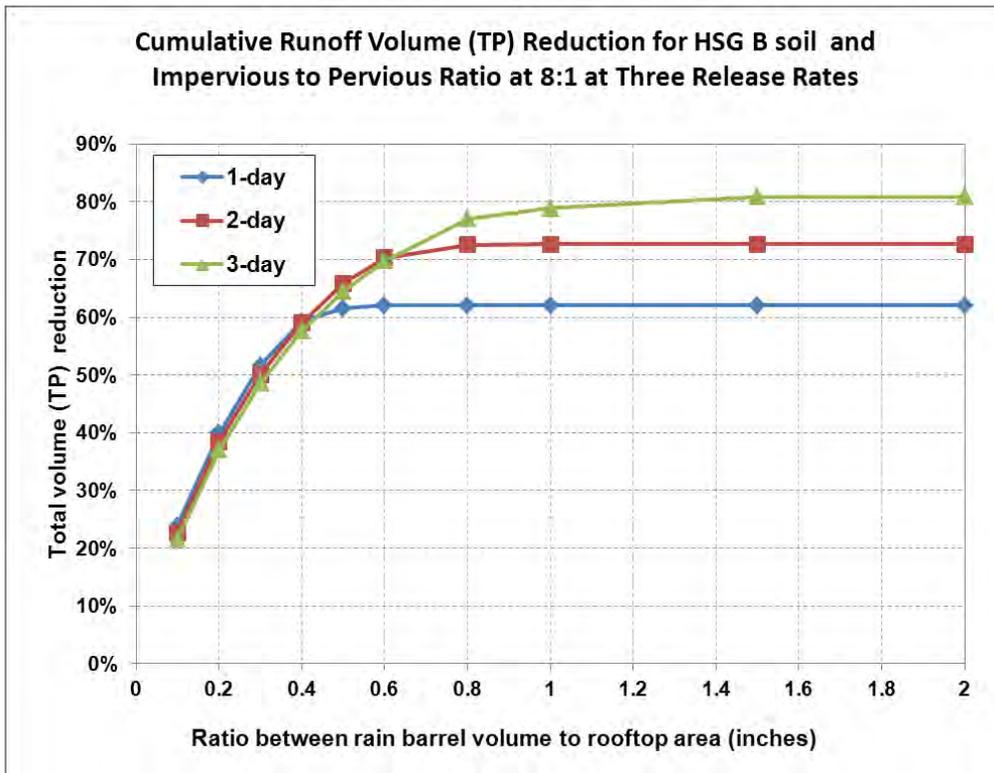


Figure 3- 20: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1 for HSG C Soils

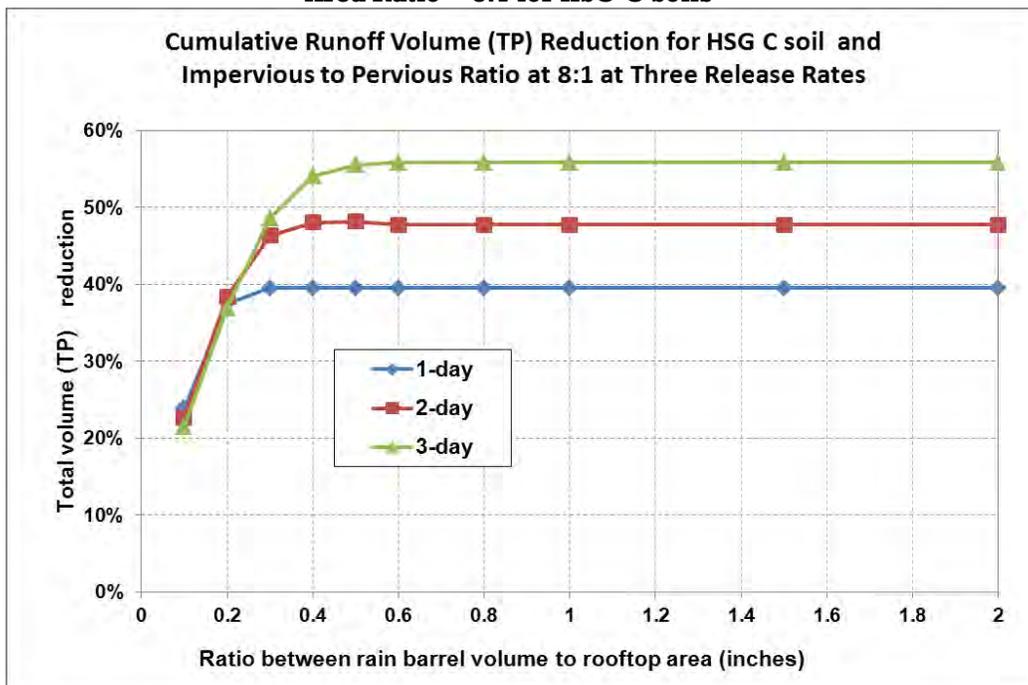


Figure 3- 21: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 8:1 for HSG D Soils

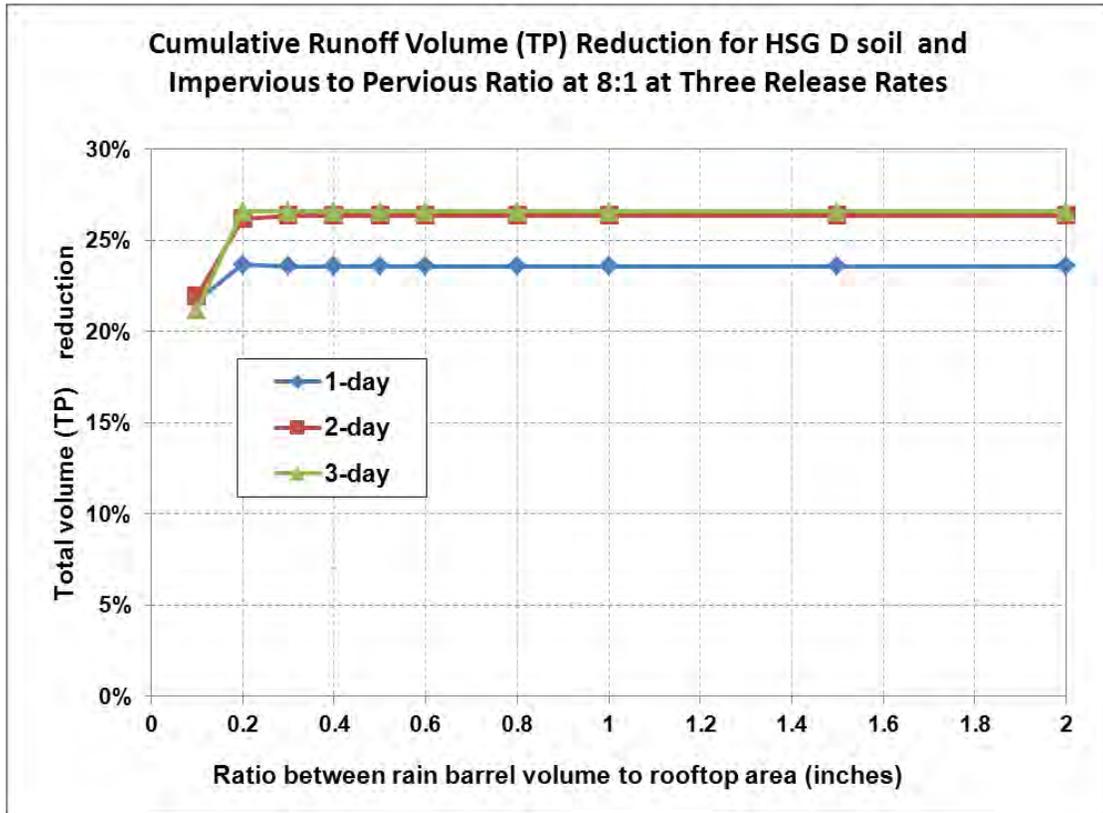


Table 3- 23: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1

Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1												
Rain barrel volume to impervious area ratio	Total Runoff Volume and Phosphorus Load (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	23%	23%	22%
0.2 in	40%	38%	37%	40%	38%	37%	40%	38%	37%	28%	30%	33%
0.3 in	52%	50%	49%	52%	50%	49%	47%	50%	49%	29%	31%	34%
0.4 in	61%	59%	58%	61%	59%	58%	48%	55%	58%	29%	31%	34%
0.5 in	67%	66%	64%	67%	66%	64%	48%	57%	63%	29%	31%	34%
0.6 in	73%	71%	70%	70%	71%	70%	48%	57%	65%	29%	31%	34%
0.8 in	78%	78%	77%	71%	78%	77%	48%	57%	66%	29%	31%	34%
1.0 in	79%	81%	80%	71%	79%	80%	48%	57%	66%	29%	31%	34%
1.5 in	79%	87%	88%	71%	80%	87%	48%	57%	66%	29%	31%	34%
2.0 in	79%	87%	91%	71%	80%	87%	48%	57%	66%	29%	31%	34%

Figure 3- 22: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1 for HSG A Soils

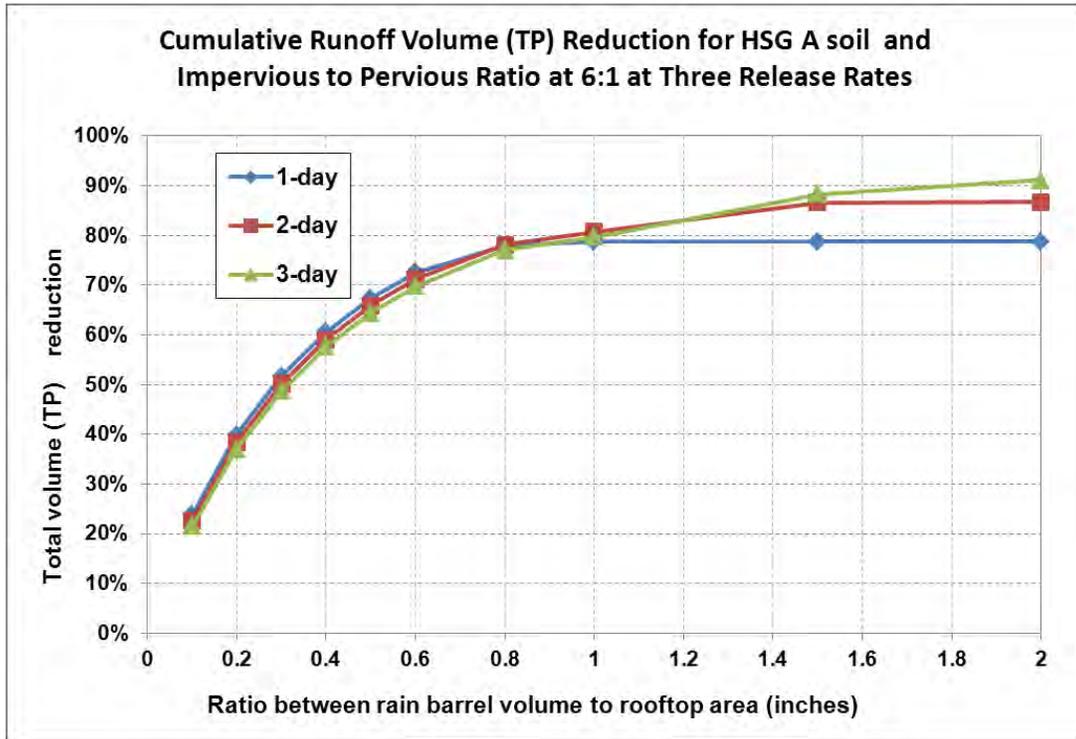


Figure 3- 23: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1 for HSG B Soils

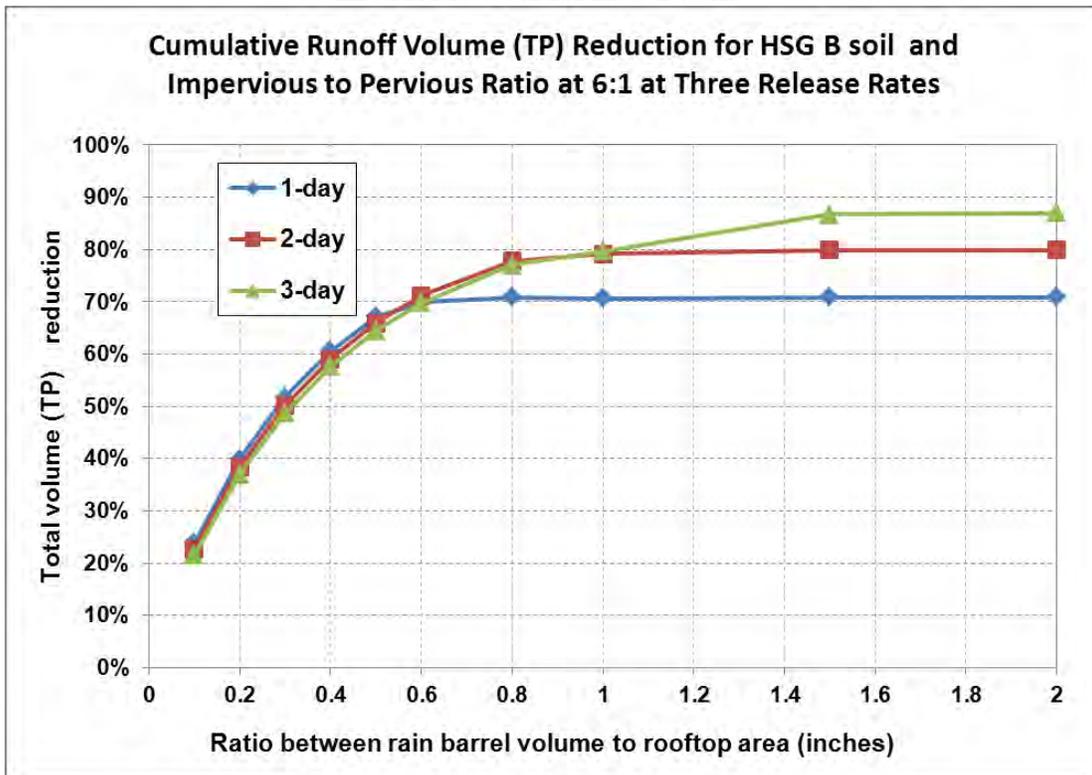


Figure 3- 24: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1 for HSG C Soils

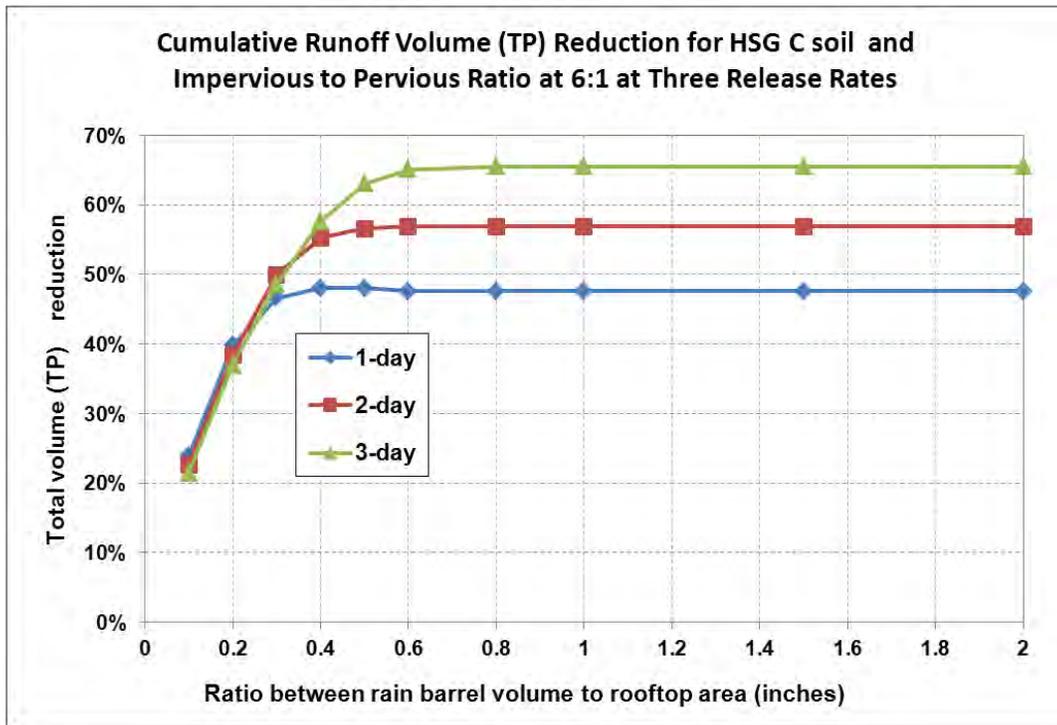


Figure 3- 25: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 6:1 for HSG D Soils

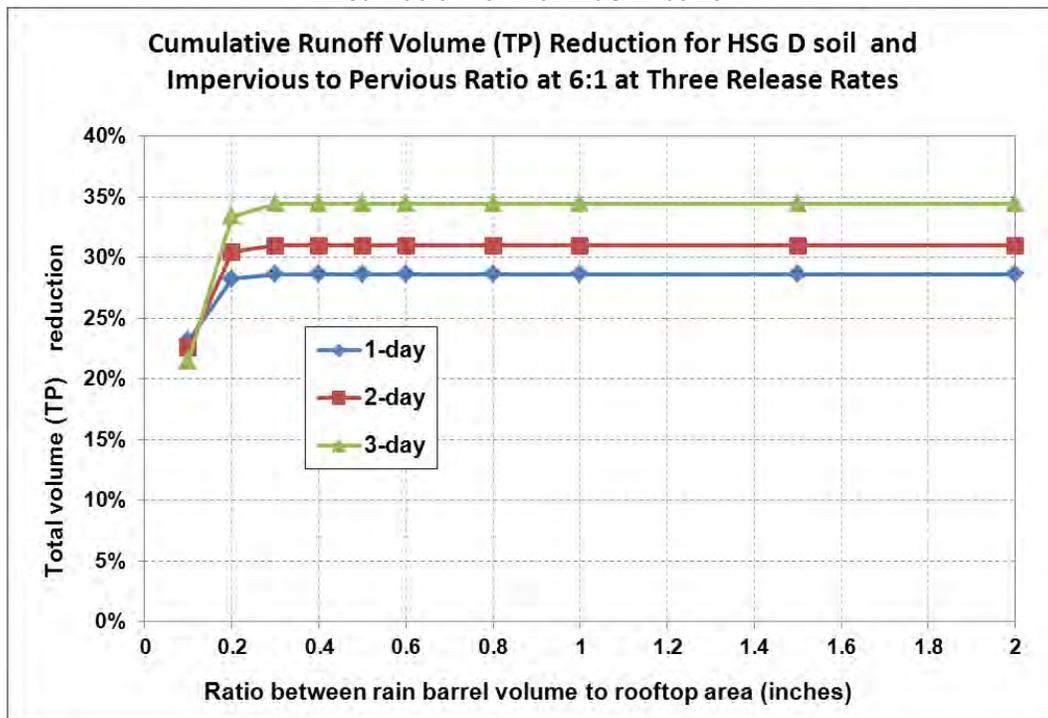


Table 3- 24: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1

Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1												
Storage volume to impervious area ratio	Total Runoff Volume and Phosphorus Load (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	24%	23%	22%
0.2 in	40%	38%	37%	40%	38%	37%	40%	38%	37%	37%	37%	37%
0.3 in	52%	50%	49%	52%	50%	49%	52%	50%	49%	39%	42%	45%
0.4 in	61%	59%	58%	61%	59%	58%	58%	59%	58%	39%	42%	47%
0.5 in	67%	66%	64%	67%	66%	64%	60%	65%	64%	40%	42%	47%
0.6 in	73%	71%	70%	73%	71%	70%	61%	68%	70%	40%	42%	47%
0.8 in	79%	78%	77%	79%	78%	77%	61%	69%	75%	40%	42%	47%
1.0 in	82%	81%	80%	80%	81%	80%	61%	69%	76%	40%	42%	47%
1.5 in	87%	89%	88%	80%	87%	88%	61%	69%	76%	40%	42%	47%
2.0 in	87%	91%	91%	80%	88%	91%	61%	69%	76%	40%	42%	47%

Figure 3- 26: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1 for HSG A Soils

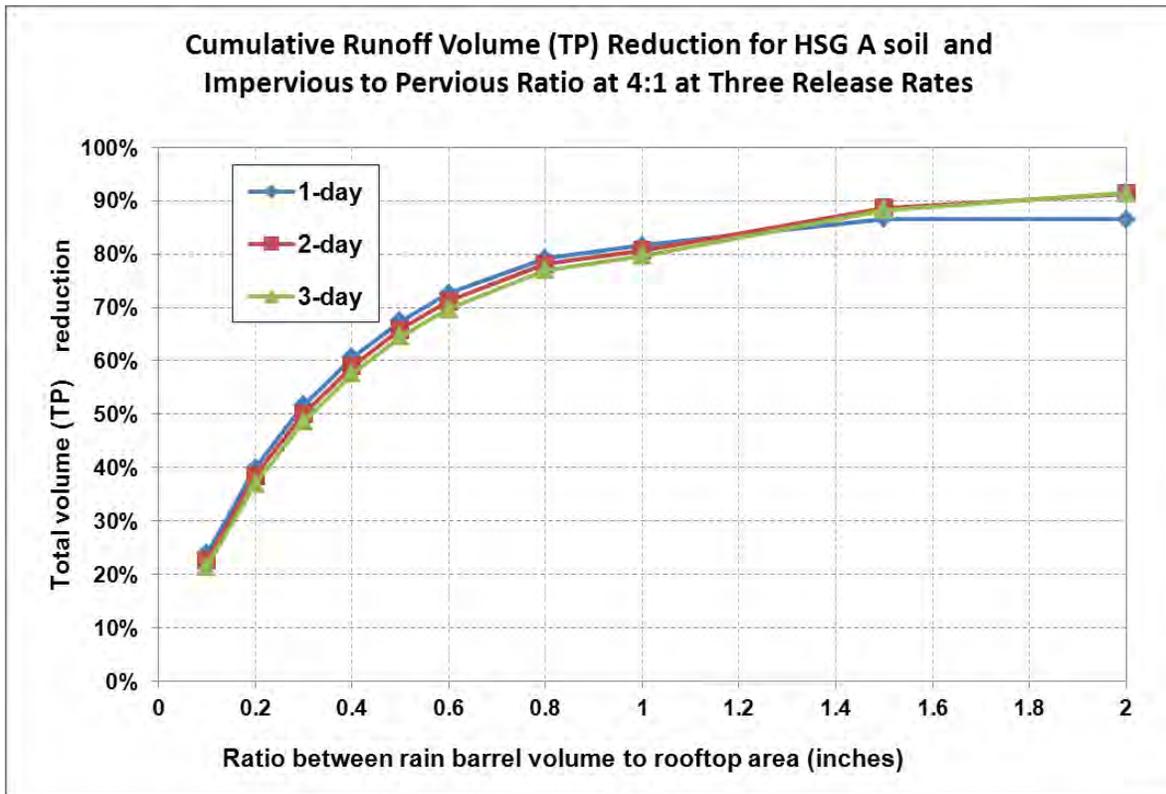


Figure 3- 27: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1 for HSG B Soils

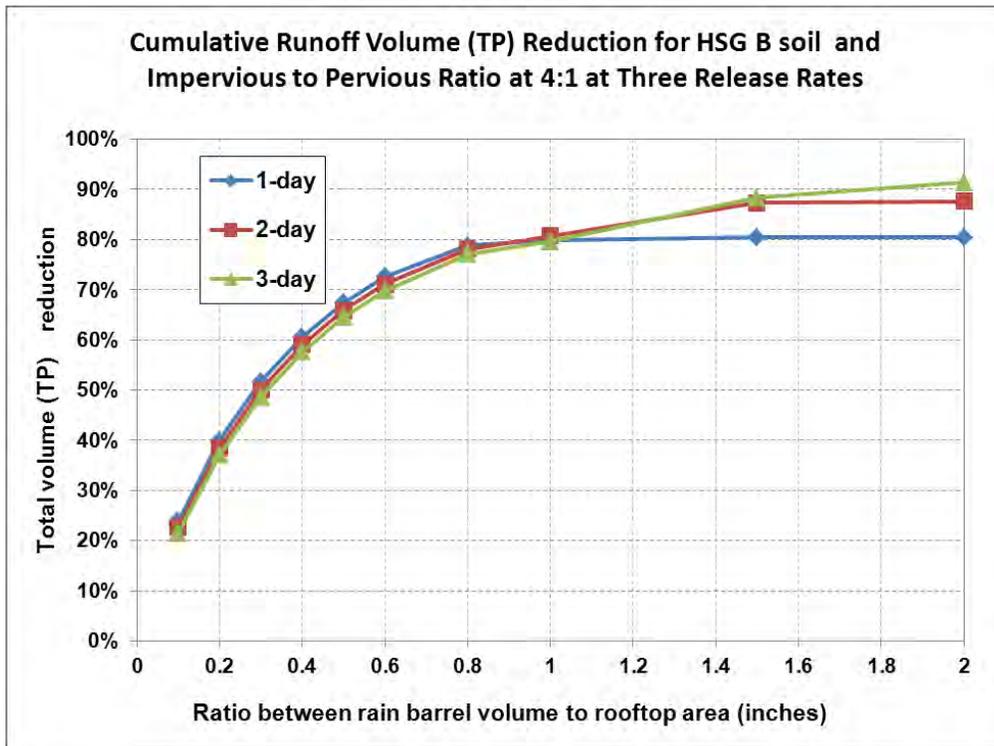


Figure 3- 28: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1 for HSG C Soils

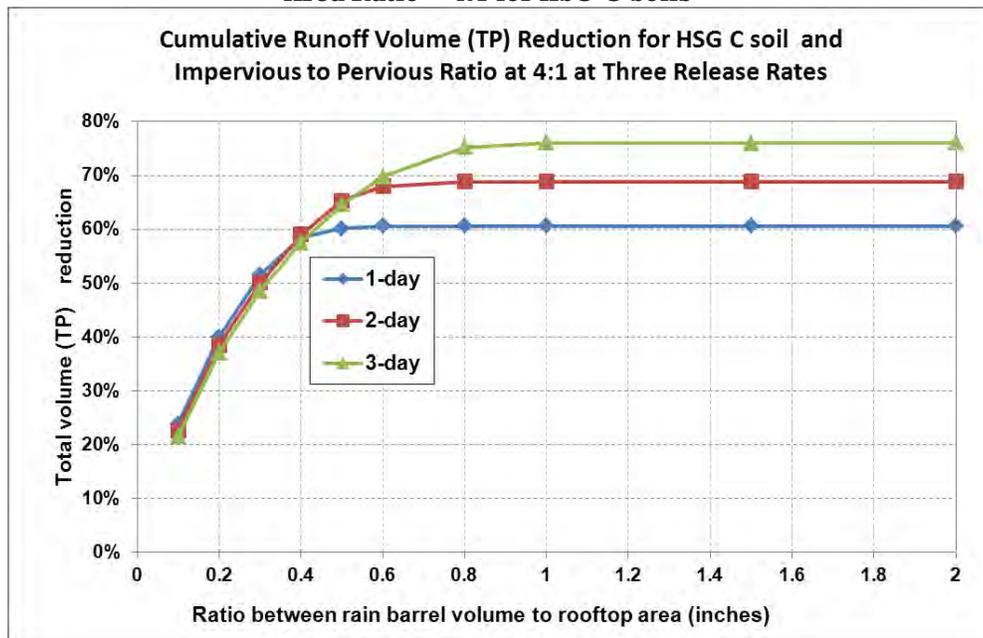


Figure 3- 29: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 4:1 for HSG D Soils

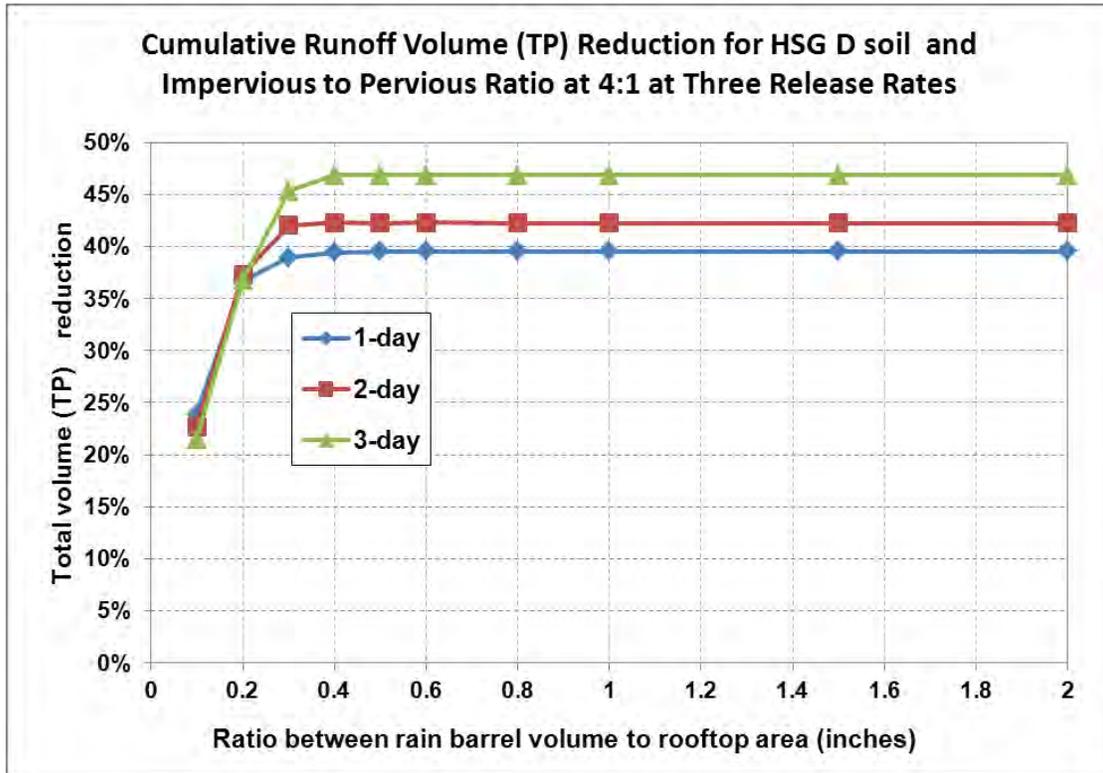


Table 3- 25: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 2:1

Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 2:1												
Storage volume to impervious area ratio	Total Runoff Volume and Phosphorus Load (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	24%	23%	22%
0.2 in	40%	38%	37%	40%	38%	37%	40%	38%	37%	40%	38%	37%
0.3 in	52%	50%	49%	52%	50%	49%	52%	50%	49%	51%	50%	49%
0.4 in	61%	59%	58%	61%	59%	58%	61%	59%	58%	57%	58%	57%
0.5 in	67%	66%	64%	67%	66%	64%	67%	66%	64%	59%	62%	63%
0.6 in	73%	71%	70%	73%	71%	70%	72%	71%	70%	59%	62%	67%
0.8 in	79%	78%	77%	79%	78%	77%	77%	78%	77%	59%	62%	67%
1.0 in	82%	81%	80%	82%	81%	80%	78%	81%	80%	59%	62%	67%
1.5 in	89%	89%	88%	89%	89%	88%	78%	84%	88%	59%	62%	67%
2.0 in	92%	92%	91%	91%	92%	91%	78%	84%	89%	59%	62%	67%

Figure 3- 30: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio= 2:1 for HSG A Soils

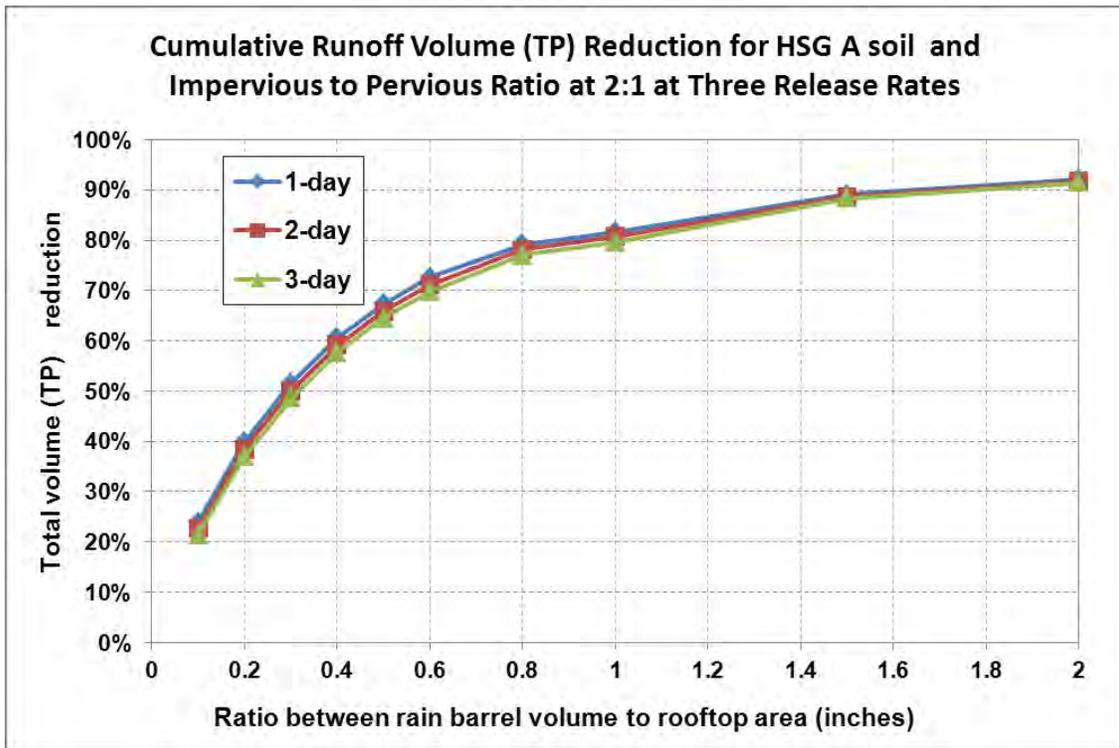


Figure 3- 31: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio= 2:1 for HSG B Soils

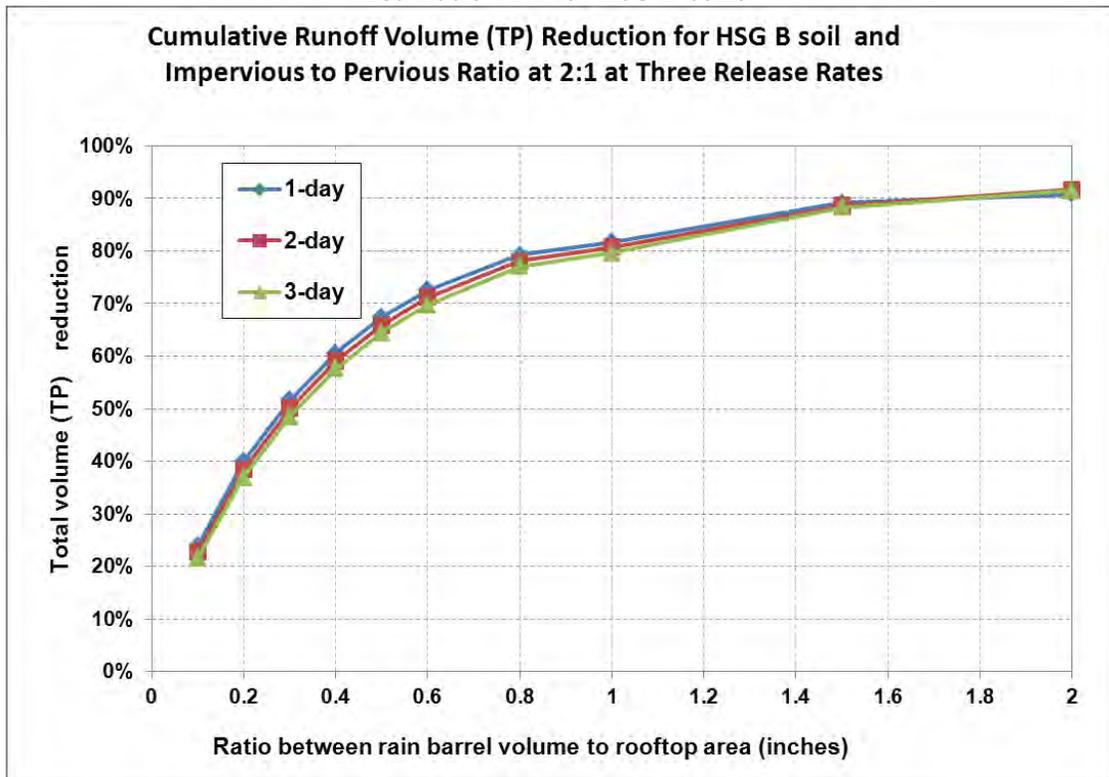


Figure 3- 32: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio= 2:1 for HSG C Soils

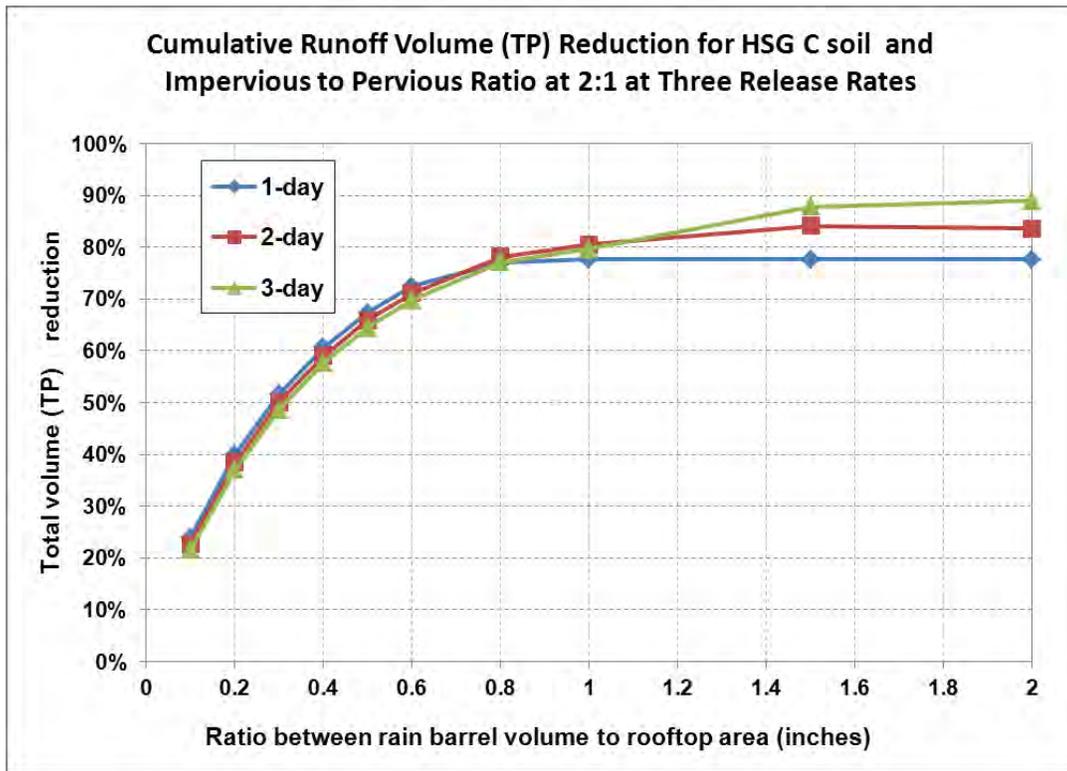


Figure 3- 33: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio= 2:1 for HSG D Soils

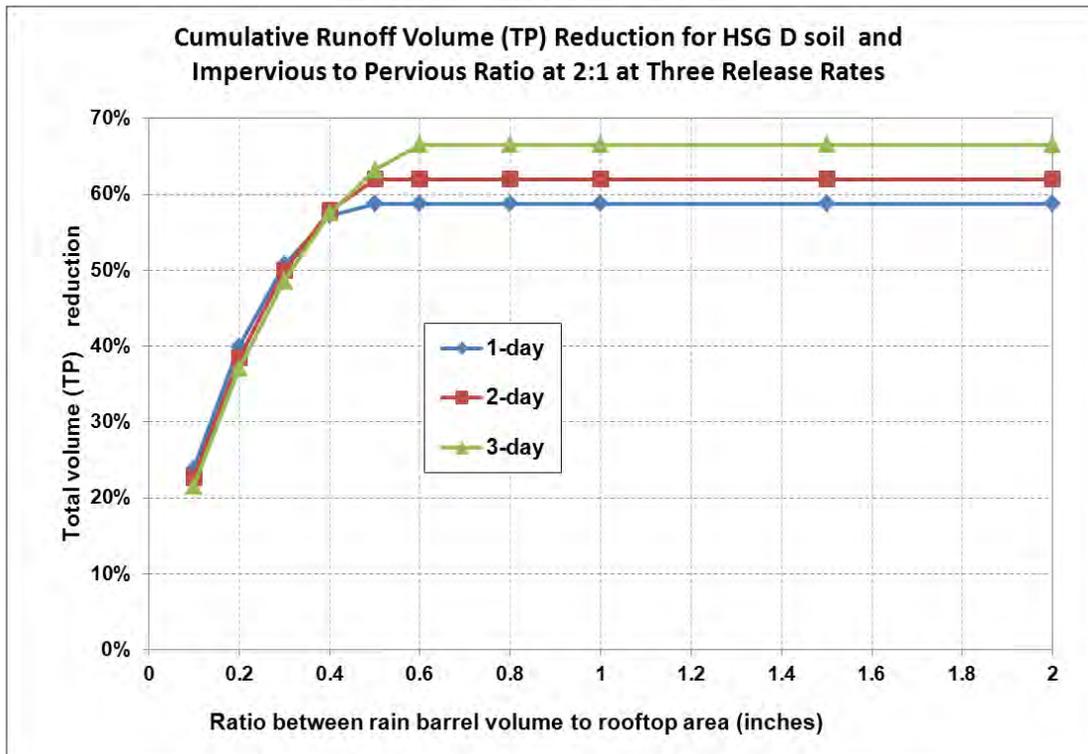


Table 3- 26: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1

Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1												
Storage volume to impervious area ratio	Total Runoff Volume and Phosphorus Load (TP) Reduction Percentages											
	HSG A			HSG B			HSG C			HSG D		
	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day	1-day	2-day	3-day
0.1 in	24%	23%	22%	24%	23%	22%	24%	23%	22%	24%	23%	22%
0.2 in	40%	38%	37%	40%	38%	37%	40%	38%	37%	40%	38%	37%
0.3 in	52%	50%	49%	52%	50%	49%	52%	50%	49%	52%	50%	49%
0.4 in	61%	59%	58%	61%	59%	58%	61%	59%	58%	61%	59%	58%
0.5 in	67%	66%	64%	67%	66%	64%	67%	66%	64%	67%	66%	64%
0.6 in	73%	71%	70%	73%	71%	70%	73%	71%	70%	72%	71%	70%
0.8 in	79%	78%	77%	79%	78%	77%	79%	78%	77%	78%	78%	77%
1.0 in	82%	81%	80%	82%	81%	80%	82%	81%	80%	79%	80%	80%
1.5 in	89%	89%	88%	89%	89%	88%	89%	89%	88%	80%	82%	86%
2.0 in	92%	92%	91%	92%	92%	91%	91%	92%	91%	80%	82%	86%

Figure 3- 34: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1 for HSG A Soils

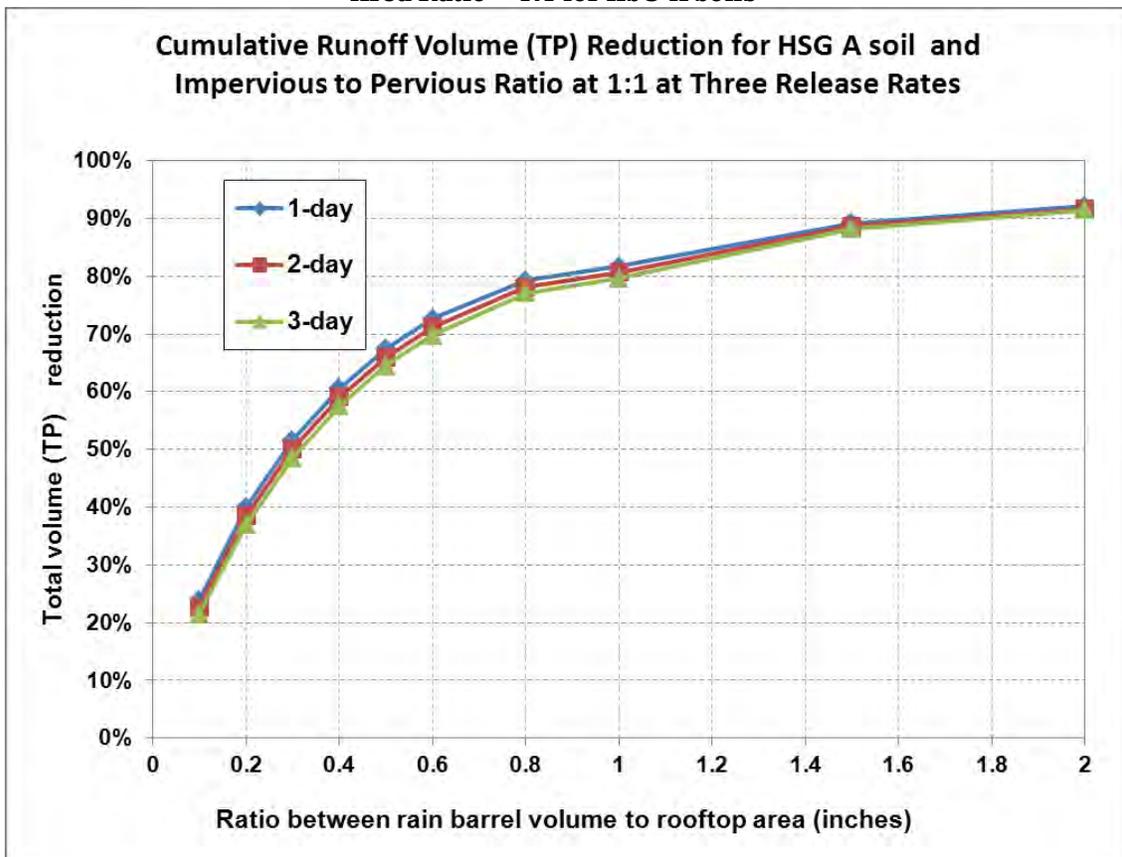


Figure 3- 35: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1 for HSG B Soils

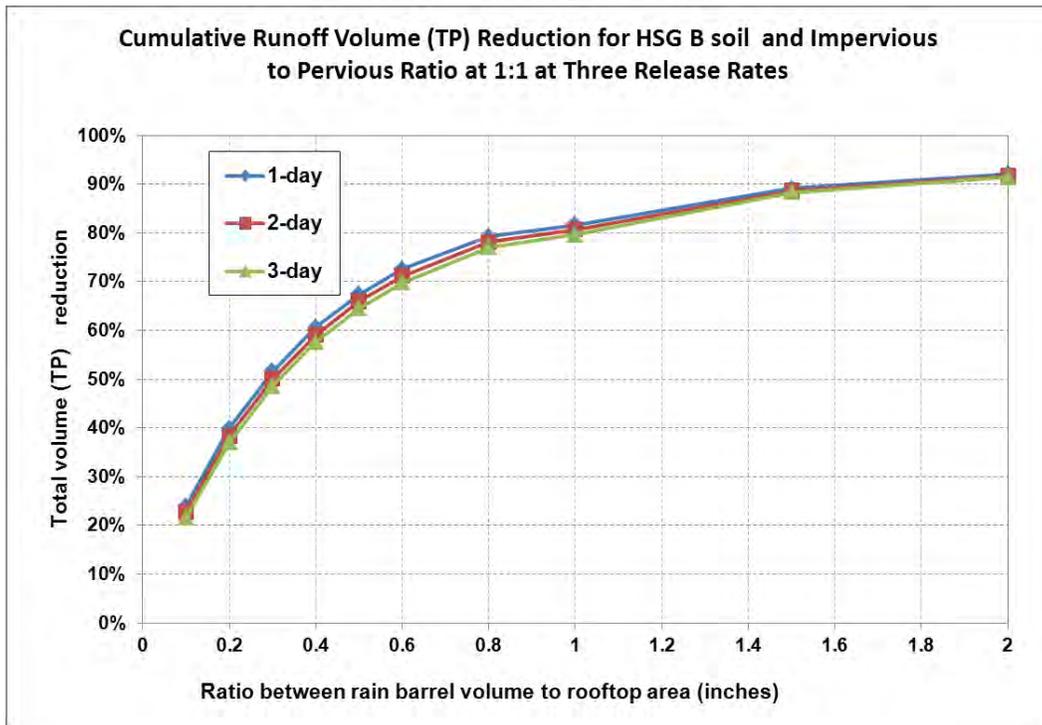


Figure 3- 36: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1 for HSG C Soils

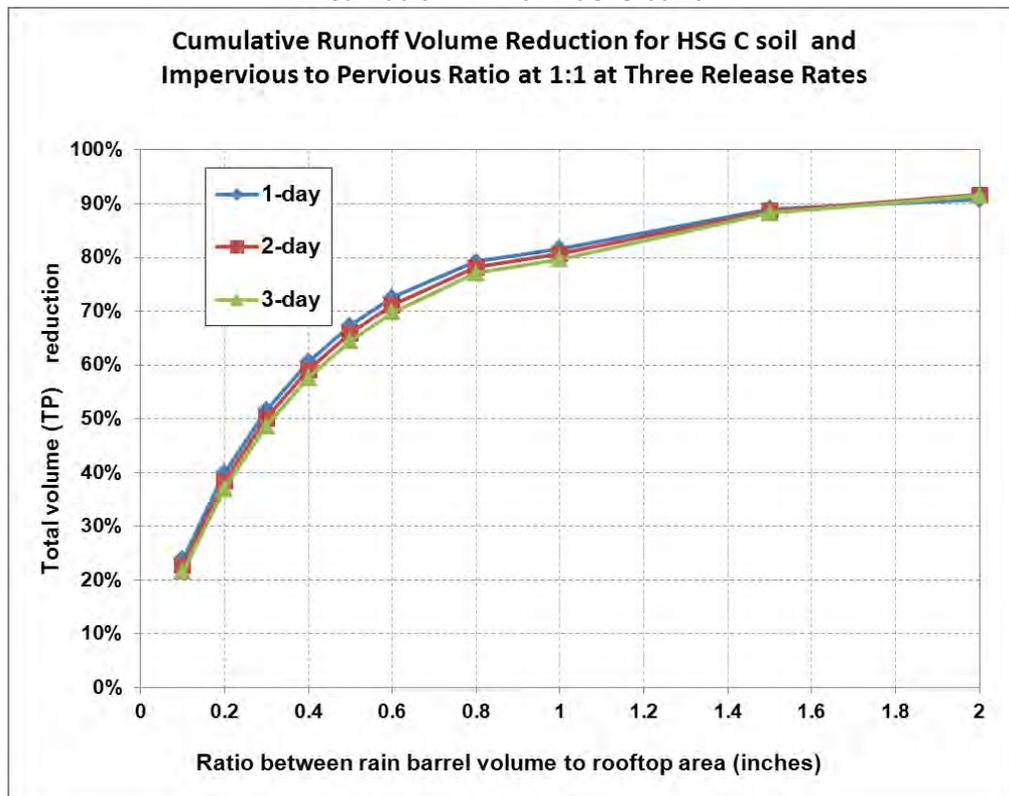


Figure 3- 37: Impervious Area Disconnection through Storage: Impervious Area to Pervious Area Ratio = 1:1 for HSG D Soils

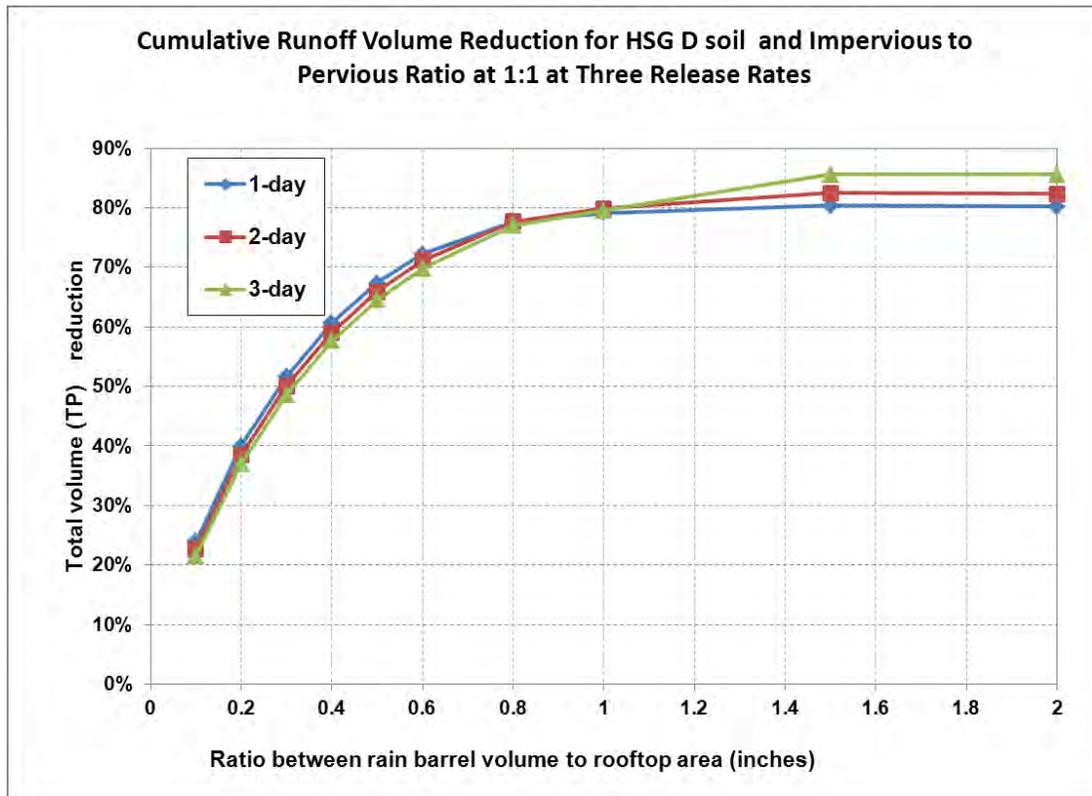


Table 3- 27: Impervious Area Disconnection Performance Table

Impervious area to pervious area ratio	Soil type of Receiving Pervious Area			
	HSG A	HSG B	HSG C	HSG D
8:1	30%	14%	7%	3%
6:1	37%	18%	11%	5%
4:1	48%	27%	17%	9%
2:1	64%	45%	33%	21%
1:1	74%	59%	49%	36%
1:2	82%	67%	60%	49%
1:4	85%	72%	67%	57%

Figure 3- 38: Impervious Area Disconnection Performance Curves

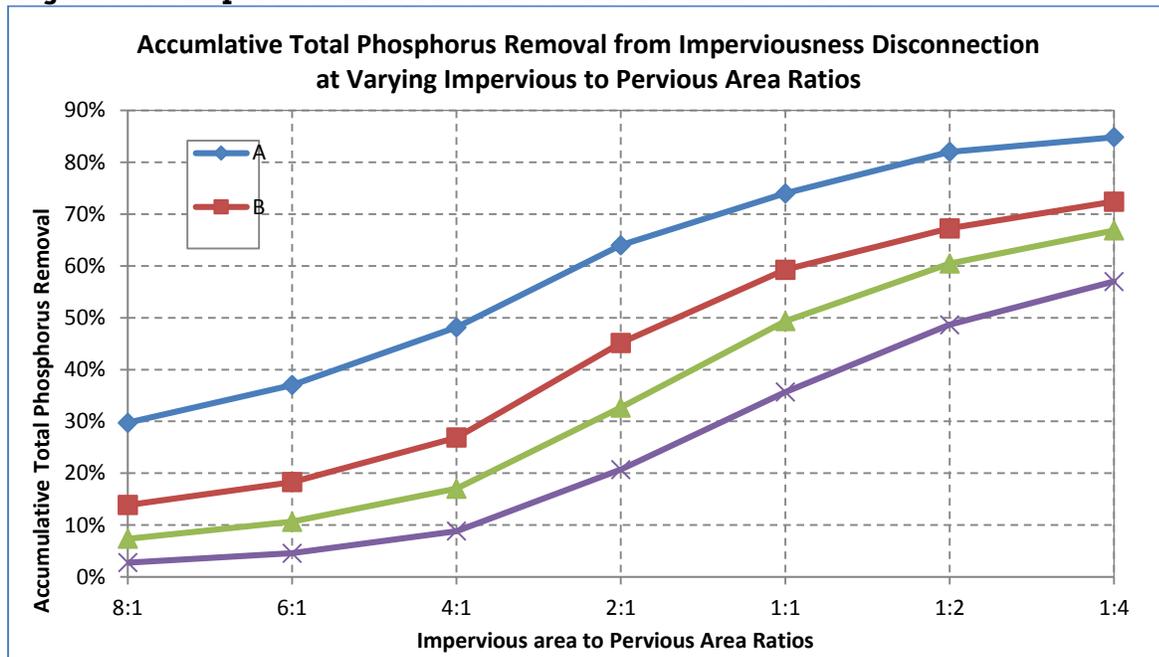


Table 3- 28: Performance Table for Conversion of Impervious Areas to Pervious Area based on Hydrological Soil Groups

Land-Use Group	Cumulative Reduction in Annual Stormwater Phosphorus Load				
	Conversion of impervious area to pervious area-HSG A	Conversion of impervious area to pervious area-HSG B	Conversion of impervious area to pervious area-HSG C	Conversion of impervious area to pervious area-HSG C/D	Conversion of impervious area to pervious area-HSG D
Commercial (Com) and Industrial (Ind)	98.5%	93.5%	88.0%	83.5%	79.5%
Multi-Family (MFR) and High-Density Residential (HDR)	98.8%	95.0%	90.8%	87.3%	84.2%
Medium -Density Residential (MDR)	98.6%	94.1%	89.1%	85.0%	81.4%
Low Density Residential (LDR) - "Rural"	98.2%	92.4%	85.9%	80.6%	75.9%
Highway (HWY)	98.0%	91.3%	84.0%	78.0%	72.7%
Forest (For)	98.2%	92.4%	85.9%	80.6%	75.9%
Open Land (Open)	98.2%	92.4%	85.9%	80.6%	75.9%
Agriculture (Ag)	70.6%	70.6%	70.6%	70.6%	70.6%

Appendix F Attachment 3

Table 3- 29: Performance Table for Conversion of Low Permeable Pervious Area to High Permeable Pervious Area based on Hydrological Soil Group

Land Cover	Cumulative Reduction in Annual SW Phosphorus Load from Pervious Area				
	Conversion of pervious area HSG D to pervious area-HSG A	Conversion of pervious area HSG D to pervious area-HSG B	Conversion of pervious area HSG D to pervious area-HSG C	Conversion of pervious area HSG C to pervious area-HSG A	Conversion of pervious area HSG C to pervious area-HSG B
Developed Pervious Land	92.7%	68.3%	41.5%	83.5%	79.5%

Table 3-30 Method for determining stormwater control design volume (DSV) (i.e., capacity) using Long-term cumulative performance curves

Stormwater Control Type	Description	Applicable Structural Stormwater Control Performance Curve	Equation for calculating Design Storage Capacity for Estimating Cumulative Reductions using Performances Curves
Infiltration Trench	Provides temporary storage of runoff using the void spaces within the soil/sand/gravel mixture that is used to backfill the trench for subsequent infiltration into the surrounding sub-soils.	Infiltration Trench (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = void space volumes of gravel and sand layers $DSV = (L \times W \times D_{stone} \times n_{stone}) + (L \times W \times D_{sand} \times n_{sand})$
Subsurface Infiltration	Provides temporary storage of runoff using the combination of storage structures (e.g., galleys, chambers, pipes, etc.) and void spaces within the soil/sand/gravel mixture that is used to backfill the system for subsequent infiltration into the surrounding sub-soils.	Infiltration Trench (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = Water storage volume of storage units and void space volumes of backfill materials. Example for subsurface galleys backfilled with washed stone: $DSV = (L \times W \times D)_{galley} + (L \times W \times D_{stone} \times n_{stone})$
Surface Infiltration	Provides temporary storage of runoff through surface ponding storage structures (e.g., basin or swale) for subsequent infiltration into the underlying soils.	Infiltration Basin (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = Water volume of storage structure before bypass. Example for linear trapezoidal vegetated swale $DSV = (L \times ((W_{bottom} + W_{top@Dmax}) / 2) \times D)$
Rain Garden/Bio-retention (no underdrains)	Provides temporary storage of runoff through surface ponding and possibly void spaces within the soil/sand/gravel mixture that is used to filter runoff prior to infiltration into underlying soils.	Infiltration Basin (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = Ponding water storage volume and void space volumes of soil filter media. Example for raingarden : $DSV = (A_{pond} \times D_{pond}) + (A_{soil} \times D_{soil} \times n_{soil\ mix})$
Tree Filter (no underdrain)	Provides temporary storage of runoff through surface ponding and void spaces within the soil/sand/gravel mixture that is used to filter runoff prior to infiltration into underlying soils.	Infiltration Trench (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = Ponding water storage volume and void space volumes of soil filter media. $DSV = (L \times W \times D_{ponding}) + (L \times W \times D_{soil} \times n_{soil\ mix})$
Bio-Filtration (w/underdrain)	Provides temporary storage of runoff for filtering through an engineered soil media. The storage capacity includes void spaces in the filter media and temporary ponding at the surface. After runoff has passed through the filter media it is collected by an underdrain pipe for discharge. Manufactured or packaged bio-filter systems such as tree box filters may be suitable for using the bio-filtration performance results.	Bio-filtration	DSV = Ponding water storage volume and void space volume of soil filter media. Example of a linear biofilter: $DSV = (L \times W \times D_{ponding}) + (L \times W \times D_{soil} \times n_{soil})$
Gravel Wetland	Based on design by the UNH Stormwater Center (UNHSC). Provides temporary surface ponding storage of runoff in a vegetated wetland cell that is eventually routed to an underlying saturated gravel internal storage reservoir (ISR) for nitrogen treatment. Outflow is controlled by an elevated orifice that has its invert elevation equal to the top of the ISR layer and provides a retention time of at least 24 hours.	Gravel Wetland	DSV = pretreatment volume + ponding volume + void space volume of gravel ISR. $DSV = (A_{pretreatment} \times D_{pretreatment}) + (A_{wetland} \times D_{ponding}) + (A_{ISR} \times D_{gravel} \times n_{gravel})$
Porous Pavement with subsurface infiltration	Provides filtering of runoff through a filter course and temporary storage of runoff within the void spaces of a subsurface gravel reservoir prior to infiltration into subsoils.	Infiltration Trench (6 infiltration rates: 0.17, 0.27, 0.52, 1.02, 2.41 and 8.27 inches per hour)	DSV = void space volumes of gravel layer $DSV = (L \times W \times D_{stone} \times n_{stone})$
Porous pavement w/ impermeable underliner w/underdrain	Provides filtering of runoff through a filter course and temporary storage of runoff within the void spaces prior to discharge by way of an underdrain.	Porous Pavement	Depth of Filter Course = D_{FC}
Wet Pond	Provides treatment of runoff through routing through permanent pool.	Wet Pond	DSV= Permanent pool volume prior to high flow bypass $DSV = A_{pond} \times D_{pond}$ (does not include pretreatment volume)
Extended Dry Detention Basin	Provides temporary detention storage for the design storage volume to drain in 24 hours through multiple out let controls.	Dry Pond	DSV= Ponding volume prior to high flow bypass $DSV = A_{pond} \times D_{pond}$ (does not include pretreatment volume)
Dry Water Quality Swale/Grass Swale	Based on MA design standards. Provides temporary surface ponding storage of runoff in an open vegetated channel through permeable check dams. Treatment is provided by filtering of runoff by vegetation and check dams and infiltration into subsurface soils.	Grass swale	DSV = Volume of swale at full design depth $DSV = L_{swale} \times A_{swale}$
Definitions: DSV= Design Storage Volume = physical storage capacity to hold water; VSV = Void Space Volume; L = length, W = width, D = depth at design capacity before bypass, n = porosity fill material, A= average surface area for calculating volume; Infiltration rate = saturated soil hydraulic conductivity			

Appendix G
Massachusetts Small MS4 Permit Monitoring Requirements
For Discharges into Impaired Waters – Parameters and Methods

Pollutant Causing Impairment	Monitoring Parameter	EPA or Approved Method No.
Aluminum	Aluminum, Total	200.7; 200.8; 200.9
Ammonia (Un-ionized)	Ammonia – Nitrogen	350.1
Arsenic	Arsenic, Total	200.7; 200.8; 200.9
Cadmium	Cadmium, Total	200.7; 200.8; 200.9
Chlordane	NMR	608; 625
Chloride	Chloride	300
Chromium (total)	Chromium, Total	200.7; 200.8; 200.9
Copper	Copper, Total	200.7; 200.8; 200.9
DDT	NMR	608; 625
DEHP (Di-sec-octyl phthalate)	NMR	---
Dioxin (including 2,3,7,8-TCDD)	NMR	613; 1613
Dioxin (2,3,7,8-Tetrachlorodibenzo-p-dioxin only)	NMR	613
Lead	Lead, Total	200.7; 200.8; 200.9
Mercury in Water Column	NMR unless potentially present such (e.g., salvage yards crushing vehicles with Hg switches)	200.7; 200.8; 200.9
Nitrogen (Total)	Nitrogen, Total	351.1/351.2 + 353.2
Pentachlorophenol (PCP)	NMR	---
Petroleum Hydrocarbons	Oil and Grease	1664
Phosphorus (Total)	Phosphorus, Total	365.1; 365.2; 365.3; SM 4500-P-E
Polychlorinated biphenyls	NMR	---
Polycyclic Aromatic Hydrocarbons (PAHs) (Aquatic Ecosystems)	PAHs	610; 1625
Sulfide-Hydrogen Sulfide	NMR	---
Mercury in Fish Tissue	NMR	---
PCB in Fish Tissue	NMR	---
Total Dissolved Solids	Total Dissolved Solids	160.1
Total Suspended Solids (TSS)	Total Suspended Solids	160.2, 180.1
Turbidity	Total Suspended Solids and Turbidity	160.2, 180.1
Secchi disk transparency	Total Suspended Solids	160.2
Sediment Screening Value (Exceedence)	Total Suspended Solids	160.2

Sedimentation/Siltation	Total Suspended Solids	160.2
Bottom Deposits	Total Suspended Solids	160.2
Color	NMR	---
pH, High	pH	150.2
pH, Low	pH	150.2
Taste and Odor	NMR	---
Temperature, water	NMR	---
Salinity	Specific Conductance	120.1
Enterococcus	Enterococcus	1106.1; 1600; Enterolert® 12 22.
Escherichia coli	E. coli	1103.1; 1603; Colilert® 12 16, Colilert-18® 12 15 16.; mColiBlue- 24®17.
Fecal Coliform	Fecal Coliform	1680; 1681
Organic Enrichment (Sewage) Biological Indicators	Enterococcus (marine waters) or E. coli (freshwater)	1106.1; 1600
Debris/Floatables/Trash	NMR	or
Foam/Flocs/Scum/Oil Slicks	Contact MassDEP	1103.1; 1603
Oil and Grease	Oil and Grease	---
Chlorophyll-a	Total Phosphorus (freshwater)	---
	Total Nitrogen (marine waters)	1664
Nutrient/Eutrophication Biological Indicators	Total Phosphorus (freshwater)	365.1; 365.2; 365.3
	Total Nitrogen (marine waters)	351.1/351.2 + 353.2
Dissolved oxygen saturation / Oxygen, Dissolved	Dissolved Oxygen	365.1; 365.2; 365.3
	Temperature	351.1/351.2 + 353.2
	BOD ₅	360.1; 360.2
	Total Phosphorus (freshwater)	SM-2550
	Total Nitrogen (marine waters)	SM-5210
Excess Algal Growth	Total Phosphorus (freshwater)	365.1; 365.2; 365.3
	Total Nitrogen (marine waters)	351.1/351.2 + 353.2
Aquatic Plants (Macrophytes)	NMR	---

Abnormal Fish deformities, erosions, lesions, tumors (DELTS)	NMR	---
Abnormal Fish Histology (Lesions)	NMR	---
Estuarine Bioassessments	Contact MassDEP	---
Fishes Bioassessments	Contact MassDEP	---
Aquatic Macroinvertebrate Bioassessments	Contact MassDEP	---
Combined Biota/Habitat Bioassessments	Contact MassDEP	---
Habitat Assessment (Streams)	Contact MassDEP	---
Lack of a coldwater assemblage	Contact MassDEP	---
Fish Kills	Contact MassDEP	---
Whole Effluent Toxicity (WET)	Contact MassDEP	---
Ambient Bioassays -- Chronic Aquatic Toxicity	Contact MassDEP	---
Sediment Bioassays -- Acute Toxicity Freshwater	Contact MassDEP	---
Sediment Bioassays -- Chronic Toxicity Freshwater	Contact MassDEP	---
Fish-Passage Barrier	NMR	---
Alteration in stream-side or littoral vegetative covers	NMR	---
Low flow alterations	NMR	---
Other flow regime alterations	NMR	---
Physical substrate habitat alterations	NMR	---
Other anthropogenic substrate alterations	NMR	---
Non-Native Aquatic Plants	NMR	---
Eurasian Water Milfoil, <i>Myriophyllum spicatum</i>	NMR	---
Zebra mussel, <i>Dreissena polymorph</i>	NMR	---
Other	Contact MassDEP	---

Notes:

NMR” indicates no monitoring required

“Total Phosphorus (freshwater)” indicates monitoring required for total phosphorus where stormwater discharges to a water body that is freshwater

“Total Nitrogen (marine water)” indicates monitoring required for total nitrogen where stormwater discharges to a water body that is a marine or estuarine water

APPENDIX H

Requirements Related to Discharges to Certain Water Quality Limited Waterbodies

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Attachment 1- Nitrogen Reduction Credits For Selected Structural BMPs

I. Discharges to water quality limited waterbodies and their tributaries where nitrogen is the cause of the impairment

1. Part 2.2.2.a.i. of the permit identifies the permittees subject to additional requirements to address nitrogen in their stormwater discharges because they discharge to waterbodies that are water quality limited due to nitrogen, or their tributaries, without an EPA approved TMDL. Permittees identified in part 2.2.2.a.i of the permit must identify and implement BMPs designed to reduce nitrogen discharges in the impaired catchment(s). To address nitrogen discharges each permittee shall comply with the following requirements:

a. Additional or Enhanced BMPs

i. The permittee remains subject to all the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:

1. Part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the Fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual

message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of nitrogen to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part II and III as well as Appendix F part A.III, A.IV, A.V, B.I, B.II and B.III where appropriate.

2. Part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs to reduce nitrogen discharges.
3. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: establish requirements for use of slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in 2.3.7.1; establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

b. Nitrogen Source Identification Report

- i. Within four years of the permit effective date the permittee shall complete a Nitrogen Source Identification Report. The report shall include the following elements:
 1. Calculation of total MS4 area draining to the water quality limited water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
 2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s)
 3. Impervious area and DCIA for the target catchment
 4. Identification, delineation and prioritization of potential catchments with high nitrogen loading
 5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment
- ii. The final Nitrogen Source Identification Report shall be submitted to EPA as part of the year 4 annual report.

c. Potential Structural BMPs

- i. The permittee shall identify in its SWMP all activities that have been implemented in accordance with the requirements of Appendix H part I.1. as of the applicable date to reduce nitrogen in its discharges, including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
- ii. The permittee shall continue to implement all requirements of Appendix H part I.1. required to be done prior to the date of determination or the date of the approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

II. Discharges to water quality limited waterbodies and their tributaries where phosphorus is the cause of the impairment

1. Part 2.2.2.b.i. of the permit identifies the permittees subject to additional requirements to address phosphorus in their stormwater discharges because they discharge to waterbodies that are water quality limited due to phosphorus, or their tributaries, without an EPA approved TMDL. Permittees identified in part 2.2.2.b.i. of the permit must identify and implement BMPs designed to reduce phosphorus discharges in the impaired catchment(s). To address phosphorus discharges each permittee shall comply with the following requirements:

- a. Additional or Enhanced BMPs

- i. The permittee remains subject to the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:

1. Part 2.3.2, Public education and outreach: The permittee shall supplement its Residential and Business/Commercial/Institution program with annual timed messages on specific topics. The permittee shall distribute an annual message in the spring (March/April) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorous-free fertilizers. The permittee shall distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee shall distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter. The permittee shall deliver an annual message on each of these topics, unless the permittee determines that one or more of these issues is not a significant contributor of phosphorous to discharges from the MS4 and the permittee retains documentation of this finding in the SWMP. All public education messages can be combined with requirements of Appendix H part I and III as well as Appendix F part A.III, A.IV, A.V, B.I, B.II and B.III where appropriate.
2. Part 2.3.6, Stormwater Management in New Development and Redevelopment: the requirement for adoption/amendment of the permittee's ordinance or other regulatory mechanism shall include a requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal; retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs that infiltrate stormwater where feasible.
3. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a

minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (Sept 1 – Dec 1; following leaf fall).

b. Phosphorus Source Identification Report

- i. Within four years of the permit effective date the permittee shall complete a Phosphorus Source Identification Report. The report shall include the following elements:
 1. Calculation of total MS4 area draining to the water quality limited receiving water segments or their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
 2. All screening and monitoring results pursuant to part 2.3.4.7.d., targeting the receiving water segment(s)
 3. Impervious area and DCIA for the target catchment
 4. Identification, delineation and prioritization of potential catchments with high phosphorus loading
 5. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment, including the removal of impervious area
- ii. The phosphorus source identification report shall be submitted to EPA as part of the year 4 annual report.

c. Potential Structural BMPs

- i. Within five years of the permit effective date, the permittee shall evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the water quality limited water or its tributaries. The evaluation shall include:
 1. The next planned infrastructure, resurfacing or redevelopment activity planned for the property (if applicable) OR planned retrofit date;
 2. The estimated cost of redevelopment or retrofit BMPs; and
 3. The engineering and regulatory feasibility of redevelopment or retrofit BMPs.
- ii. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high phosphorus load potential. The permittee shall install the

remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.

- iii. Any structural BMPs installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 3 to Appendix F. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each annual report.
2. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part II.1. applicable to it when in compliance with this part.
- a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - i. The receiving water and all downstream segments are determined to no longer be impaired due to phosphorus by MassDEP and EPA concurs with such determination.
 - ii. An EPA approved TMDL for the receiving water or downstream receiving water indicates that no additional stormwater controls for the control of phosphorus are necessary for the permittee's discharge based on wasteload allocations as part of the approved TMDL.
 - b. In such a case, the permittee shall document the date of the determination provided for in paragraph a. above or the approved TMDL date in its SWMP and is relieved of any additional requirements of Appendix H part II.1. as of the applicable date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities that have been implemented in accordance with the requirements of Appendix H part II.1. as of the applicable date to reduce phosphorus in its discharges, including implementation schedules for non structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix H part II.1. required to be done prior to the date of determination or the date of the approved TMDL, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications.

III. Discharges to water quality limited waterbodies where bacteria or pathogens is the cause of the impairment

1. Consistent with part 2.2.2.c.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to bacteria or pathogens, without an EPA approved TMDL, are subject to the following additional requirements to address bacteria or pathogens in their stormwater discharges.
2. Additional or Enhanced BMPs
 - a. The permittee remains subject to the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:
 - i. Part 2.3.2. Public Education and outreach: The permittee shall supplement its Residential program with an annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate. The permittee or its agents shall disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The permittee shall also provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens. All public education messages can be combined with requirements of Appendix H part I and II as well as Appendix F part A.III, A.IV, A.V, B.I, B.II and B.III where appropriate.
 - ii. Part 2.3.4 Illicit Discharge: The permittee shall implement the illicit discharge program required by this permit. Catchments draining to any waterbody impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program.
3. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part III.2. applicable to it when in compliance with this part.
 - a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - i. The receiving water is determined to be no longer impaired due to bacteria or pathogens by MassDEP and EPA concurs with such a determination.
 - ii. An EPA approved TMDL for the receiving water indicates that no additional stormwater controls are necessary for the control of bacteria or pathogens from the permittee's discharge based on wasteload allocations as part of the approved TMDL.
 - iii. The permittee's discharge is determined to be below applicable water quality criteria¹ and EPA agrees with such a determination. The permittee shall submit data to EPA that accurately characterizes the concentration of bacteria or pathogens in their discharge. The characterization shall include water quality

¹ Applicable water quality criteria are the state standards that have been federally approved as of the effective date of this permit and are compiled by EPA at <http://www.epa.gov/waterscience/standards/wqslibrary/>

and flow data sufficient to accurately assess the concentration of bacteria or pathogens in all seasons during storm events of multiple sizes and for the duration of the storm events including the first flush, peak storm flow and return to baseflow.

- b. In such a case, the permittee shall document the date of the determination, date of approved TMDL or date of EPA concurrence that the discharge meets water quality criteria in its SWMP and is relieved of any additional requirements of Appendix H part III.2. as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix H part III.2. to date to reduce bacteria or pathogens in its discharges, including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix H part III.3. required to be done prior to the date of determination date, date of approved TMDL, or date of EPA concurrence that the discharge meets water quality criteria, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications

IV. Discharges to water quality limited waterbodies where chloride is the cause of the impairment

1. Consistent with part 2.2.2.c.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to chloride, without an EPA approved TMDL, are subject to the following additional requirements to address chloride in their stormwater discharges.
2. Permittees discharging to a waterbody listed as impaired due to chloride in categories 5 or 4b on the Massachusetts Integrated Report of waters listed pursuant to Clean Water Act sections 303(d) and 305(b) shall develop a Salt Reduction Plan that includes specific actions designed to achieve salt reduction on municipal roads and facilities, and on private facilities that discharge to its MS4 in the impaired catchment(s). The Salt Reduction Plan shall be completed within three years of the effective date of the permit and include the BMPs in part IV.4. below. The Salt Reduction Plan shall be fully implemented five years after the effective date of the permit.
3. Permittees that, during the permit term, become aware that their discharge is to a waterbody that is impaired due to chloride must update their Salt Reduction Plan within 60 days of becoming aware of the situation to include salt reduction practices targeted at lowering chloride in discharges to the impaired waterbody. If the permittee does not have a Salt Reduction Plan already in place, then the permittee shall complete a Salt Reduction Plan that includes the BMPs in part IV 4) below within 3 years of becoming aware of the situation and fully implement the Salt Reduction Plan within 5 years of becoming aware of the situation.
4. Additional or Enhanced BMPs
 - a. For municipally maintained surfaces:
 - i. Tracking of the types and amount of salt applied to all permittee owned and maintained surfaces and reporting of salt use beginning in the year of the completion of the Salt Reduction Plan in the permittee's annual reports;
 - ii. Planned activities for salt reduction on municipally owned and maintained surfaces, which shall include but are not limited to the following unless the permittee determines one or more of the following is not applicable to its system and documents that determination as part of the Salt Reduction Plan:
 - Operational changes such as pre-wetting, pre-treating the salt stockpile, increasing plowing prior to de-icing, monitoring of road surface temperature, etc.;
 - Implementation of new or modified equipment providing pre-wetting capability, better calibration rates, or other capability for minimizing salt use;
 - Training for municipal staff and/or contractors engaged in winter maintenance activities;
 - Adoption of guidelines for application rates for roads and parking lots (see *Winter Parking Lot and Sidewalk Maintenance*

Manual (Revised edition June 2008)

<http://www.pca.state.mn.us/publications/parkinglotmanual.pdf>;

and the application guidelines on page 17 of *Minnesota Snow and Ice Control: Field Handbook for Snow Operators* (September 2012)

<http://www.mnltap.umn.edu/publications/handbooks/documents/snowice.pdf> for examples);

- Regular calibration of spreading equipment;
- Designation of no-salt and/or low salt zones;
- Measures to prevent exposure of salt stockpiles (if any) to precipitation and runoff; and
- An estimate of the total tonnage of salt reduction expected by each activity.

- b. For privately maintained facilities that discharge to the MS4:
 - i. Establish an ordinance, bylaw, or other regulatory mechanism requiring measures to prevent exposure of any salt stockpiles to precipitation and runoff at all commercial and industrial properties within the regulated area.
 - ii. Part 2.3.2. Public Education and Outreach: The permittee shall supplement its Commercial/Industrial education program with an annual message to private road salt applicators and commercial and industrial site owners on the proper storage and application rates of winter deicing material. The educational materials shall be disseminated in the November/December timeframe and shall describe steps that can be taken to minimize salt use and protect local waterbodies.
 - iii. Part 2.3.6, Stormwater Management in New Development and Redevelopment – establish procedures and requirements to minimize salt usage and require the use of salt alternatives where the permittee deems necessary.
 - c. The completed Salt Reduction Plan shall be submitted to EPA along with the annual report following the Salt Reduction Plan’s completion. Each subsequent annual report shall include an update on Plan implementation progress, any updates to the Salt Reduction Plan deemed necessary by the permittee, as well as the types and amount of salt applied to all permittee owned and maintained surfaces.
5. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part IV as follows:
- a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - i. The receiving water is determined to be no longer impaired due to chloride by MassDEP and EPA concurs with such a determination.
 - ii. An EPA approved TMDL for the receiving water indicates that no additional stormwater controls are necessary for the control of chloride from the

- permittee's discharge based on wasteload allocations as part of the approved TMDL.
- iii. The permittee's discharge is determined to be below applicable water quality criteria² and EPA agrees with such a determination. The permittee shall submit data to EPA that accurately characterizes the concentration of chloride in their discharge during the deicing season (November – March). The characterization shall include water quality and flow data sufficient to accurately assess the concentration of chloride in the deicing season during storm events of multiple sizes and for the duration of the storm events including the first flush, peak storm flow and return to baseflow and include samples collected during deicing activities.
 - b. In such a case, the permittee shall document the date of the determination, date of approved TMDL or date of EPA concurrence that the discharge meets water quality criteria in its SWMP and is relieved of any additional requirements of Appendix H part IV as of that date and the permittee shall comply with the following:
 - i. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix H part IV to date to reduce chloride in its discharges, including implementation schedules for non-structural BMPs
 - ii. The permittee shall continue to implement all requirements of Appendix H part IV required to be done by the date of determination date, date of approved TMDL, or date of EPA concurrence that the discharge meets water quality criteria, including ongoing implementation of identified non-structural BMPs

² Applicable water quality criteria are the state standards that have been federally approved as of the effective date of this permit and are compiled by EPA at <http://www.epa.gov/waterscience/standards/wqslibrary/>

V. Discharges to water quality limited waterbodies and their tributaries where solids, oil and grease (hydrocarbons), or metals is the cause of the impairment

1. Consistent with part 2.2.2.c.i. of the permit, permittees that discharge to waterbodies that are water quality limited due to solids, metals, or oil and grease (hydrocarbons), without an EPA approved TMDL, are subject to the following additional requirements to address solids, metals, or oil and grease (hydrocarbons) in their stormwater discharges.
2. Additional or Enhanced BMPs
 - a. The permittee remains subject to the requirements of part 2.3. of the permit and shall include the following enhancements to the BMPs required by part 2.3 of the permit:
 - i. Part 2.3.6, Stormwater Management in New Development and Redevelopment: stormwater management systems designed on commercial and industrial land use area draining to the water quality limited waterbody shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event. EPA also encourages the permittee to require any stormwater management system designed to infiltrate stormwater on commercial or industrial sites to provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration of the same volume of runoff to be infiltrated, prior to infiltration.
 - ii. Part 2.3.7, Good House Keeping and Pollution Prevention for Permittee Owned Operations: increased street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads. This may include, but is not limited to, increased street sweeping frequency in commercial areas and high density residential areas, or drainage areas with a large amount of impervious area. Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full. Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings. Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.
3. At any time during the permit term the permittee may be relieved of additional requirements in Appendix H part V.2. applicable to it when in compliance with this part.
 - a. The permittee is relieved of its additional requirements as of the date when one of the following criteria are met:
 - i. The receiving water is determined to be no longer impaired due to solids, metals, or oil and grease (hydrocarbons) by MassDEP and EPA concurs with such a determination.
 - ii. An EPA approved TMDL for the receiving water indicates that no additional stormwater controls are necessary for the control of solids, metals, or oil and grease (hydrocarbons) from the permittee's discharge based on wasteload allocations as part of the approved TMDL.

- iii. The permittee's discharge is determined to be below applicable water quality criteria and EPA agrees with such a determination³. The permittee shall submit data to EPA that accurately characterizes the concentration of bacteria or pathogens in their discharge. The characterization shall include water quality and flow data sufficient to accurately assess the concentration of bacteria or pathogens in all seasons during storm events of multiple sizes and for the duration of the storm events including the first flush, peak storm flow and return to baseflow.
- b. In such a case, the permittee shall document the date of the determination, date of approved TMDL or date of EPA concurrence that the discharge meets water quality criteria in its SWMP and is relieved of any additional requirements of Appendix H part V.2. as of that date and the permittee shall comply with the following:
 - iv. The permittee shall identify in its SWMP all activities implemented in accordance with the requirements of Appendix H part V.2. to date to reduce solids, metals, or oil and grease (hydrocarbons) in its discharges, including implementation schedules for non-structural BMPs and any maintenance requirements for structural BMPs
 - v. The permittee shall continue to implement all requirements of Appendix H part V.3. required to be done by the date of determination date, date of approved TMDL, or date of EPA concurrence that the discharge meets water quality criteria, including ongoing implementation of identified non-structural BMPs and routine maintenance and replacement of all structural BMPs in accordance with manufacturer or design specifications

³ Applicable water quality criteria are the state standards that have been federally approved as of the effective date of this permit and are compiled by EPA at <http://www.epa.gov/waterscience/standards/wqslibrary/>

ATTACHMENT 1 TO APPENDIX H

The estimates of nitrogen load reductions resulting from BMP installation are intended for informational purposes only and there is no associated permittee-specific required nitrogen load reduction in the Draft Permit. Nitrogen load reduction estimates calculated consistent with the methodologies below may be used by the permittee to comply with future permit requirements providing the EPA determines the calculated reductions are appropriate for demonstrating compliance with future permit requirements. This attachment provides the method and an example to calculate the BMP nitrogen load as well as methods to calculate nitrogen load reductions for structural BMPs in an impaired watershed.

BMP N Load:

The **BMP N Load** is the annual nitrogen load from the drainage area to each proposed or existing BMP used by permittee. This measure is used to estimate the amount of annual nitrogen load that the BMP will receive or treat (BMP N Load).

To calculate the BMP N Load for a given BMP:

- 1) Determine the total drainage area to the BMP and sort the total drainage area into two categories: total impervious area (IA) and total pervious area (PA);
- 2) Calculate the nitrogen load associated with impervious area (N Load_{IA}) and the pervious area (N Load_{PA}) by multiplying the IA and PA by the appropriate land use-based nitrogen load export rate provided in Table 1; and
- 3) Determine the total nitrogen load to the BMP by summing the calculated impervious and pervious subarea nitrogen loads.

Table 1: Annual nitrogen load export rates

Nitrogen Source Category by Land Use	Land Surface Cover	Nitrogen Load Export Rate, lbs/ac/yr	Nitrogen Load Export Rate, kg/ha/yr
All Impervious Cover	Impervious	14.1	15.8
*Developed Land Pervious (DevPERV)- HSG A	Pervious	0.3	0.3
*Developed Land Pervious (DevPERV)- HSG B	Pervious	1.2	1.3
*Developed Land Pervious (DevPERV) – HSG C	Pervious	2.4	2.7
*Developed Land Pervious (DevPERV) - HSG C/D	Pervious	3.0	3.4
*Developed Land Pervious (DevPERV) - HSG D	Pervious	3.7	4.1
Notes: For pervious areas, if the hydrologic soil group (HSG) is known, use the appropriate value from this table. If the HSG is not known, assume HSG C/D conditions for the nitrogen load export rate.			

Example 1 to determine nitrogen load to a proposed BMP when the contributing drainage area is 100% impervious: A permittee is proposing a storm water infiltration system that will treat runoff from 1.49 acres of impervious area.

Table 1-1: Design parameters for Bio-filtration w/ ISR systems for Example 1

Components of representation	Parameters	Value
Ponding	Maximum depth	0.33 ft
	Surface area	645 ft ²
Soil mix	Depth	2.0 ft
	Porosity	0.24
	Hydraulic conductivity	2.5 inches/hour
Stone Reservoir (ISR)	Depth	2.50 ft
	Porosity	0.42
	Hydraulic conductivity	500 inches/hour
ISR Volume: System Storage Volume	Ratio	0.56
Orifices	Diameter	12 in
		Installed 2.5 above impermeable soil layer

Determine:

- A) Percent nitrogen load reduction (BMP Reduction %-N) for the specified bio-filtration w/ISR system and contributing impervious drainage area; and
- B) Nitrogen reduction in pounds that would be accomplished by the bio-filtration w/ISR system (BMP-Reduction lbs-N)

Solution:

- 1) The BMP is a bio-filtration w/ISR system that will treat runoff from 1.49 acres of impervious area (IA = 1.49 acre);
- 2) The available storage volume capacity (ft³) of the bio-filtration w/ISR system (BMP-Volume_{BMP-ft³}) is determined using the surface area of the system, depth of ponding, the porosity of the filter media and the porosity of the stone reservoir:

$$\begin{aligned}
 \text{BMP-Volume}_{\text{BMP-ft}^3} &= \text{Surface area} \times (\text{pond maximum depth} + (\text{soil mix depth} \times \text{soil mix porosity}) + \text{stone reservoir depth} \times \text{gravel layer porosity}) \\
 &= 520 \text{ ft}^2 \times (0.33 \text{ ft} + (2.0 \text{ ft} \times 0.24) + (2.5 \text{ ft} \times 0.42)) \\
 &= 1,200 \text{ ft}^3
 \end{aligned}$$

- 3) The available storage volume capacity of the bio-filtration w/ISR system in inches of runoff from the contributing impervious area (BMP-Volume_{IA-in}) is calculated using equation 1:

$$\text{BMP-Volume}_{\text{IA-in}} = (\text{BMP-Volume}_{\text{ft}^3} / \text{IA (acre)} \times 12 \text{ in/ft} \times 1 \text{ acre} / 43560 \text{ ft}^2) \text{ (Equation 1)}$$

Example 1 Continued:

$$\begin{aligned} \text{BMP-Volume}_{\text{IA-in}} &= (1,200 \text{ ft}^3/1.49 \text{ acre}) \times 12 \text{ in/ft} \times 1 \text{ acre}/43560 \text{ ft}^2 \\ &= \mathbf{0.22 \text{ in}} \end{aligned}$$

- 4) Using the Regional Performance Curve shown in Figure 1 for a bio-filtration w/ ISR system, a **61%** nitrogen load reduction (BMP Reduction %-N) is determined for a bio-filtration w/ ISR systems sized for 0.22 in of runoff from 1.49 acres of impervious area; and
- 5) Calculate the nitrogen load reduction in pounds of nitrogen for the bio-filtration w/ISR system (BMP Reduction lbs-N) using the BMP Load calculation method shown above in Example 1 and the BMP Reduction %-N determined in step 4 by using equation 2.

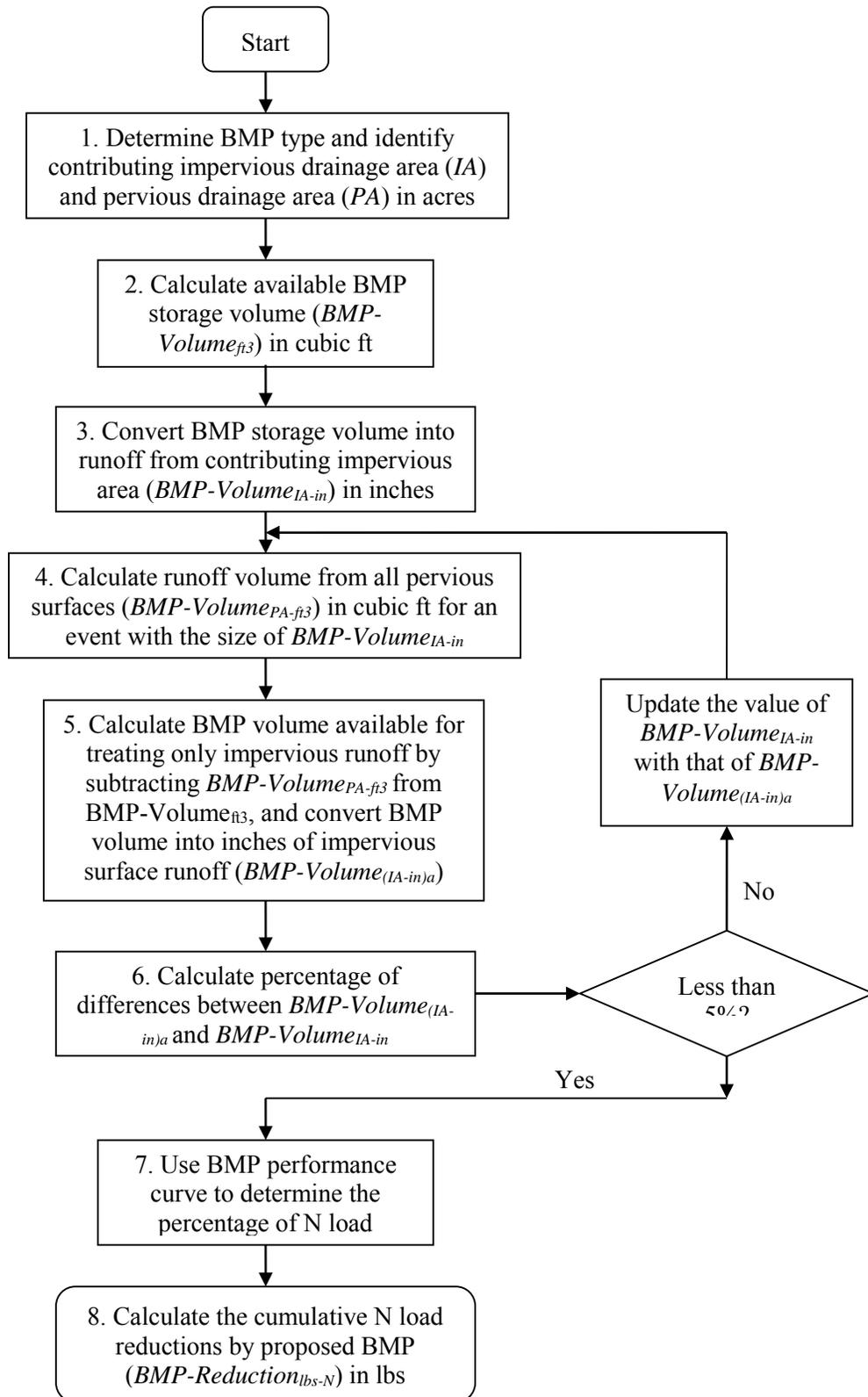
First, the BMP Load is determined as specified in Example 1:

$$\begin{aligned} \text{BMP Load} &= \text{IA (acre)} \times 14.1 \text{ lb/ac/yr} \\ &= 1.49 \text{ acres} \times 14.1 \text{ lbs/acre/yr} \\ &= 21.0 \text{ lbs/yr} \end{aligned}$$

$$\text{BMP Reduction}_{\text{lbs-N}} = \text{BMP Load} \times (\text{BMP Reduction } \%-N/100) \text{ (Equation 2)}$$

$$\begin{aligned} \text{BMP Reduction}_{\text{lbs-N}} &= 21 \text{ lbs/yr} \times (61/100) \\ &= \mathbf{12.8 \text{ lbs/yr}} \end{aligned}$$

Method to determine the nitrogen load reduction for a structural BMP with a known storage volume when the contributing drainage area has impervious and pervious surfaces



Flow Chart 2 (previous page). Method to determine the nitrogen load reduction for a BMP with known storage volume when both pervious and impervious drainage areas are present.

- 1) Identify the type of structural BMP and characterize the contributing drainage area to the structural BMP by identifying the following information for the impervious and pervious surfaces:

Impervious area (IA) – Area (acre) and export rate (Table 1)

Pervious area (PA) – Area (acre) and runoff depth based on hydrologic soil group (HSG) and size of rainfall event. Table 2 provides values of runoff depth for various rainfall depths and HSGs. Soils are assigned to an HSG based on their permeability. HSG categories for pervious areas in the Watershed shall be estimated by consulting local soil surveys prepared by the National Resource Conservation Service (NRCS) or by a storm water professional evaluating soil testing results from the Watershed. If the HSG condition is not known, a HSG D soil condition should be assumed.

**Table 2: Developed Land Pervious Area Runoff Depths
based on Precipitation depth and Hydrological Soil Groups (HSGs)**

Rainfall Depth, Inches	Runoff Depth, inches		
	Pervious HSG A/B	Pervious HSG C	Pervious HSG D
0.10	0.00	0.00	0.00
0.20	0.00	0.01	0.02
0.40	0.00	0.03	0.06
0.50	0.00	0.05	0.09
0.60	0.01	0.06	0.11
0.80	0.02	0.09	0.16
1.00	0.03	0.12	0.21
1.20	0.04	0.14	0.39
1.50	0.11	0.39	0.72
2.00	0.24	0.69	1.08

Notes: Runoff depths derived from combination of volumetric runoff coefficients from Table 5 of *Small Storm Hydrology and Why it is Important for the Design of Stormwater Control Practices*, Pitt, 1999 and using the Stormwater Management Model (SWMM) in continuous model mode for hourly precipitation data for Boston, MA, 1998-2002.

- 2) Determine the available storage volume (ft³) of the structural BMP (BMP-Volume ft³) using the BMP dimensions and design specifications (e.g., maximum storage depth, filter media porosity);

- 3) To estimate the nitrogen load reduction of a BMP with a known storage volume capacity, it is first necessary to determine the portion of available BMP storage capacity (BMP-Volume_{ft³}) that would treat the runoff volume generated from the contributing impervious area (IA) for a rainfall event with a depth of *i* inches (in). This will require knowing the corresponding amount of runoff volume that would be generated from the contributing pervious area (PA) for the same rainfall event (depth of *i* inches). Using equation 3 below, solve for the BMP capacity that would be available to treat runoff from the contributing impervious area for the unknown rainfall depth of *i* inches (see equation 4):

$$\text{BMP-Volume}_{\text{ft}^3} = \text{BMP-Volume}_{(\text{IA-ft}^3)_i} + \text{BMP-Volume}_{(\text{PA-ft}^3)_i} \quad \text{(Equation 3)}$$

Where:

BMP-Volume_{ft³} = the available storage volume of the BMP
 BMP-Volume_{(IA-ft³)*i*} = the available storage volume of the BMP that would fully treat runoff generated from the contributing impervious area for a rainfall event of size *i* inches
 BMP-Volume_{(PA-ft³)*i*} = the available storage volume of the BMP that would fully treat runoff generated from the contributing pervious area for a rainfall event of size *i* inches

Solving for BMP-Volume_{(IA-ft³)*i*}:

$$\text{BMP-Volume}_{(\text{IA-ft}^3)_i} = \text{BMP-Volume}_{\text{ft}^3} - \text{BMP-Volume}_{(\text{PA-ft}^3)_i} \quad \text{(Equation 4)}$$

To determine BMP-Volume_{(IA-ft³)*i*}, requires performing an iterative process of refining estimates of the rainfall depth used to calculate runoff volumes until the rainfall depth used results in the sum of runoff volumes from the contributing IA and PA equaling the available BMP storage capacity (BMP-Volume_{ft³}). For the purpose of estimating BMP performance, it will be considered adequate when the IA runoff depth (in) is within 5% IA runoff depth used in the previous iteration.

For the first iteration (1), convert the BMP-Volume_{ft³} determined in step 2 into inches of runoff from the contributing impervious area (BMP Volume_{(IA-in)1}) using equation 5.

$$\text{BMP-Volume}_{(\text{IA-in})1} = (\text{BMP-Volume}_{\text{ft}^3} / \text{IA (acre)}) \times (12 \text{ in/ft} / 43,560 \text{ ft}^2/\text{acre}) \quad \text{(Equation 5)}$$

For iterations 2 through *n* (2...*n*), convert the BMP Volume_{(IA-ft³)2...*n*}, determined in step 5a below, into inches of runoff from the contributing impervious area (BMP Volume_{(IA-in)2...*n*}) using equation 6.

$$\text{BMP-Volume}_{(\text{IA-in})2...n} = (\text{BMP-Volume}_{(\text{IA-ft}^3)2...n} / \text{IA (acre)}) \times (12 \text{ in/ft} / 43,560 \text{ ft}^2/\text{acre}) \quad \text{(Equation 6)}$$

- 4) For 1 to *n* iterations, use the pervious runoff depth information from Table 2 and equation 7 to determine the total volume of runoff (ft³) from the contributing PA (BMP Volume

$_{PA-ft^3}$) for a rainfall size equal to the sum of BMP-Volume $_{(IA-in)1}$, determined in step 3. The runoff volume for each distinct pervious area must be determined.

$$\text{BMP Volume }_{(PA-ft^3)1..n} = \sum ((PA \times (\text{runoff depth})_{(PA1, PA2..PAN)} \times (3,630 \text{ ft}^3/\text{acre-in}))$$

(Equation 7)

- 5) For iteration 1, estimate the portion of BMP Volume that is available to treat runoff from only the IA by subtracting BMP-Volume $_{PA-ft^3}$, determined in step 4, from BMP-Volume $_{ft^3}$, determined in step 2, and convert to inches of runoff from IA (see equations 8 and 9):

$$\text{BMP-Volume }_{(IA-ft^3)2} = ((\text{BMP-Volume}_{ft^3} - \text{BMP Volume }_{(PA-ft^3)1}) \quad \text{(Equation 8)}$$

$$\text{BMP-Volume }_{(IA-in)2} = (\text{BMP-Volume }_{(IA-ft^3)2}/IA \text{ (acre)}) \times (12 \text{ in/ft} \times 1 \text{ acre}/43,560 \text{ ft}^2)$$

(Equation 9)

If additional iterations (i.e., 2 through n) are needed, estimate the portion of BMP volume that is available to treat runoff from only the IA (BMP-Volume $_{(IA-in)3..n+1}$) by subtracting BMP Volume $_{(PA-ft^3)2..n}$, determined in step 4, from BMP Volume $_{(IA-ft^3)3..n+1}$, determined in step 5, and by converting to inches of runoff from IA using equation 9):

- 6) For iteration A (an iteration between 1 and n+1), compare BMP Volume $_{(IA-in)a}$ to BMP Volume $_{(IA-in)a-1}$ determined from the previous iteration (a-1). If the difference in these values is greater than 5% of BMP Volume $_{(IA-in)a}$ then repeat steps 4 and 5, using BMP Volume $_{(IA-in)a}$ as the new starting value for the next iteration (a+1). If the difference is less than or equal to 5 % of BMP Volume $_{(IA-in)a}$ then the permittee may proceed to step 7.
- 7) Determine the % nitrogen load reduction for the structural BMP (BMP Reduction $_{\%N}$) using the appropriate BMP curve on Figure 1 or 2 and the BMP-Volume $_{(IA-in)n}$ calculated in the final iteration of step 5; and
- 8) Calculate the nitrogen load reduction in pounds of nitrogen for the structural BMP (BMP Reduction $_{lbs-N}$) using the BMP Load as calculated above in Example 1 and the percent nitrogen load reduction (BMP Reduction $_{\%N}$) determined in step 7 by using equation 10:

$$\text{BMP Reduction }_{lbs-N} = \text{BMP Load} \times (\text{BMP Reduction }_{\%N}/100) \quad \text{(Equation 10)}$$

Example 2: Determine the nitrogen load reduction for a structural BMP with a known design volume when the contributing drainage area has impervious and pervious surfaces

A permittee is considering an infiltration basin to capture and treat runoff from a portion of the Watershed draining to the impaired waterbody. The contributing drainage area is 16.55 acres and is 71% impervious. The pervious drainage area (PA) is 80% HSG D and 20% HSG C. An infiltration basin with the following specifications can be placed at the down-gradient end of the contributing drainage area where soil testing results indicates an infiltration rate (IR) of 0.28 in/hr:

Example continued:

Structure	Bottom area (acre)	Top surface area (acre)	Maximum pond depth (ft)	Design storage volume (ft ³)	Infiltration Rate (in/hr)
Infiltration basin	0.65	0.69	1.65	48,155	0.28

Determine the:

- A) Percent nitrogen load reduction (BMP Reduction %_{-N}) for the specified infiltration basin and the contributing impervious and pervious drainage area; and
- B) Nitrogen reduction in pounds that would be accomplished by the BMP (BMP-Reduction lbs_{-N})

Solution:

- 1) A surface infiltration basin is being considered. Information for the contributing impervious (IA) and pervious (PA) areas are summarized in below.

Impervious area characteristics

ID	% Impervious	Area (acre)
IA1	100	11.75

Pervious area characteristics

ID	Area (acre)	Hydrologic Soil Group (HSG)
PA1	3.84	D
PA2	0.96	C

- 2) The available storage volume (ft³) of the infiltration basin (BMP-Volume ft³) is determined from the design details and basin dimensions; BMP-Volume ft³ = 48,155 ft³.
- 3) To determine what the BMP design storage volume is in terms of runoff depth (in) from IA, an iterative process is undertaken:

Solution Iteration 1

For the first iteration (1), the BMP-Volume ft³ is converted into inches of runoff from the contributing impervious area (BMP Volume (IA-in)₁) using equation 5.

$$\begin{aligned} \text{BMP Volume (IA-in)}_1 &= (48,155 \text{ ft}^3 / 11.75 \text{ acre}) \times (12 \text{ in/ft} / 43,560 \text{ ft}^2/\text{acre}) \\ &= 1.13 \text{ in} \end{aligned}$$

Solution Continued:

4-1) The total volume of runoff (ft³) from the contributing PA (BMP Volume _(PA-ft³)) for a rainfall size equal to the sum of BMP Volume _{(IA-in)₁} determined in step 3 is determined

for each distinct pervious area using the information from Table 2 and equation 7.

Interpolation was used to determine runoff depths.

$$\begin{aligned} \text{BMP Volume}_{(PA-ft^3)_1} &= ((3.84 \text{ acre} \times (0.33 \text{ in}) + (0.96 \text{ acre} \times (0.13 \text{ in})) \times 3,630 \text{ ft}^3/\text{acre-in}) \\ &= 5052 \text{ ft}^3 \end{aligned}$$

5-1) For iteration 1, the portion of BMP Volume that is available to treat runoff from only the IA is estimated by subtracting the BMP Volume _{(PA-ft³)₁}, determined in step 4-1, from BMP Volume_{ft³}, determined in step 2, and converted to inches of runoff from IA:

$$\begin{aligned} \text{BMP Volume}_{(IA-ft^3)_2} &= 48,155 \text{ ft}^3 - 5052 \text{ ft}^3 \\ &= 43,103 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{BMP Volume}_{(IA-in)_2} &= (43,103 \text{ ft}^3/11.75 \text{ acre}) \times (12 \text{ in/ft} \times 1 \text{ acre}/43,560 \text{ ft}^2) \\ &= 1.01 \text{ in} \end{aligned}$$

6-1) The % difference between BMP Volume _{(IA-in)₂}, 1.01 in, and BMP Volume _{(IA-in)₁}, 1.13 in is determined and found to be significantly greater than 5%:

$$\begin{aligned} \% \text{ Difference} &= ((1.13 \text{ in} - 1.01 \text{ in})/1.01 \text{ in}) \times 100 \\ &= 12\% \end{aligned}$$

Therefore, steps 4 through 6 are repeated starting with BMP Volume _{(IA-in)₂} = 1.01 in.

Solution Iteration 2

$$\begin{aligned} \text{4-2) BMP-Volume}_{(PA-ft^3)_2} &= ((3.84 \text{ acre} \times 0.21 \text{ in}) + (0.96 \text{ acre} \times 0.12 \text{ in})) \times 3,630 \text{ ft}^3/\text{acre-in} \\ &= 3,358 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{5-2) BMP-Volume}_{(IA-ft^3)_3} &= 48,155 \text{ ft}^3 - 3,358 \text{ ft}^3 \\ &= 44,797 \text{ ft}^3 \end{aligned}$$

$$\begin{aligned} \text{BMP-Volume}_{(IA-in)_3} &= (44,797 \text{ ft}^3/11.75 \text{ acre}) \times (12 \text{ in/ft} \times 1 \text{ acre}/43,560 \text{ ft}^2) \\ &= 1.05 \text{ in} \end{aligned}$$

$$\begin{aligned} \text{6-2) \% Difference} &= ((1.05 \text{ in} - 1.01 \text{ in})/1.05 \text{ in}) \times 100 \\ &= 4\% \end{aligned}$$

The difference of 4% is acceptable.

Solution Continued:

- 7) The % nitrogen load reduction for the infiltration basin (BMP Reduction %-N) is determined by using the RR treatment curve in Figure 2 and the treatment volume (BMP-Volume_{Net IA-in} = 1.05 in) calculated in step 5-2 and is **BMP Reduction %-N = 56%**.
- 9) The nitrogen load reduction in pounds of nitrogen (BMP-Reduction_{lbs-N}) for the proposed infiltration basin is calculated by using equation 11 with the BMP Load (as determined by the procedure in Example 4-1) and the N_{target} of 56%.

$$\text{BMP-Reduction}_{\text{lbs-N}} = \text{BMP N Load} \times (\text{N}_{\text{target}} / 100) \quad \text{(Equation 11)}$$

Following example 1, the BMP load is calculated:

$$\begin{aligned} \text{BMP N Load} &= (\text{IA} \times \text{impervious cover nitrogen export loading rate}) \\ &\quad + (\text{PA}_{\text{HSG D}} \times \text{pervious cover nitrogen export loading rate, HSG D}) \\ &\quad + (\text{PA}_{\text{HSG C}} \times \text{pervious cover nitrogen export loading rate, HSG C}) \\ &= (16.55 \text{ acre} \times 15.4 \text{ lbs/acre/yr}) + (3.84 \text{ acre} \times 3.7 \text{ lbs/acre/yr}) + \\ &\quad (0.96 \text{ acre} \times 2.4 \text{ lbs/acre/yr}) \\ &= 271.4 \text{ lbs/yr} \end{aligned}$$

$$\text{BMP-Reduction}_{\text{lbs-N}} = 275.13 \text{ lbs/yr} \times 56/100 = \mathbf{152.0 \text{ lbs/yr}}$$

Figure 1: Regional BMP Performance Curve for Annual Nitrogen Load Removal: System Design by the University of New Hampshire Stormwater Center (UNHSWC)

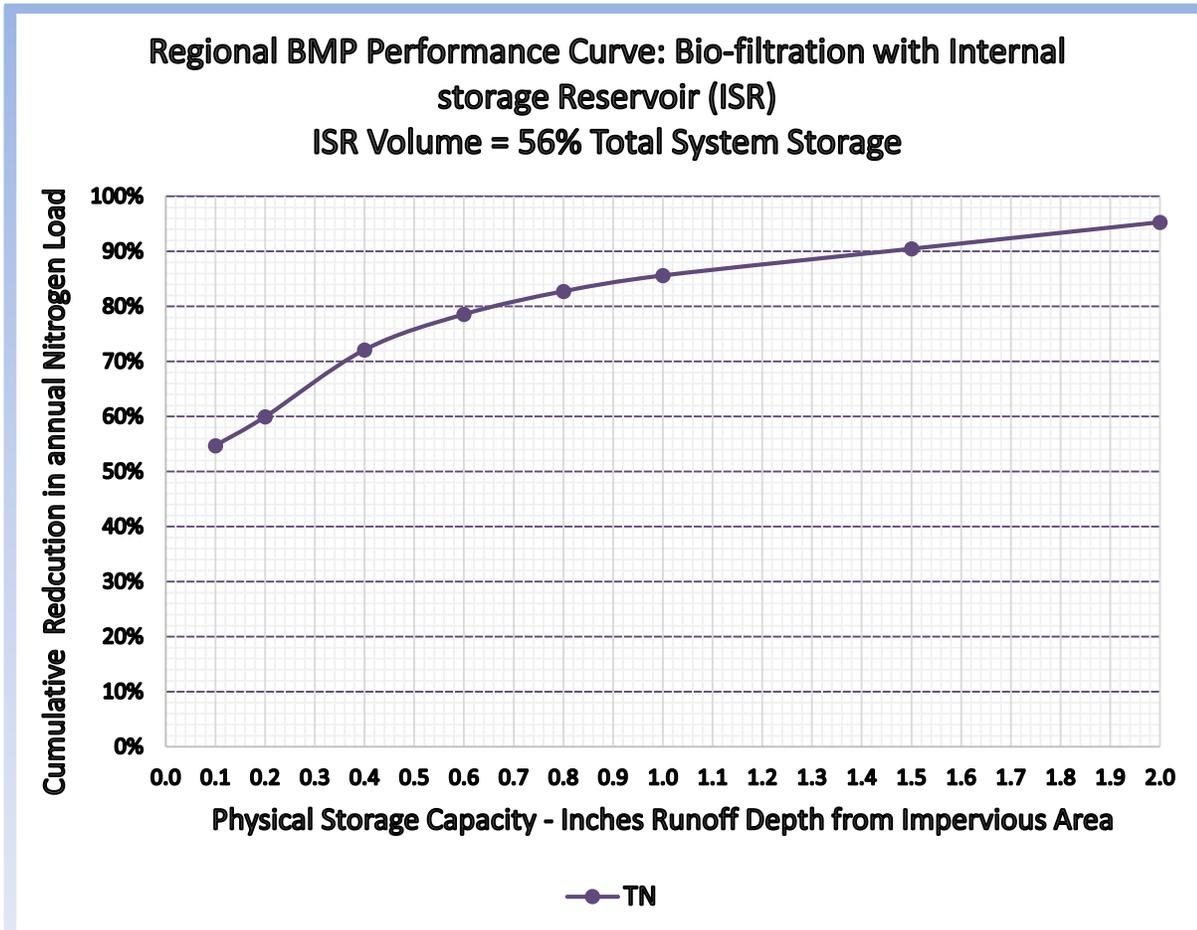
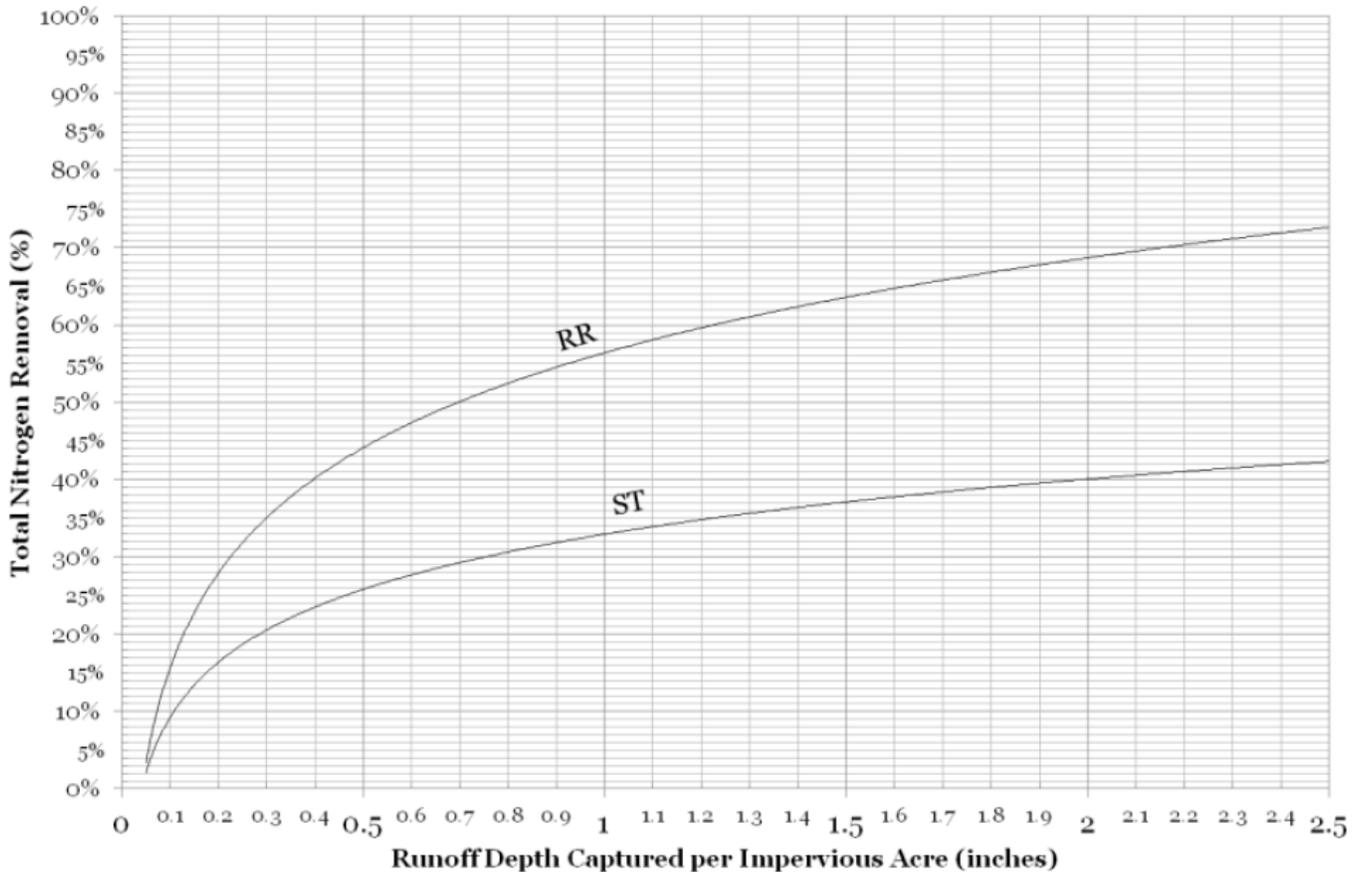


Table 3. Classification of BMP to Determine Nitrogen Reduction¹

Structural BMP	Classification
Infiltration Trench	Runoff Reduction (RR)
Infiltration Basin or other surface infiltration practice	Runoff Reduction (RR)
Bioretention Practice	Runoff Reduction (RR)
Gravel Wetland System	Stormwater Treatment (ST)
Porous Pavement	Runoff Reduction (RR)
Wet Pond or wet detention basin	Stormwater Treatment (ST)
Dry Pond or detention basin	Runoff Reduction (RR)
Water Quality Swale	Runoff Reduction (RR)

¹Recommendations of the Expert Panel to Define Removal Rates for New State Stormwater Performance Standards <http://chesapeakestormwater.net/wp-content/plugins/download-monitor/download.php?id=25>, Retrieved 12/14/2012

Figure 2: Total Nitrogen Removal for RR and ST Practices



Adopted from: Final CBP Approved Expert Panel Report on Stormwater Retrofits <http://chesapeakestormwater.net/wp-content/plugins/download-monitor/download.php?id=25>, Retrieved 12/14/2012

ATTACHMENT G-4

<http://water.epa.gov/polwaste/npdes/swbmp/Developing-an-Outreach-Strategy.cfm>

You are here: [Water](#) » [Pollution Prevention & Control](#) » [Permitting \(NPDES\)](#) » [Best Management Practices](#) » Developing an Outreach Strategy

Developing an Outreach Strategy

Minimum Measure: Public Education and Outreach on Stormwater Impacts

Subcategory: Developing Municipal Outreach Programs

Description

Public education and outreach involves using effective mechanisms and programs, guided by a detailed outreach strategy, to engage the public's interest in preventing stormwater pollution. A key factor to consider when developing a strategy is that the public has varying levels of background knowledge of both stormwater management and their role in reducing stormwater pollution. Hence you should take a multi-pronged approach to outreach efforts by (1) generating basic awareness of stormwater pollution, (2) educating at a more sophisticated level using more substantive content, and (3) building on existing recognition of the issue to prompt behavior changes that reduce pollution (or the opportunities for pollution).

The strategy should also specifically address the integration of public outreach with the implementation of other stormwater program management measures (like illicit discharge detection and elimination, construction site runoff control, and post construction-runoff control). This aspect of outreach could involve more substantive education, possibly short training courses, live presentations and slideshows, handbooks, posters with educational content and captioned illustrations, and Web-based training modules, or more websites with photos of good and bad practices.

The value of laying out a comprehensive outreach strategy is that the stormwater program manager can use it to focus the overall public education and outreach portion of their program - recognizing opportunities to leverage other programs or partner with community organizations, and invest in new program efforts for maximum effect.

Operating Plan

When structuring your strategy document, include sections that discuss the purpose and goals of the stormwater management program (specifically the public education and outreach component), background, objectives, and an operating plan of public education and outreach activities. Other elements common to a good strategy include:

- A list of all partners that participated in the strategy
- An executive summary



Sample logo for a stormwater program. A logo helps to promote visibility of stormwater management in the community

- A glossary that includes definitions of any potentially unfamiliar terms and acronyms used in the strategy

To develop an operating plan, take into account these five components (1) [Goals](#) (2) [Target Audiences](#) (3) [Messages](#) (4) [Format and Distribution](#) (5) [Evaluation](#). [Resources](#) are provided below for further treatment of this topic.

Your operating plan should highlight cross-linkages with other stormwater program (minimum measures) goals, showing how outreach is integral to reaching goals to reduce illicit discharges, reduce construction site runoff, and reduce post-construction runoff pollution. For example, in support of the illicit discharge detection and elimination measure, you may develop an educational section of your website that shows the public what an illicit discharge looks like, and supplement it with an online-reporting form and stormwater citizens - complaint hotline. These cross-linkages with other program requirements highlight efficiencies in your overall program, and the value of outreach.

Goals

Multiple goals are common for an outreach strategy. You should match outreach goals with the goals of the overall stormwater program and its environmental and water protection concerns. With specific goals that dovetail with the environmental goals for the affected waterbodies, you can more efficiently spend dollars to reduce the pollution issue. If reducing nutrients in local waterbodies is a concern, outreach goals should address nutrients generated by the public. For example, you could target the public's gardening practices. An example of an outreach goal might be: "Increase residential awareness of nutrient runoff and encourage behaviors that will reduce nutrient pollution in local streams and lakes."



Television Public Service Announcement on better auto care practices around the home

If the stormwater program goal is general water resource protection, you should consider how the public is affected and why they would care, as you develop outreach goals. For example, one goal might be to increase the public's awareness of the connection between protecting their rivers and lakes and improving their quality of life, recreational opportunities, scenic amenities, community value, property value, and public health.

Some other goals should address creating more institutional and community linkages to promote stormwater pollution prevention. For example, other city departments such as Solid Waste, Parks and Recreation, Transportation, or Schools, can help you promote the public's awareness of stormwater.

A business partnership program can create more opportunities for stormwater outreach and visibility and is another example goal. Business partnerships might be an ideal way to promote messages on reducing illicit or illegal discharges. An example is to offer an incentive like listing a business on the stormwater program website as a "Stormwater Partner" if they meet certain criteria, such as educating employees regularly on preventing illegal waste dumping into stormdrains, implementing BMPs, and clearly displaying posters showing how employees and customers can prevent and report illicit discharges and dumping.

Target Audiences

While broad education on stormwater pollution can be helpful, you may want the strategy to identify segments of the population who play decision-making roles in polluting behaviors - such as home-based automobile care and yard work - to ensure that they understand how to change behaviors that are polluting. Other examples of target audiences might be in the commercial sector, such as builders, construction crews, and auto shop workers. Once identified, you should gather more information about them to better understand their behavior motivations and communication patterns. Effort may be well spent on understanding their language of communication, media (e.g., newspapers/radio stations) they commonly use, points in their workflow where they are most likely to engage in polluting behaviors, and where they purchase materials that are likely to end up as pollution (e.g., motor oil, fertilizers). Basic census research on income and educational demographics might be supplemented by feedback from small focus groups of the target audience with whose help you can better understand them. Research can tell you where the audience needs help to overcome barriers that perpetuate polluting behaviors (for example, all pollution prevention messages are in English, but a large section of the audience speaks Spanish.) It is worth getting to know the target audiences specifically to develop outreach messages that both resonate with, and more importantly, reach them.



Using powerful visual images enhances the linkages between residential nutrient runoff and its impact on local waterbodies

To implement other required minimum measures of your program, you will specifically need to reach audiences such as:

- Builders, contractors, and developers working on construction sites;
- Municipal workers who are responsible for landscaping, street-sweeping and other activities; and
- Condominium associations, landscaping companies, and landowners whose lawn and landscape practices can negatively impact stormwater quality.

These audiences need more technical and substantive messages, and you may have to deliver messages to them on-site or at-work, as well as training at monthly staff meetings, morning meetings, in their lunch rooms, in their newsletters, and so on.



Public transportation-ads can help generate general awareness of home-generated water pollution

Messages

Communication is a two-way street. The value of pitching a message that the targeted audience responds to is very important. To do so, use the techniques honed by commercial marketers who effectively get people to believe in, and purchase their product. Incorporate the following points in your message:

- Tell the audience how they will benefit by taking steps to prevent stormwater pollution of their rivers and lakes.
- Address specific action steps that the audience should take to prevent pollution - don't be vague.
- Give the audience incentives to reduce polluting behaviors.
- Use humor.
- Use a variety of media.
- Engage different senses using color and creative design, catchy music and dialog, and great visuals. Visuals and graphics are especially important for audiences who speak different languages.
- Use trusted, recognized, and popular community figures as messengers.

The message may need to be completely different from the goal. For example if the goal is to prevent excess nutrient runoff from lawns in the community, a message like "Reduce runoff pollution from your lawn," is not likely to get the same interest or response as one that emphasizes the benefits of reducing fertilizer application and mowing. For example, "Save time and money! Let your lawn grow taller. It improves the health of the lawn and reduces the fertilizer you need to apply."

Consider short training courses if your message is more substantive and targeted to specific groups. For example, you may need a short training course geared specifically to builders and developers on construction site-practices to control runoff. The training course might be delivered live by stormwater program staff, and complemented by a web-available slideshow, or a poster, or a reference handbook given to construction permittees with illustrative photos and instructive captions showing good and bad practices on construction sites.

All messages should include clear information on where to get additional resources, for example, a stormwater program Web site or a stormwater hotline phone number.

Format and Distribution

You should consider the receiving audience to help determine message formats and plan the distribution. The outreach strategy should ideally employ a variety of complementary formats to help reach diverse audiences. For broad audiences, media such as radio or television, or movie theater slides, might be appropriate. Messages can refer to a website for more information. Example formats for targeted audiences can include:

- Illustrated posters for auto shops, dry-cleaners, and restaurant workers on preventing illegal waste-dumping into stormdrains and better waste disposal practices
- Paper-based educational/curriculum exercise packets for school programs
- Fridge magnets and calendars for home-owners
- Billboards or posters for public transportation users
- Paper inserts for water utility bills
- A kiosk to showcase the program at county fairs, farmers markets, and public gatherings
- A Web-based training module for landscapers and condominium associations on stormwater infrastructure, with an incentive like a "certificate of completion" from your office
- A website with an illustrated section to train the public to recognize illicit discharges and dumping, and faulty or inadequate construction site runoff controls.

You should also take into account partnership opportunities with local agencies and businesses as you plan format and distribution, particularly at the "point-of-sale" for activities that could generate stormdrain pollution. For example, messages on stormdrain pollution prevention could be distributed on yard-waste bags distributed by the municipality or sold at the local hardware store. Partnering with local cinemas, newspapers, local festivals, and local sporting events are all ways you can use the power of public gatherings and media to take messages on stormwater to ever-wider audiences.

A program website is highly recommended. It should provide information for more detailed education on stormwater management, a phone number, and online-form for reporting stormwater issues or instances of pollution. It should address different audiences, such as "homeowners," "kids," or



Public transportation-ads can help generate general awareness of home-generated water pollution Use a website to give more in-depth information on stormwater pollution.

"businesses" and also address different activities, such as "pet care," and "yard care." It should offer specific actions that the audience can take to reduce pollution.

A website is an ideal format to widely disseminate more detailed public education on stormwater controls at construction sites. On the website you can show pictures of good and bad practices on construction sites, and link to forms for the public to report problems. The website can also show photos of what illegal discharges might look like, and where to report them.

Evaluation

All successful programs incorporate methods of evaluation, to help them see what works and jettison what does not. Evaluation can involve administrative indicators (e.g., were timeframes of planned activities met?), social indicators (e.g., the number of media impressions or the number of people who have been reached by the program), and environmental indicators (e.g., improvements in water quality, or volume of yard waste collected street side). Evaluation can help you allocate resources. For example, stormwater managers can better estimate the time their staff will need for an activity or product or evaluate whether a new staff member needs to be hired. Evaluation will also help justify future funding or if the scope of the activity or product must be expanded or scaled down.

An easy way to evaluate your outreach strategy is to lay out activities and projects in a table that includes time frame, responsible party, resources needed, and evaluation. An example is provided below from "*Getting In Step: A Guide for Conducting Watershed Outreach Campaigns*" [EPA 841-B-03-002].

Sample Operating Plan Matrix

Sample Operating Plan Matrix						
Goal: Increase awareness of residential nutrient runoff and encourage behaviors that will reduce nutrient pollution in local streams and lakes.						
Objective: Post educational posters in Greater Herndon/Carlsle Metropolitan Transit Authority subway stations.						
Activity/Product	Evaluation Indicators	Time Frame/Due Date	Responsible Party	Resources Needed		Status/Comments
Develop 5 posters for 7 subway stations and post them.	<ul style="list-style-type: none"> Number of posters hung Number of hits on county Web site before and after posters are hung Post-project random phone survey to measure impact of posters 	<ul style="list-style-type: none"> Contact subway authority: <i>February 1</i> Develop text/theme for each poster: <i>February 15</i> Develop layout: <i>March 17</i> Send to printer: <i>March 24</i> Hang posters: <i>April 1 (prior to Earth Day)</i> 	Communications director of county Water Division in Public Works Department	Staff time 40 hours	Dollars <ul style="list-style-type: none"> Printing: \$2,000 (\$1,000 to be donated by Trout Unlimited) Subway ad fee: \$300 for 6 months (possibly donated by transit authority) 	Communications director will contact Greater Herndon/Carlsle Metropolitan Transit Authority director to inquire about procedural requirements and whether they might be willing to waive subway fee for 6 months.
Objective: Educate local businesses about proper nutrient management by developing and implementing a speakers bureau.						
Develop slide show, handout materials, and evaluation form	<ul style="list-style-type: none"> Based on evaluation forms collected, how well the materials were received 	<ul style="list-style-type: none"> Develop draft slide show text: <i>January 17</i> Identify appropriate photos: <i>January 17</i> Develop 1-page evaluation form: <i>January 21</i> Submit materials to reviewers: <i>January 22</i> Finalize all materials and make copies: <i>January 31</i> 	Public affairs assistant	Staff time 60 hours	Dollars Handouts: \$10 Name tags: \$5	Try to have a good mix of business types in each presentation.
Conduct three 2-hour presentations	<ul style="list-style-type: none"> Number of attendees at presentations How many presentations were made How many follow-up phone calls were received because of information presented Based on evaluations, whether attendees benefited from the presentations 	<ul style="list-style-type: none"> Make initial calls to businesses to gauge interest: <i>January 10</i> Secure meeting locations: <i>January 20</i> Send invitations: <i>January 27</i> Conduct presentations: <i>February 19-21</i> 	Public affairs assistant to schedule presentations Community liaison to give presentations	Staff time Schedule presentations: 15 hours Presentations: three 2-hour presentations (6 hours)	Dollars Meeting facility (donated by local businesses) Pizza and soft drinks for meeting: \$50	At presentations, look for attendees that could be potential presenters for future presentations.

A sample outreach plan matrix

Resources

[Getting in Step: A Guide for Conducting Watershed Outreach Campaigns \[EPA 841-B-03-002\]](#) (178 pp, 5.35MB, [About PDF](#)).

This guidebook provides some of the tools you will need to develop and implement an effective watershed outreach plan. It can help the stormwater program manager address public perceptions, promote management activities, and inform or motivate stakeholders.

[Nonpoint Source Outreach Digital Toolbox \[EPA-841-C-05-003\]](#).

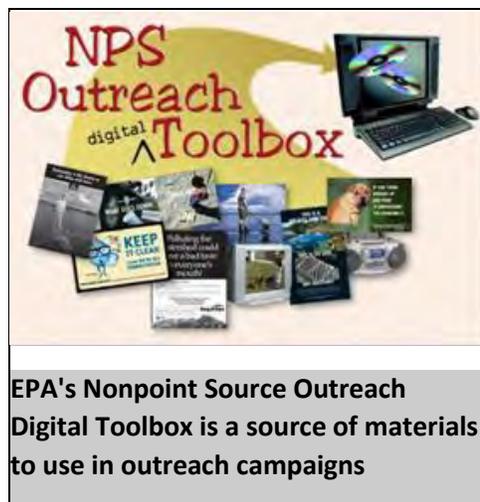
A resource for municipalities for developing outreach campaigns targeted to suburban residential populations, for watershed and stormwater pollution control efforts. The toolbox includes a catalog of over 700 outreach products and media materials.

[Stormwater Outreach Materials and Reference Documents](#). EPA has developed materials available on this site that state or local governments can customize and use in their own stormwater outreach campaigns. Electronic files on this page contain space for officials to add their own contact information and inexpensively reproduce these materials.

References

USEPA. 2003. *Getting in Step: A Guide for Conducting Watershed Outreach Campaigns*. EPA 841-B-03-002. [<http://www.epa.gov/owow/watershed/outreach/documents/getnstep.pdf>] (178 pp, 5.35MB, [About PDF](#)). U.S. Environmental Protection Agency, Office of Water, Washington, DC.

USEPA. National Pollutant Discharge Elimination System. Stormwater Program website [http://cfpub.epa.gov/npdes/home.cfm?program_id=6].



EPA's Nonpoint Source Outreach Digital Toolbox is a source of materials to use in outreach campaigns

ATTACHMENT G-5

<http://water.epa.gov/polwaste/npdes/swbmp/Classroom-Education-on-Stormwater.cfm>

You are here: [Water](#) » [Pollution Prevention & Control](#) » [Permitting \(NPDES\)](#) » [Best Management Practices](#)
» Classroom Education on Stormwater

Classroom Education on Stormwater

Minimum Measure: Public Education and Outreach on Stormwater Impacts

Subcategory: Promoting the Stormwater Message

Description

Classroom education plays an integral role in any stormwater pollution outreach program. Providing stormwater education through schools conveys the message not only to students but to their parents. Many municipal stormwater programs partner with educators and experts to develop storm water-related programs for the classroom. These lessons need not be elaborate or expensive to be effective.



Students learn about stormwater pollution (Source: City of Sacramento Stormwater Management Program, no date)

Applicability

The municipality's role is to support a school district's stormwater education efforts, not to dictate what programs and materials the school should use. Municipalities should work with school officials to identify their needs. For example, if the schools request stormwater outreach materials, municipalities can provide a range of educational aids, from simple photocopied handouts, overheads, posters and slide shows, to more costly and elaborate working models and displays. The Daly City (California) Utilities gave a slide show and video presentation of marine animals entangled in plastics to eighth-graders just before their 1998 beach cleanup. Afterward, they had their largest volunteer turnout ever.

Implementation

Building a strong relationship with the school district is the most important step in getting stormwater education into the schools. One of the first questions to ask is what if any stormwater education programs have the schools implemented or would like to see implemented if they had the resources to do so. When developing an outreach message for children, choose the age-ranges to target. Will the focus be on students in preschool, grammar school, middle school, or high school? Should the curricula be grade-level specific? Will the program involve a year-long study, a semester, a special topic or event, or a single presentation by an organization? What special equipment might be needed? For example, the municipality might purchase a small-scale watershed model that can be loaned to schools for demonstrations as part of a watershed education program. The school district's needs and the municipal resources available will determine the answers to these questions.

The State of California's new water quality lesson plans for grades 4-6 feature a campus water runoff study that demonstrates how various pollutants, such as trash, pesticides and motor oil, can travel off school grounds into nearby storm drains en route to our waterways. Students then devise "service learning" projects, such as creating websites, forming campus recycling clubs and conducting

neighborhood canvassing and civic group presentations on water pollution prevention. Developed by the California Water Boards, which regulate water quality matters in the state, the site features 24/7 teacher training via webcast connection and online mentor support. The lesson plans and distance learning tool will be used by Phase I and Phase II NPDES permittees within the state. The site would also prove useful for other permittees nationwide. (See [California Water Board Water Quality Service Learning Program](#) EXIT Disclaimer).

The University of Central Florida has developed the [Stormwater Education Toolkit \(SET\)](#) EXIT Disclaimer, which contains educational information for teachers.

Many additional classroom materials are available for free. Colorado has compiled teacher resources on urban stormwater, (See [Teacher Resources for Introducing Urban Stormwater Quality Concepts to the Classroom](#) [PDF - 132 KB - 19 pp] EXIT Disclaimer).

The city of Eugene's (Oregon) Stormwater Management Program offers a free 13-page booklet listing stormwater videos, classroom presentations, demonstrations, and models available for checkout to Eugene teachers. Guest speakers also are available to give classroom presentations.

The city of Los Angeles's Stormwater Program offers several classroom materials, including a *Special Agent Task Book*, to supplement its EcoTours program (targeting third and fourth graders), the *Clean Water Patrol* coloring book (which teaches children about their urban forest and how neighborhood behavior can affect the environment), and colorful vinyl stickers with clever stormwater sayings, such as "You Otter Not Pollute."

The University of Wisconsin offers educational materials entitled "Educating Young People About Water." These materials can help the user develop a community-based, youth education program that targets youths, links key members of the community, and allows both groups to work together toward common water education goals. Various guides and other educational materials are available from the university. See [Educating Young People About Water](#) EXIT Disclaimer website for more information about these materials and ordering information.

Other programs have created models for display in schools. Sacramento, California's Storm Water Management Program has designed a working stormwater display that identifies the many sources of stormwater runoff. The exhibit features a model of a typical urban community, with stormwater and pollution draining into a creek. Interactive buttons highlight various sources of stormwater pollution occurring within the community. Brief explanations of stormwater pollution accompanying the model help convey the important message that storm water flows directly, untreated, into creeks and rivers. The model is available on a limited basis for loan to schools and other educational programs in the Sacramento area (City of Sacramento, 1999).

San Diego's Environmental Health Coalition (EHC) has developed two excellent environmental programs for the San Diego Regional Household Hazardous Materials Program (SDRHHMP). *Pollution Solutions Start at Home* is an interdisciplinary course for middle and junior high school students. *Household Toxics* is a course for fourth-through sixth-grade students. It teaches the safe use and disposal of household hazardous materials, along with safer alternatives to such products. EHC also produces a Watershed Protection Kit, which includes two learning activity packets, 10 storm drain stencils, and a carrying case

(\$50.00). These materials and others are available through the Environmental Health Coalition, 1717 Kettner, Suite 100, San Diego, CA 92101, 619-235-0281.

Seattle Public Utilities has recently turned its award-winning "Water You Doing" video into an educational CD-ROM for classrooms and libraries. The CD features videos, games, and activities highlighting Seattle's and Puget Sound's water resources. The CD is available at the Environmental Information Center in Seattle's 22 Public Libraries. The CD is free to teachers within Seattle Public Utilities' service area. Outside Seattle, discs are available for a nominal fee to cover the cost of pressing and shipping. Copies can be obtained from Seattle Public Utilities by contacting Richard Gustav at Seattle Public Utilities, 710 Second Ave., 10th floor, Seattle, WA 98104, 206-684-7591.

Home*A*Syst is a program designed to help homeowners and renters understand environmental risks in and around their home. The program guides the public in developing action plans for making voluntary changes to prevent pollution. Additionally, Home*A*Syst helps individuals understand what they can do to help protect the environment, how they can take action, and where they can find the support necessary to act. To accomplish this, the program offers a guide entitled *Home*A*Syst: An Environmental Risk-Assessment Guide for the Home*, which provides in-depth information and comprehensive checklists to help users evaluate environmental risks. The guide is composed of eleven chapters that cover a variety of topics, including stormwater. If children are made aware of this resource, they can encourage their parents to use the program and reduce environmental risks around the home. More information about Home*A*Syst see the [Home*A*Syst](#) EXIT Disclaimer website.

The U.S. Geological Survey (USGS) offers a number of educational resources. Posters are available for teaching students in grades K-12 about wastewater, water quality, groundwater, and water use. The USGS also offers fact sheets, useful links, and an educational outreach program designed to stimulate interest in fresh water resources for students and educators in grades K-12. See [USGS](#) EXIT Disclaimer website for more information.

Similar to USGS, EPA offers a number of educational resources for students and teachers. Schools frequently locate these resources in their environmental education and student "centers." More information about these centers, as well as specific resources found within each, can be found at the USEPA [Kids, Students, and Teachers](#) website. Other free publications are also available at USEPA's [Stormwater Outreach Materials](#) website.

The *Green Teacher* is another educational resource that is useful for educating students. Written by educators, the magazine is designed to help educators enhance environmental and global education across the curriculum for all grade levels. Each issue contains articles, ready-to-use activities, resource listings and reviews, and a number of other resources. See the [Green Teacher](#) EXIT Disclaimer website for more information about the magazine. Other educational resources for K-12 educators are available from the [Water Environment Federation](#) EXIT Disclaimer), ([Project WET](#) EXIT Disclaimer), and a number of other organizations and programs throughout the country.

The Colorado Water Protection Project has created a useful booklet of stormwater information called the ["Colorado Water Protection Kit"](#) (17 pp, 328K, [About PDF](#)) EXIT Disclaimer . The kit contains information on polluted runoff, landscaping, yard and garden products, pet waste, household hazardous waste, motor oil and automotive products, boating and marinas, conservation, and septic systems.

Effectiveness

The effectiveness of stormwater education in the classroom depends on many factors. The lessons and activities must be interesting and fun, and most importantly, they must be targeted to the appropriate age group(s).

Benefits

The benefits of teaching schoolchildren about stormwater issues are plentiful. These children will learn about environmental issues early and will therefore become interested and perhaps involved at earlier ages. Schoolchildren often tell their parents what they learn in school. Therefore, teaching children about stormwater is an effective way to pass environmental awareness to their parents and throughout the entire community.

Limitations

One of the limitations of classroom education is being able to incorporate stormwater issues into the school curricula. With so many subjects to teach, environmental issues might be viewed as less important. Another limitation is the cost of new materials.

Cost

Many classroom education materials can be ordered free of charge or downloaded from the Internet. Stormwater agencies can generally supply information and materials. The cost of producing materials will vary with the scope of efforts. For example, producing classroom packets can cost as little as \$100-\$200, whereas the cost of permanent displays and models can be as high as \$1,000-\$5,000 or more. Make sure to get estimates from individual vendors before preparing the classroom educational materials budget. Work within attainable financial means. If applicable, contact corporations to sponsor the programs or to donate materials.

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ATTACHMENT G-6

<http://water.epa.gov/polwaste/npdes/swbmp/Trash-and-Debris-Management.cfm>

You are here: [Water](#) » [Pollution Prevention & Control](#) » [Permitting \(NPDES\)](#) » [Best Management Practices](#) » Trash and Debris Management

Trash and Debris Management

Minimum Measure: Public Education and Outreach on Stormwater Impacts

Subcategory: Education for Homeowners

Description

Floating trash and debris have become significant pollutants, especially in waterways and oceans where large amounts of trash and plastic debris can concentrate in a small areas. Floating trash detracts from the aesthetics of a landscape. It poses a threat to wildlife and human health (e.g., choking hazards to wildlife and bacteria to humans). Trash and debris also can clog the intake valves of boat engines, which can lead to expensive repairs.



Applicability

When developing a trash control strategy, municipalities should consider the following points:

- Implement a control structure that identifies the most common types of trash and targets its source.
- Evaluate the costs for each control. Develop a budget that considers what services and facilities are already available and can be utilized at the lowest cost.
- Regular cleaning and maintenance of control structures is necessary to prevent accumulating trash from becoming a pollution source.
- Control strategies should not simply transport trash from one waterbody to another. They should reduce the quantity of trash in all waters.

Implementation

A successful trash management program depends on citizen awareness and education. Citizens should be informed about the environmental consequences of littering. In this regard, pictures are especially effective at depicting the problem. To personalize the relationship between its young citizens and its garbage collectors, Kenosha, Wisconsin's public works department started a baseball card collection. Each card contains a full-color picture of a garbage collector, including their hobbies and interests, number of lifetime stops, and total pounds of garbage collected (Runoff Report, 1998).

There are two main methods of trash control, source control and structural control. Source control focuses on eliminating the trash source. There are four main techniques to prevent accidental loss of materials that could become persistent debris:

1. Community education. Community education and awareness is essential to preventing trash from entering waterways. Informing the public about littering can instill a sense of citizen responsibility. For example, a community education program can inform residents of the consequences of littering and then provide them with options for recycling and waste disposal. Such messages can be conveyed to the public in flyers, door hangers, magnets, and bumper stickers. These materials can be distributed through the mail, at public places (e.g., libraries, town halls), in schools, and at local businesses. Maintaining the message to the community can help with long-term behavioral changes. A one-time message is not enough.
2. Improved infrastructure. The location, number, and size of trash receptacles, recycling bins, and cigarette butt receptacles should be based on expected needs. Communities and private trash disposal companies they employ should work together to meet community trash management goals, including ensuring that trash trucks are properly covered.
3. Waste reduction. The public should be encouraged to buy products free of excessive packaging materials. Likewise, manufacturers should be encouraged to reduce the amount of packaging they use. This information can be distributed in flyers, magnets, and the community's web page.
4. Cleanup campaigns. Clean up campaigns are an effective way to reduce trash. They have been used successfully at beaches, along rivers, and in parks. By tracking what is collected, the sources of trash can be quantified and targeted to improve source reduction. Municipal projects such as regular street sweeping, receptacle servicing, and roadside cleanups are also important means to prevent trash from accumulating and entering waterways. Finally, specially designed boats are effective at removing floating trash and other debris from rivers, lakes, beachfronts, bays, and harbors.

Structural control is the second trash control measure. This method involves collecting and removing trash before it enters nearby waterways. There are two structural control techniques:

1. Physical filtering structures, such as trash racks, mesh nets, bar screens, and trash booms, concentrate floating debris and trash and prevent it from traveling downstream.
2. Centrifugal separation targets trash carried in stormwater during and after heavy precipitation events. The process physically separates solids and floatables from water in combined sewer outflows by increasing the settling time of trash and particles.

When developing and applying trash management programs, municipalities must consider short- and long-term issues. One of the most important is where to deposit trash (e.g., landfill, incinerator). What is the capacity and life expectancy of that area? Where will trash be deposited once capacity has been reached?

Benefits

The benefits of trash removal are considerable. Better trash management increases the aesthetics of the landscape and reduces health and safety threats to both wildlife and humans. In addition, less litter from individuals can save the community money in structural-runoff control maintenance costs. Effective recycling programs can reduce the quantity of waste being dumped in landfills and encourage the reuse of raw materials.

Limitations

Meaningful reductions in trash removal may not occur without an approach that includes both source and structural controls. To obtain a trash-free waterbody, it is important to apply several of the aforementioned techniques together.

Effectiveness

It is important to clean and maintain the structural controls to keep them functioning fully. In addition, ongoing source control efforts should be continuously applied to achieve effective trash removal. Municipalities can measure their trash management program's effectiveness by weighing the amount of trash removed from structural runoff controls, collected during stream or roadside cleanup events, or collected from sidewalk trash bins.

Costs

Source control costs vary according to the type of method used. For example, a community education program, or a plan to increase the number of trash receptacles, can be inexpensive to finance. On the other hand, a structural control strategy can be costly. Physical filtering structures, including trash racks, bar screens, and silt traps, can range from \$250,000 to \$900,000. Centrifugal separation for municipal stormwater management systems can cost as much as \$3 million.

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Additional Sources of Information

- [EPA's Marine Debris Program](#)
- [The National Marine Debris Monitoring Program](#)

ATTACHMENT H-1

NPDES PERMIT NO. CA 0061654

TASK 5.2

REPORT OF WASTE DISCHARGE (ROWD)



VOLUME 2 OF 8 (TASK 5.2.5 - 5.2.6)

SANTA MONICA BAY -
MALIBU CREEK AND OTHER RURAL AREAS
STORMWATER MANAGEMENT PLAN

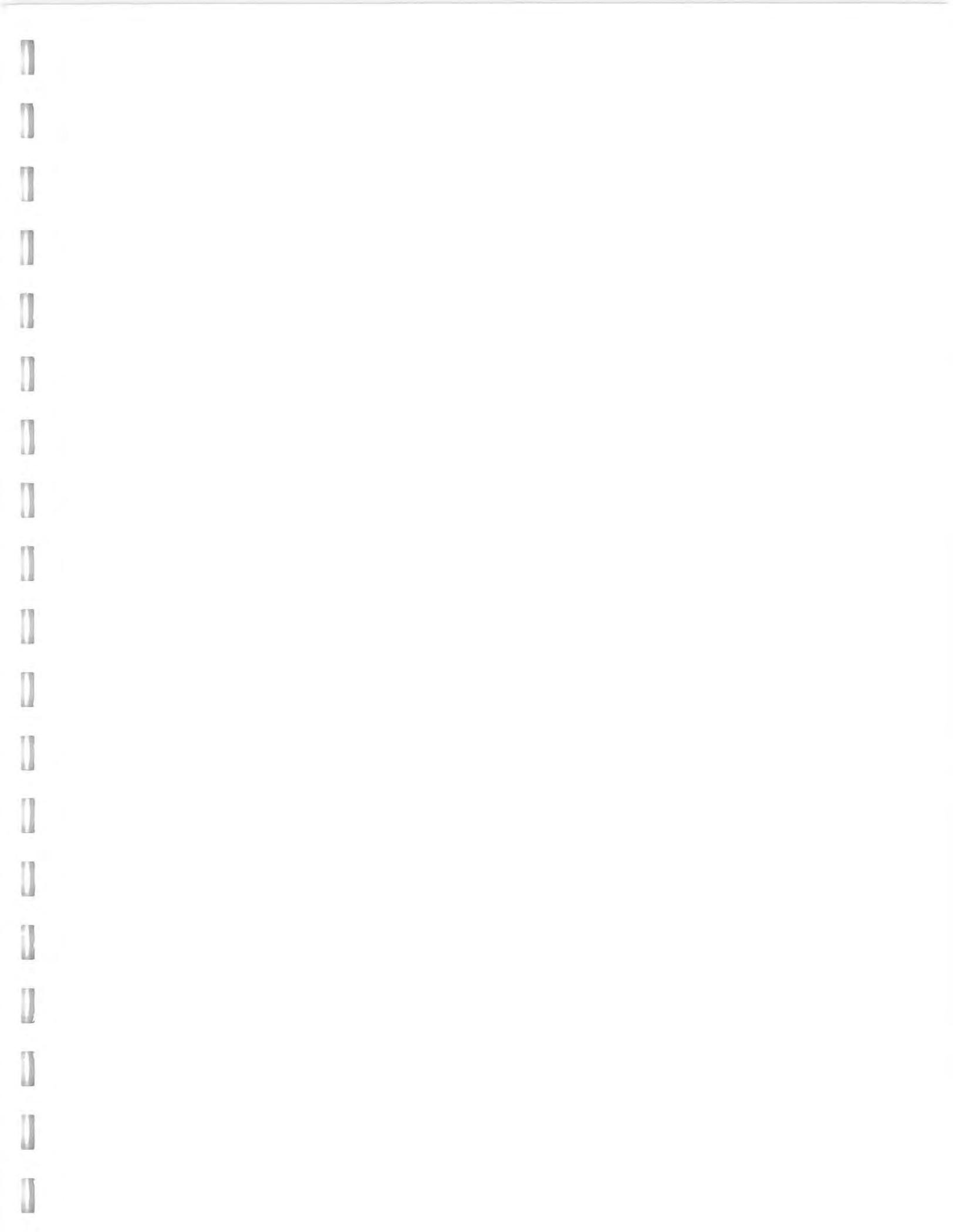


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**SANTA MONICA BAY:
MALIBU CREEK AND OTHER RURAL AREAS
STORMWATER MANAGEMENT PLAN**

INTRODUCTION

On June 18, 1990, the National Pollutant Discharge Elimination System (NPDES) Permit - Order #90-079, NPDES #CA0061654-CI6948 was issued to the County of Los Angeles and 17 cities tributary to Santa Monica Bay. During the subsequent years, two newly incorporated cities within the Santa Monica Bay watershed, Caltrans, and the County of Ventura also became Co-Permittees. This Permit outlined a three-year program which required each Permittee to: characterize drainage areas; develop and schedule the implementation of Best Management Practices to enhance the quality of stormwater/urban runoff within its jurisdictional boundaries and storm drains it owns and operates. On July 1, 1992, 36 additional cities were initiated into the Permit and began their three-year program. By July 1, 1993, the remaining 30 cities in Los Angeles County within the drainage basin were initiated into their three-year program. The cities were grouped according to their starting dates and referred to as Phases I, II, and III respectively (See Table A). In general, the boundaries of each Phase did not encompass whole watersheds but portions of various watersheds (See Figure 1).

The Permit has a five year duration and although Phase III cities have only completed year one of their three year program, the Permit requires the submittal of a Report of Waste Discharge (ROWD) which serves as an application for a subsequent NPDES Permit to replace NPDES Permit #CA0061654, which will expire on June 18, 1995. Therefore, the County of Los Angeles, Ventura County, Caltrans, and the 85 cities are now parties to the subsequent NPDES Permit application utilizing the Municipal Stormwater Management Plan (herein after called the Plan) concept.

The Plan is based on the Stormwater Management Plan Components developed by the California Regional Water Quality Control Board, Los Angeles Region (Regional Board), and is proposed on behalf of the County of Los Angeles and the other participating agencies, see Table B. The Plan describes the stormwater management activities to be undertaken during the next single, five-year NPDES Municipal Stormwater Permit. The Plan involves the subdivision of the area of the County under a single, new Permit, into six watersheds, each with its own stormwater management plan. For these watersheds and the agencies in each of these watersheds, see Table B and Figure 2.

As required by the current Permit, all Permittees have proposed BMPs for their jurisdictions, described in Volume One and under prior submittals made to the Regional Board. These BMPs have already addressed many of the program areas discussed under the stormwater management plan. As required by the current Permit and continuing on under the new Permit, the Permittees will continue to implement these BMPs. This stormwater management plan will involve reorganizing the individual city-based BMP programs into a single stormwater plan for each watershed. The timeline shown in this document reflects the time needed for the transition from individual city-based programs to the preparation of a mutually agreed upon and collectively developed watershed plan by

all parties of the new Permit for each of the watershed areas. The first step in beginning this process will be the reorganization of the current three-phase program into a new watershed based program. A reorganization of the Phases into watersheds which are based on hydrologic characteristics will allow for the consistent development and implementation of programs among Permittees, referencing land use and drainage infrastructure within their respective watersheds. Consistency of programs throughout the watershed will be beneficial in terms of targeting specific pollutant problems and areas.

This watershed is within the targeted area of the Santa Monica Bay Restoration Project (SMBRP), which was formed in 1988 when Santa Monica Bay was included in the National Estuary Program (NEP) as one of seventeen significant estuaries or coastal water bodies nationwide. The SMBRP has developed the Santa Monica Bay Restoration Plan, which identifies 74 Priority Actions to be implemented within the SMB Drainage Basin to improve the quality of Santa Monica Bay. The SMBRP has released its draft plan in April 1994 for public review, to be completed by the end of this year. Upon approval of U. S. Environmental Protection Agency, the State Water Resources Control Board, and other agencies, the priority actions discussed in the plan will be implemented by a variety of agencies and parties. Detailed development of the stormwater management plan for this watershed will incorporate those Priority Actions targeted for the improvement of stormwater/urban runoff quality.

This specific Plan will address the stormwater management issues for the Malibu Creek and Other Rural Areas watershed, which include the following cities and agencies:

- **Agoura Hills**
- **Calabasas**
- **Caltrans**
- **Los Angeles County**
- **Malibu**
- **Westlake Village**
- **Ventura County**

TABLE A

Grouping of Permittees by Phases

PHASE I

Agoura Hills
Beverly Hills
Calabasas
Caltrans***
Culver City
El Segundo
Hermosa Beach
Inglewood

Los Angeles***
Los Angeles County***
Malibu
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills

Rolling Hills Estates
Santa Monica
Torrance
Ventura County
West Hollywood
Westlake Village

PHASE II

Alhambra
Arcadia
Azusa
Baldwin Park
Bradbury
Burbank
Calabasas*
Caltrans***
Claremont
Covina
Diamond Bar
Duarte
El Monte
Glendale

Glendora
Hidden Hills
Industry
Irwindale
La Canada Flintridge
La Habra Heights
La Puente
La Verne
Los Angeles***
Los Angeles County***
Monrovia
Montebello
Monterey Park
Pasadena

Pomona
Rosemead
San Dimas
San Fernando
San Gabriel
San Marino
Sierra Madre
South El Monte
South Pasadena
Temple City
Walnut
West Covina

PHASE III

Alhambra**
Artesia
Bell
Bell Gardens
Bellflower
Caltrans***
Carson
Cerritos
Commerce
Compton
Cudahy
Downey
El Segundo*
Gardena
Glendale**
Hawaiian Gardens

Hawthorne
Huntington Park
Inglewood*
La Canada Flintridge**
La Habra Heights**
La Mirada
Lakewood
Lawndale
Lomita
Long Beach
Los Angeles***
Los Angeles County***
Lynwood
Maywood
Montebello**
Norwalk

Palos Verdes Estates*
Paramount
Pasadena**
Pico Rivera
Rancho Palos Verdes*
Redondo Beach*
Rolling Hills*
Rolling Hills Estates*
Santa Clarita
Santa Fe Springs
Signal Hill
South Gate
South Pasadena**
Torrance*
Vernon
Whittier

Note:

- * The agency is also in Phase I.
- ** The agency is also in Phase II.
- *** The agency is in all Phases.

FIGURE 1

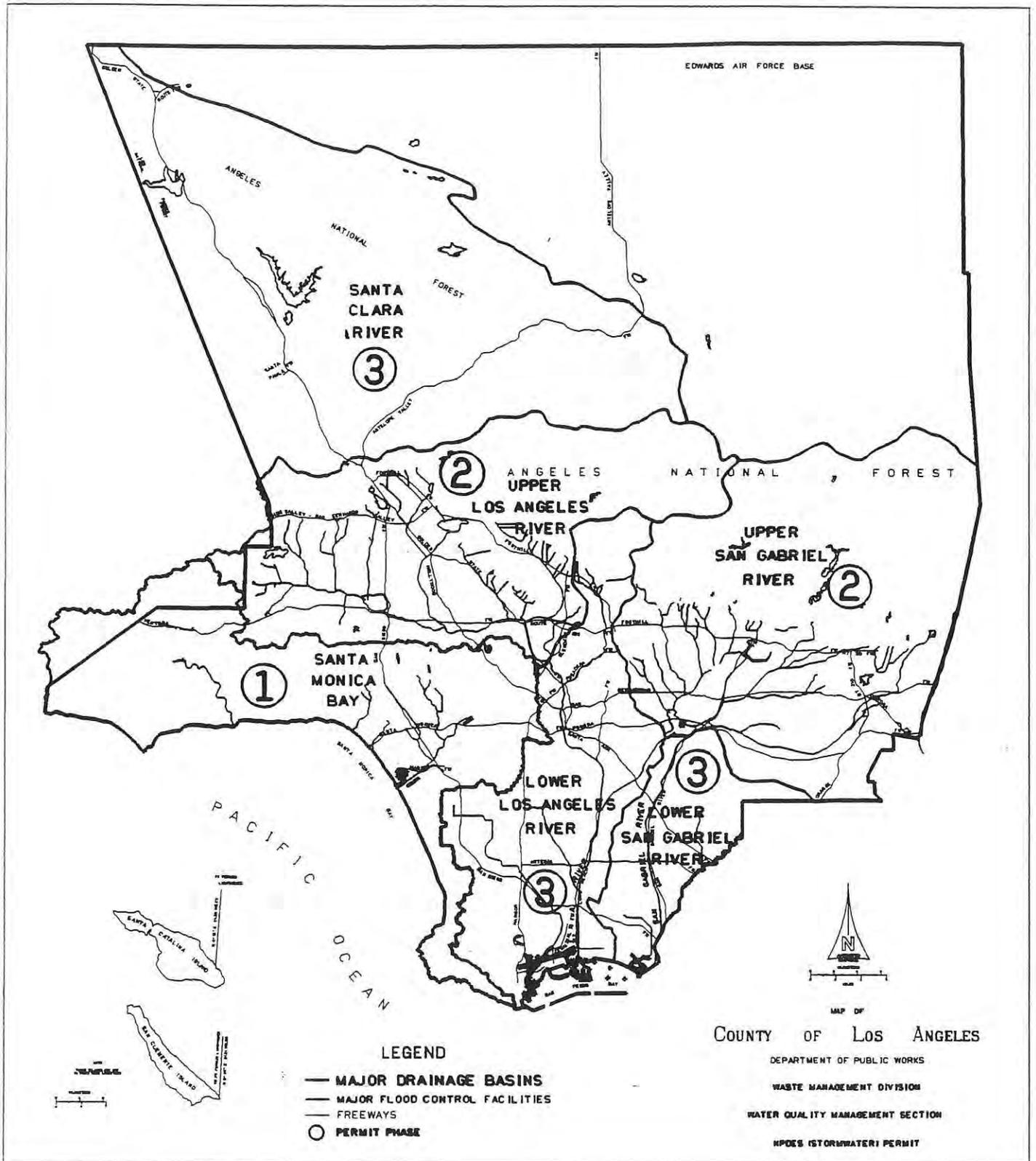


TABLE B

NPDES Stormwater Permit Renewal
Proposed Watershed Breakup

Santa Monica Bay

Malibu Creek and Other Rural

Agoura Hills
Calabasas
Caltrans
Los Angeles County
Malibu
Westlake Village
Ventura County

Ballona Creek and Other Urban

Beverly Hills
Caltrans
Culver City
El Segundo
Hermosa Beach
Los Angeles
Los Angeles County
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates
Santa Monica
West Hollywood

Dominguez Channel/
Los Angeles Harbor Drainage

Caltrans
Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Caltrans
Commerce
Compton
Cudahy
El Monte
Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Long Beach
Los Angeles
Los Angeles County
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount
Pasadena
Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

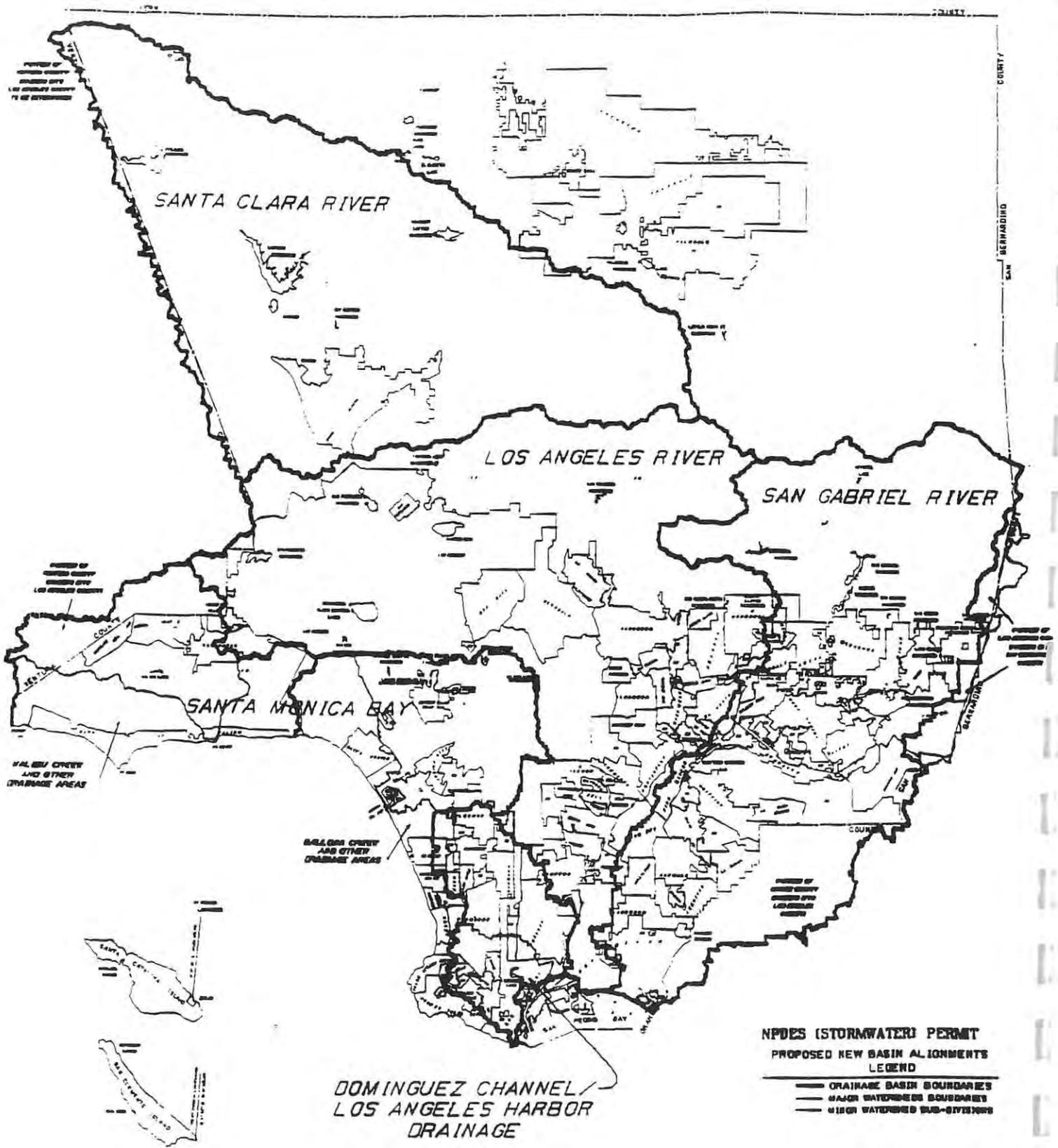
Artesia
Azusa
Baldwin Park
Bellflower
Bradbury
Caltrans
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
Long Beach
Los Angeles County
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

Caltrans
Los Angeles County
Santa Clarita

Italicized agencies are present in more than one watershed.

FIGURE 2



I. PROGRAM MANAGEMENT

A. PROGRAM STRUCTURE

The County of Los Angeles is designated as the Principal Permittee. The other agencies are designated as Co-Permittees. The following are conditions that establish the responsibilities of all Permittees.

1. RESPONSIBILITIES OF PRINCIPAL PERMITTEE

Anticipated duties of the Principal Permittee include:

- Being the coordinators of permit activities and chairing the area-wide Executive Advisory Committee and the Watershed Management Committees;
- Providing the resources for development of the stormwater management plans;
- Providing technical and administrative support for both the Executive Advisory and Management Committees;
- Implementing the monitoring program;
- Providing the resources necessary for developing annual reports including evaluating monitoring program data and BMP effectiveness;
- Complying with all the responsibilities of a Co-Permittee as outlined below.

2. RESPONSIBILITIES OF ALL CO-PERMITTEES

Each Co-Permittee is designated a number of duties under the proposed stormwater management plan:

- Participate in the development of the stormwater management plan;
- Implement the stormwater management plan within their jurisdictional boundaries and the storm drains they own and operate;
- Provide information needed by the Principal Permittee on program implementation for development of the annual reports.

The area under the Permit will be subdivided into the six watersheds tributary to the following waterbodies: Santa Monica Bay, which is further divided into a) Malibu Creek and Other Rural Areas, and b) Ballona Creek and Other Urban Areas; Los Angeles River; San Gabriel River;

Dominguez Channel/Los Angeles Harbor Drainage; and the Santa Clara River (See Figure 2). Managing these watersheds is a task that will require a collective and cooperative effort on the part of all governmental entities named in the Permit that are within each watershed.

The management structure of the Plan consists of an area-wide Executive Advisory Committee, Watershed Management Committees, and Subcommittees. This particular structure is intended to provide a suitable program for the unique characteristics of each watershed and shall be developed by April 1995.

The Co-Permittees tributary to the Malibu Creek and Other Rural Areas watershed shall adopt this watershed stormwater management program structure as a guide to allow for an area-wide uniformity of compliance of the Permit.

3. EXECUTIVE ADVISORY COMMITTEE

The area-wide Executive Advisory Committee shall consist of the County of Los Angeles, as Chair, and two representative Co-Permittees from each of the six watersheds. This Committee assumes no responsibility for the adequacy or inadequacy of any individual city's program, and should not be viewed as the responsible agency in this sense. The Committee's main role is to facilitate programs within each watershed and to enhance consistency among all of the programs. Additional responsibilities of the committee are:

- a. Making recommendations on area-wide issues to each of the Watershed Management Committees;
- b. Reviewing the stormwater management plans as developed by each Watershed Management Committee and provide direction and guidance on the plans for consideration by the Watershed Management Committees.
- c. Assessing the consistency of all area-wide BMPs;
- d. Preparing and forwarding unified submittals to the Regional Board upon receipt of information and materials submitted by the Watershed Management Committee in compliance with Permit requirements;
- e. Scheduling and coordinating meetings and correspondence to allow for communication between the Co-Permittees and the Regional Board;
- f. Acting as liaison between all Permittees and the Regional Board on Permit issues as well as mediating conflict among the Permittees.

4. WATERSHED MANAGEMENT COMMITTEE

A management committee within the watershed will be comprised of the County of Los Angeles, as Chair, and one representative from each of the Co-Permittees in the watershed. The committee shall be responsible for:

- a. Establishing goals and objectives for the watershed;
- b. Preparing the stormwater management Plan for the watershed (This includes the development of all chapter components of the Plan);
- c. Assessing the effectiveness of the Plan and making appropriate changes.
- d. Preparing the semi-annual progress reports and annual Permit reports on Permit activities within the watershed for submittal to the Regional Board (For the annual Permit report, a draft will be circulated to each Co-Permittee and the Executive Advisory Committee for its review and comment. Final copies of reports shall be forwarded to the Executive Advisory Committee through which a compilation from all six watersheds shall be submitted to the Regional Board);
- e. Enhancing the implementation of the storm water management plan within the Malibu Creek and Other Rural Areas watershed.

5. SUBCOMMITTEES

Subcommittees will be established where needed as determined by the Management Committee and/or the Executive Advisory Committee. The Subcommittees would be focused on specific program areas and can provide more specific oversight on the development, implementation, and evaluation of selected program areas. These subcommittees shall be scheduled to meet on a routine basis.

B. INSTITUTIONAL ARRANGEMENTS

Management of the stormwater program requires the collective efforts and the cooperation of all Permittees. No Permittee has the ability and the legal authority to assume the responsibility of all activities of this Permit. Therefore, agreements will need to be formally developed amongst the Permittees to insure proper implementation of the Permit requirements.

1. PROGRAM PARTICIPANT ARRANGEMENTS

As the Principle Permittee, the County of Los Angeles will be designated as the lead agency for coordination of Permit activities and therefore shall chair the executive committee and the management committee meetings as they are scheduled. The lead agency is responsible for coordination of the Permit but is not responsible for the adequacy or inadequacy of any individual Permittee's program. All other entities are Co-Permittees and will be responsible for the Permit compliance of their own agency's program. An implementation agreement will be drafted formally detailing the responsibilities of the Principal Permittee and the Co-Permittees. The agreement would also address the funding of various watershed-wide activities such as plan development, annual evaluation and reporting, and monitoring. Execution of the agreement by all Permittees is targeted for December 1995.

2. AREA-WIDE INTERAGENCY

As the Plan for each watershed is more fully developed, the Watershed Management Committee will coordinate with special agencies and districts that also regulate and/or perform activities addressed under different elements of the Plan. This coordination will attempt to ensure that their functions and the Plan are compatible. A few of these agencies include:

County Hazmat

- Any overlap of waste regulations, Household hazardous waste programs and or Industrial inspections shall be recognized and addressed, by all entities that fall under this Permit, in reference to the watershed program.

County Health

- Inspections of restaurants and other food handling establishments shall be coordinated with the Permittees.

Local Transportation/Congestion Management

- Local municipalities have limited authority over motor vehicle usage and regional transportation planning. Where feasible, plan development and implementation will be coordinated with local transportation agencies.

County (Regional) Parks

- Landscape maintenance activities at public-owned parks will be reviewed as part of additional plan development to ensure the use of proper management measures.

Mosquito Abatement

- Coordination with the County Agricultural Commissions will be done for mosquito abatement programs to avoid adverse impact on the quality of stormwater/urban runoff.

Water Districts

- Activities with regards to the Water Districts activities will be reviewed and, when feasible, comply with the watershed program regulations and requirements.

Other entities, both private and public which have major land holdings and/or authorities that impact the quality of stormwater/urban runoff should be initiated to participate actively in the program.

3. CITY-SPECIFIC INTERAGENCY ARRANGEMENTS

Each city will need to develop the institutional framework to address operation, maintenance, construction, redevelopment, and other activities performed by city agencies such as Public Works, Parks and Recreation, Planning, and Public Owned Treatment Works (POTWs). These city agencies will need to participate in the planning and implementation of relevant plan program areas.

C. FISCAL RESOURCES

As each of the Plan chapters are completed, each Permittee will develop a budget for implementing that portion of the Plan. A complete budget for the Plan will be produced upon completion of development for all Plan components by December 1996. The budget will provide information such as funding sources, staff resources, contract services, and cost sharing arrangements.

1. AREA-WIDE

In implementing the Plan, the Permittees may elect the jointly fund a single program for certain BMPs, such as Public Education, that are area wide in nature. Funding agreements including budgets and cost per agency would be developed.

2. CITY-SPECIFIC

Each Permittee will develop a budget detailing the cost of implementing Plan activities within its jurisdiction. Special funding in the form of grants, donations, or other forms of contribution should also be actively pursued to assist in funding special studies and/or BMPs.

D. LEGAL AUTHORITY

Each Permittee is responsible for implementing the Plan within its jurisdictional boundaries and therefore must acquire all needed legal authority. Each Permittee, being separate legal entities, are to have adopted as required by the existing Permit, ordinances that will provide them with the adequate legal authority to develop, administer, implement, and enforce storm water/urban runoff management programs within their own jurisdiction. The ordinance must provide for its enforcement and at a minimum specify that violators may be subject to penalties including, but are not limited to, fines and termination of the activity causing the violation. A plan for identifying any additional legal authorities needed by the Permittees will be included in the completed Plan for the Malibu Creek and Other Rural Areas watershed by December 1995. Upon completion of development of the Stormwater Management Plan, enforcing compliance with the Plan will be the responsibility of the Regional Board.

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II. ILLICIT DISCHARGES

The elimination of illegal connections and illicit disposal (IC/ID) practices is an important component for any program aiming to enhance the quality of stormwater/urban runoff.

Although more information is needed to assess fully the benefits and costs of conducting IC/ID programs, we can make logical decisions regarding application of best management practices (BMPs) to minimize such incidents. These BMPs will vary due to the jurisdictional differences which exist within each watershed. Each jurisdiction within the watershed will be developing and implementing those activities which adequately serve the jurisdiction and the watershed as a whole.

IC/ID practices are intermittent discharges of pollutants into the storm drain system that can degrade the quality of receiving waters. This can occur through catch basins, area drains and even on gutters and street surfaces. Some illegal dumping activities are done by individuals who do not know that such practices are illegal and can adversely impact the environment. Yet, others may be carrying out such practices with the full knowledge that such activities are prohibited.

A. ILLICIT CONNECTIONS

In order to implement an illicit connection management program, jurisdictions as a whole will need to develop and implement the procedures for investigating each of their respective storm drain systems.

Detailed procedures to eliminate illicit connections depends on the complexity of the storm drain system. A consistent watershed wide concept will be developed to investigate illicit connections to the storm drain system. Based on the results of field screening activities, or other appropriate information which indicates an area of reasonable potential of containing illicit connections, detection and follow up procedures would be followed. Priority should be established to focus on major problem areas and allow for a cost-effective approach to eliminate illegal connections. This concept will be developed by December 1995.

1. SYSTEM SURVEY

A system survey is a necessary component of an illicit connection elimination program. Although the basic concept is similar, the actual techniques and methods which jurisdictions within the watershed use to conduct system surveys can be quite different.

In conducting system surveys, the intent is to avoid costly investigations within areas not suspected of containing illicit connections. Field screening, map

research, and land use investigation activities will be done initially to identify potential problem areas. Public outreach efforts will be used to inform citizens in the area about the problem. Enforcement action will be taken to terminate such illegal connections. It should be noted that more detailed and sophisticated techniques such as televised inspection and dye testing will only be used in special situations as needed.

Presently, Los Angeles County has begun a system survey. Maps detailing the location of each storm drain, its manholes and catch basin connector pipes are being prepared by Los Angeles County to facilitate monitoring of illegal connections and discharges. The location and source of discharge for connections is being inventoried. A GIS system to allow management and analysis of this data is also being developed. This information will be used in the storm drain inspection program which is ongoing. The program is targeting open channel storm drains. All open channels will be inspected for evidence of illegal discharges. The open channel inspections will also be used to collect information on dry weather discharges from underground drains for use in prioritizing future underground drain inspections.

2. ONGOING SYSTEM INSPECTIONS

Ongoing system inspections for illicit connections will involve the techniques identified in Section 1. above, along with some additional activities. In smaller systems where the storm drain goes into several pumping stations, a regular inspection of the pumping stations for, among other things, evidence of illicit discharges will be sufficient.

In larger and more complex systems, a program of field screening will be used. Evidence of pollution will be categorized and prioritized. The storm drain alignment tributary to the suspect illegal connection can then be further investigated for illicit connections. If a discharge can be traced to a particular facility, the facility will be investigated to identify where exactly the pollutants are coming from and efforts needed to stop the discharge.

Another means of detecting illicit connections may be to rely on reports of illicit discharge from the public. This will utilize the County's or another agency's established "hotline" number that the public can call and report such observations.

3. REPORTING

A consistent recording system will be established to track report of illegal connections. This recording system will be used by the Permittees within the watershed.

B. ILLEGAL DUMPING

Due to the intermittent and unpredictable nature of illegal dumping, apprehension rate of violators could be quite low. The first course of action is to develop an area wide educational and reporting system along with prompt response procedures. This will be accomplished by December 1995.

1. OUTREACH

Reporting hotlines, in conjunction with outreach/publicity programs, can help minimize the problems of illegal dumping. The County has established an 800 hotline for the reporting of illegal dumping. In addition to this hotline the cities of Agoura Hills and Calabasas have established their own reporting numbers. All five cities in the watershed have public outreach programs to promote the reporting of illegal dumping. Newsletter articles, brochures, door hangers and refrigerator magnets are outreach methods which have been used.

2. SYSTEM SURVEILLANCE

Measures that may be used for this aspect of the program may include but not limited to regular inspections of vacant facilities, street use inspection programs to detect illegal discharges and dumping into the street system, and a public complaint and reporting system.

Caltrans' system surveillance program involves investigation, identification and remediation for hazardous waste and debris dumped on excess land parcels.

See **Chapter VII Public Information and Participation** of this report for a detailed discussion of the outreach program.

3. SPILL RESPONSE

The Health Hazardous Materials Division (HHMD) of the Los Angeles County Fire Department is generally the primary spill responder. If the material is found to be hazardous, the cleanup and disposal of the material will be done under the supervision of HHMD. If the material is non-hazardous, the responsibility will fall on local agencies to coordinate cleanup,

disposal and attempt to identify and prosecute the violators. Cooperation among all agencies will be needed to allow for prompt action and joint effort to deter such violators. All agencies will have local authority against such illegal dumping activities.

4. COMPLAINT RESPONSE

The County and some local agencies have established a stormwater telephone "hotline" that can be utilized by all citizens. Public complaints are generated through these "hotlines" and also through regular channels such as calls to Fire or Police agencies or to public works or legislative offices. Although responses to these complaints will vary depending on the nature of the complaint, action shall be taken.

Only Los Angeles County has established a complaint response procedure. Hotline complaints are being tracked and a follow-up letter to violators has also been implemented.

5. COORDINATION OF ALTERNATIVE DISPOSAL

Alternative disposal is one way of reducing non-stormwater materials that can potentially find their way into the storm drain system. Recycling programs are one of the most effective ways to reduce waste material. The recycling program can either be at the curbside or through drop-off centers. Household hazardous wastes can be dropped at mobile collection centers or at fixed sites. Co-permittees in the basin generally participate in the County's Household Hazardous Waste collection program. Effectiveness of those programs may be enhanced by a public outreach program that will inform the public of the locations and/or schedules for such events. Technical assistance or information may also be provided to businesses that want to develop a pollution prevention, waste minimization or alternative disposal program.

Alternative disposal programs are effective and within this watershed they are very popular. With the exception of Caltrans, to which the program is not applicable, all jurisdictions have implemented curbside recycling programs. They have also publicized the program to increase participation. The Countywide Household Hazardous Materials Round-up is also successful. Ventura County accepts hazardous materials twice per month at a permanent facility. All cities participate and actively promote the events. Caltrans, who does not participate in the Countywide program recycles its own materials including, used oil, anti-freeze, oil filters and aluminum.

6. REPORTING

Incidents involving a hazardous material entering the storm drain system are to be reported by the responsible party, or, if not known, the responding agency, to the California Regional Water Quality Control Board, Los Angeles Region (Regional Board). Complaints received through the County wide and local city hotlines will be tracked and reported to the Regional Board.

C. ENFORCEMENT PROCEDURES

Enforcement actions against discharges are done through either state hazardous and toxic materials statutes or through municipal ordinances that are already in the codes of the permittees. Industrial Waste Ordinances may be used in enforcement actions against illicit connections. Furthermore, anti-littering, health codes, plumbing codes and fire codes may be utilized for dumping or spill incidents. Enforcement actions can be taken by different municipal agents, including but not limited to, Industrial Waste Inspectors, Building or Plumbing Inspectors, Fire Department Inspectors, Park Rangers, Street Use Inspectors, Health Inspectors, Police Officers, Community Services Officers, Animal Control Officers, Code Enforcement Staff or Public Works Inspectors. Some of these agents are empowered to either issue citations, issue notices of violations, issue cease and desist orders, or even make arrests depending on the type of violation and the code provisions that they are enforcing. Some of these agents are also empowered to enforce not only municipal ordinances but also state laws. A review of the various enforcement tools used by the Permittees will be performed. A recommendation will result on a consistent enforcement approach for the watershed for consideration by all Permittees in their own enforcement programs. This recommendation will be developed by December 1995.

Four jurisdictions have ordinances within their Municipal Codes to prohibit illegal dumping/littering. In general these ordinances include penalties. Alternatively, one city relies on education programs to encourage the public not to litter, Caltrans posts No Littering signs with fines, and Westlake Village requires landscape contractors to pick up all green wastes. The cities rely on Code Enforcement officers, Health Department, Fire Department and Animal Control staff to enforce the regulations.

D. COORDINATION WITH STATE NON-STORMWATER PERMITS

In order to characterize the nature of the existing non-storm discharges in the receiving waters within the watershed, a list of NPDES Permits issued by the Regional Board will be obtained. This will help in determining unexpected discharge during dry weather and to allow enforcement actions to focus on illegal dumping activities.

There is also a need to coordinate with other environmental agencies to ensure that requirements imposed by these agencies do not conflict with stormwater regulations. Requirements of many agencies do complement stormwater regulations. These agencies, include but not limited to, Fish and Game, DTSC, USEPA, and the Coastal Commission. Coordination with these agencies will help minimize overlapping investigations and result in a more efficient use of resources. A watershed wide concept will be developed by December 1995.

1. IDENTIFICATION OF PERMISSIBLE/PERMITTABLE DISCHARGES

A list of non-stormwater discharges that can be allowed to discharge into the Waters of the State will be established by the Regional Board.

2. APPROPRIATE MANAGEMENT PRACTICES

Continued communication with the Regional Board will allow current information to be circulated among all agencies.

3. REPORTING

Any conflict in requirements of other environmental programs/agencies must be reported immediately to the Regional Board for ruling as to which one should take precedence.

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III. INDUSTRIAL/COMMERCIAL SOURCES

Each Permittee shall develop and implement a program that focuses on the identification and control of storm water pollutant discharges from industrial/commercial facilities within their jurisdiction. This program shall provide for the inspection of a facility's compliance with storm water regulations, as well as general outreach for all facilities that are potential industrial and commercial dischargers.

Each Permittee is responsible, under the requirements of the Municipal Stormwater Permit, for all discharges from commercial and industrial facilities within its jurisdiction. Many industries are also required to be permitted under the State General Industrial Activities Stormwater Permit. Enforcement of the specific provisions of the State General Permit is the responsibility of the State.

A. IDENTIFICATION OF SOURCES

As required under the current Permit, the Permittees have produced a listing of industries by SIC category for each drainage area. Also a breakdown of major land use types was also performed for each drainage area.

A pollutant source identification program will be designed to identify significant pollutant sources (ie. parking lots, industrial activities, etc.), with the hope that remedial action can be undertaken to reduce any significant impacts so identified. It will focus on monitoring very small areas (ie., less than five acres) where a specific and/or interrelated set of pollutant generating activities are occurring. Its objective is to provide data for selecting BMPs for specific activities rather than characterizing discharges for long-term pollutant loading estimates.

Identification of pollutant sources can be done using a number of methods. Potential sources of storm water pollutants can be identified by records of chemical use and/or storage, by studies of specific activities which lead to the deposition of pollutants throughout the watershed, and by field inspection or monitoring. Watersheds which may contain significant pollutant sources can be identified through land use information or by mass load estimates.

By mid January 1995, the County will begin targeted monitoring of a municipal corporation yard in the Santa Monica Watershed. This will provide data on industrial activities which can take place at such a facility such as vehicle maintenance and repair, materials storage, equipment storage and repair. A more comprehensive program to identify various pollutant sources will be developed by December 1995.

1. CATEGORICAL LIST

Sources identified as a categorical industry regulated by the U.S. Environmental Protection Agency (EPA) will be grouped into a categorical listing of industries. The categorical list provides an organized overview of the target facilities that, based on land use, operation, and activities, could potentially contribute significant amounts of pollutants into storm water runoff. Some of the industrial categories regulated by the U.S. EPA include, but not limited to:

- Aluminum Forming
- Asbestos Manufacturing
- Battery Manufacturing
- Canned & Preserved Fruits & Vegetables
- Cement Processing
- Copper Forming
- Electroplating
- Glass Manufacturing
- Grain Mills
- Machinery Manufacturing & Rebuilding
- Soap & Detergent Manufacturing
- Metal Finishing
- Metal Molding & Casting
- Oil & Gas
- Organic Chemicals & Plastics & Synthetic fibers
- Paint Formulating
- Pesticides
- Plastic Molding & Forming
- Rubber Manufacturing
- Sugar Processing
- Textile Mills

2. RANKING

Industrial and commercial facilities identified as pollutant sources shall be ranked in order of priority for development of management measures. Facilities considered to be high priority are those whose operations and activities are determined to potentially contribute the most significant pollutant impacts to storm water discharge.

3. UPDATE PROCEDURE

Each year the Co-Permittees will evaluate the results of the monitoring program, the illicit discharge investigation program, and other available information, to identify likely sources of specific pollutants. The annual report to the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) will recommend a strategy for pollutant source identification during the following year, including specific sites and/or activities to be monitored.

B. CONTROL MEASURES

Specific urban runoff control programs for major potential pollution sources shall be developed by March 1996. Within these programs storm water pollution control measures shall be developed for various pollutant sources. Control measures such as source control and treatment control offer different, but complimentary approaches to storm water pollution control.

Source control measures focus on good housekeeping practices, pollution prevention and minimization, and education. They are also less costly than treatment controls.

Treatment controls involve physical treatment of the runoff, usually through structural means. Also treatment controls will not remove all pollutants and their removal efficiency is difficult to predict given the limited understanding of the relationship between facility design criteria and performance.

The initial focus will be on the development of source control measures. As information is collected under the pollutant source identification program regarding specific pollutant sources, specific control measures, including structural, will be evaluated as to their effectiveness in addressing these sources.

1. POLLUTION PREVENTION MEASURES

Source minimization and education are the first steps in effective source control. Other activities that contribute to source control are:

- Site design alternatives (ie. roof over fueling stations and carwash slab, provide spill containment curb around stored material, etc.)
- Good housekeeping practices

2. STRUCTURAL (TREATMENT) MEASURES

A variety of treatment control measures have been utilized throughout the country for storm water quality. However, the effectiveness of these controls are highly dependent on local conditions such as climate, hydrology, soils, groundwater conditions, and extent of urbanization.

Some of the more common treatment controls are:

- Oil/water separators - Oil/water separators are designed to remove one specific group of contaminants: petroleum compounds and grease. However, separators will also remove floatable debris and settleable solids.

- Infiltration - A family of systems in which the majority of the runoff from small storms is infiltrated into the ground rather than discharged to a surface water body. Infiltration systems include: ponds, vaults, trenches, dry wells, porous pavement, and concrete grids.
- Wet ponds - A wet pond has a permanent water pool to treat incoming storm water.
- Constructed Wetlands - Constructed wetlands have a significant percentage of the facility covered by wetland vegetation.
- Biofilters - Biofilters are of two types: swale and strip. A swale is a vegetated channel that treats concentrated flow. A strip treats sheet flow and is placed parallel to the contributing surface.
- Extended Detention Basins - Extended detention basins are dry between storms. During a storm the basin fills. A bottom outlet releases the storm water slowly to provide time for sediments to settle.
- Media Filtration - Consists of a settling basin followed by a filter. The most common filter media is sand; some use peat/sand mixture.
- Multiple Systems - Multiple systems are a combination of two or more of the preceding controls in series.

C. OUTREACH

General outreach for all facilities that are potential industrial and commercial dischargers shall be set up area-wide by the Management Committee, to provide general guidance in complying with the storm water program by March 1996. It shall also serve as a reminder of pollution prevention measures and keep facilities informed of their obligations to the storm water program.

Subcommittees may be established to develop specific outreach materials for industrial and commercial categories and specific activities that are identified as high priority.

For additional information on outreach, refer to **Chapter VII Public Information and Participation.**

D. INSPECTIONS

Most municipalities have existing programs such as industrial waste, fire, and health in which industrial and commercial facilities are inspected on a regular basis. Each

Permittee may elect to have inspections for the storm water program incorporated into these existing inspection programs, or be done as a completely separate program, depending on the needs of the Permittee.

The purpose of these inspections is to ensure that facilities are in full compliance with the storm water regulations and to ensure that control measures are being implemented. The frequency of inspection of facilities will be prioritized based on the operation and categorization of the facility.

Inspectors consisting of public personnel will be trained adequately to recognize and handle problematic activities concerning storm water pollution that may be existing or potential; and inspect for the deterioration of the storm drain system and illegal/improper connections. Training programs will be developed through the Watershed Management Committee and possibly specific Permittees for use by all Permittees.

Procedures for the identification, investigation, enforcement, and prosecution to the full extent of a jurisdiction's legal authority will be developed.

Only one co-permittee in the watershed has not implemented some type of inspection program at this time. Los Angeles County issues permits to all commercial and industrial facilities which generate industrial wastes. Included within this program are auto related businesses, gas stations, and restaurants. Facilities with industrial waste permits are regularly inspected. In addition to those businesses in the unincorporated areas, the County Department of Public Works also provides industrial waste inspections, under contract, for two cities in the watershed. One city is planning to expand its non-storm water discharge inspection program to include an industrial waste program in 1995. In Ventura County, an illicit discharge control program has been initiated. Caltrans inspections include daily examination of its auto related facilities, lead testing of the gas stations once per year, quarterly pumping of clarifiers, and constant storm drain monitoring. A program to inspect underground storage tanks is part of a five year plan.

1. CHECKLIST

Inspectors shall have a uniform checklist to use as guidance and reference throughout an inspection. It may also serve as a general guide for the public, providing information about the requirements necessary to comply with the storm water regulations.

2. SCHEDULE

The inspection program shall be developed by March 1996. The frequency of inspections shall be scheduled according to the type of operation and the categorization of the facility. Revisit inspections shall be done on an as needed basis.

3. REPORTS

Inspectors shall report on all activities related to and/or violating the local storm water ordinance to the local governing agency. Standard reporting procedures will be developed.

4. FOLLOW-UP PROCEDURES

Individual Permittee review and assessment of the reports may result in the need for follow-up procedures, such as reinspection or legal action, provided the jurisdiction has the adequate legal authority to do so. Follow-up procedures will be developed to insure a uniform and consistent approach.

E. LOCAL INCENTIVE PROGRAMS

In developing the industrial/commercial program, the Permittees may consider the development of optional measures such as clean business incentive programs that may offer more focused control on industrial and commercial sources. Optional measures such as these may be developed by March 1996.

F. TRAINING

Development of training programs for industrial storm water inspection staff is projected to be completed by March 1996.

1. PUBLIC EMPLOYEES

All public employees shall be trained in the storm water regulations so that they abide by the regulations in the course of their work day. Also they need to be able to recognize and distinguish between legal and illegal activity so as to administer the proper protocol in handling the situation.

The Los Angeles County Department of Public Works has requested all employees to report any observed water quality problems. Caltrans employees have received education in hazardous substance spill awareness, pesticide safety and vegetation management.

2. INSPECTORS

Inspectors who visit industrial and commercial facilities shall be adequately trained to determine compliance with the storm water regulations and educate the facilities about the requirements of the program. In addition, they should be able to recognize and handle immediate problems as they are encountered, during an inspection; and inspect for the deterioration of the storm drain system and illegal/improper connections. Citation training will be necessary for inspectors in agencies that have the citation authority.

G. COORDINATION WITH STATE INDUSTRIAL STORM WATER PERMIT

The Permittees have existing local ordinances governing industrial discharges and other non-stormwater discharge that require compliance activities similar to those in various State Regulations. Because coordination between the Permittees and the Regional Board is anticipated concerning the regulations of industries, a mutual agreement may be required regarding industrial inspections and enforcement. Additional issues could also be addressed. Federal stormwater regulations hold local municipalities responsible for stormwater discharges from all industrial/commercial facilities, including those covered by General Permit.

1. MEMORANDUM OF UNDERSTANDING

A Memorandum of Understanding (MOU) may be used to formalize the agreement between municipalities and the Regional Board on industrial compliance program issues. A MOU among all local agencies may also be needed to ensure co-operation between all the agencies. The need for and specific requirements for such agreements would be developed upon completion of development of the industrial/commercial program by March 1996.

2. REPORTS

The MOU discussed above may include the exchange of information between the Permittees and the Regional Board. Appropriate formats for such reports would be developed as required.

IV. NEW DEVELOPMENT AND REDEVELOPMENT

Managing stormwater and runoff from both new construction and redevelopment, will reduce pollutants from entering the storm drain system and subsequently the receiving water.

A. PLANNING PROCESS

Quality of stormwater discussion should be included in the General Plan and the Zoning ordinances. Efforts to enhance the quality of storm water can filter into the Subdivision actions. Much of the storm water concerns can be channeled through the compliance effort of the California Environmental Quality Act (CEQA). A watershed wide concept will be developed by June 1996.

Two Permittees currently have programs addressing stormwater quality in the planning process. Caltrans has a contractor water pollution program which requires a plan for water pollution control during construction operations Caltrans' projects; and the City of Westlake Village through its Stormwater Quality Management Plan.

1. WATERSHED PROTECTION POLICIES

An integrated strategy will be developed for the watershed. Pollution control efforts should be prioritized. A variety of statutory and regulatory requirements could be used for this watershed oriented program. Watershed protection policies need to be adopted by the local jurisdictions which control land-use within the watershed.

2. COORDINATION WITH CEQA

The current CEQA "Environmental Checklist Form" that is used for initial studies assessment indirectly address potential impacts to stormwater. Additions could be made to the Form to directly assess stormwater quality impacts.

CEQA requires agencies to use feasible alternatives or mitigation measures to lessen potentially significant effects. The ability to identify a.) when an effect is significant, and b.) which mitigation measures could be adopted to reduce the effect, is critical to the CEQA process. A clear assessment of any development, its potential adverse impacts on stormwater quality will allow for a determination of "significance" which will enable the decision maker to make development decisions upon full disclosure of possible adverse impacts.

3. SITE PLANNING PROCESSES

All development will require the review and approval of a site/plot plan or development drawings prior to issuance of a building permit. Incorporating the consideration of potential water quality impacts including erosion and sedimentation during the early stages of the planning process will allow these issues to be addressed before substantial investments in engineering and design have been made.

4. GENERAL PLAN CHANGES

The General Plan is the legal backbone of the planning process. All development approvals, zoning ordinances, subdivision approvals and public works projects must be consistent with the policies, objectives, and principles set forth in the General Plan. Discussion of stormwater issues in the General Plan could greatly enhance the awareness of the issues and encourage full assessment of possible adverse impacts on stormwater quality as the result of new and redevelopment.

5. USE OF MASTER PLANS

For agencies which utilizes master plans to guide their development activities, stormwater issues can be outlined in such documents. This will channel efforts to fully assess the possible adverse impacts on stormwater quality as the results of any development within the master plan area.

6. OTHER POLICIES

Numerous other policies or mechanisms could be used to incorporate stormwater management goals into the planning/development process. Other concepts will be evaluated for their feasibility during the more detailed development of this Chapter.

7. PLANNING-PUBLIC WORKS INTERFACE

A variety of mechanisms for coordinating planning and public works activities exist. An example could be some form of CIP (capital improvements program). Ideally, any planning documents which target or project population growth are coordinated with CIP. Integrating stormwater management into CIP will allow for mitigation of major adverse impacts on the quality of stormwater prior to any actual construction.

8. IMPLEMENTATION PROCEDURES

Implementing policies to integrate stormwater management considerations with existing planning/development mechanisms will require a variety of approaches depending upon the existing conditions within each Co-Permittee and the particular remedies selected. It is anticipated that each Co-Permittee will propose procedures applicable to its unique jurisdictional considerations at later stages in the permit process.

B. CONSTRUCTION SITES

Pollutants from construction activities can have a major impact on the quality of stormwater/urban runoff. A watershed wide concept to reduce such pollutants will be developed by December 1995.

1. EROSION CONTROL REQUIREMENTS

Federal stormwater regulations hold local municipalities responsible for stormwater discharges from all construction sites. In addition, construction sites involving a total of five acres or more of land disturbance are required to apply for the State General Construction Activity Storm Water Permit (GCASP). The GCASP: 1) eliminates or reduce to the extent feasible non-storm water discharges from construction sites and 2) permits stormwater discharges, but requires the use of controls to limit pollutant loading in site effluent. Preparation of a Stormwater Pollution Prevention Plan and identification/utilization of BMPs are the key components of this Permit.

Many local agencies also have erosion control requirements for any grading and construction activities. Regulation of pollutants from construction sites of five acres or less will be done by the local agency through its stormwater management plan.

Construction site erosion has the potential to introduce sediment into runoff. For example, fugitive dust control at construction sites typically use water. Minor modifications/clarification of existing fugitive dust practices could substantially address runoff pollution concerns. In addition to fugitive dust control practices, additional measures could be adopted to curtail dry weather runoff, and control pollutant laden storm water runoff. These measures may address 1) physical site design considerations and 2) temporal considerations such as seasonal timing and phasing of activities.

Five jurisdictions have adopted ordinances which provide for erosion control and slope stabilization. The City of Westlake Village has identified these components as part of an urban runoff control ordinance.

Los Angeles County's ordinance has been in effect since 1965. However, in 1992 these provisions were strengthened to include stiffer penalties for violations.

2. CHEMICAL AND WASTE MANAGEMENT REQUIREMENTS

Chemical and waste handling activities are also currently subject to a variety of regulations. BMPs to address this pollution source are largely centered around "good housekeeping practices". It involves storing, handling, using, and disposing of these potential pollutant sources in ways that restrict opportunities for unintended introduction of the materials into site runoff. Proper chemical and waste management will reduce any accidental discharge into the storm drain system.

3. INSPECTIONS

Inspections are a routine part of local jurisdictions oversight of regulated construction activity. Its purpose is to ensure that construction site runoff control measures are being implemented. Existing practices should be examined and modified accordingly to satisfactory stormwater/urban runoff objectives.

a. Checklist

A checklist would encourage possible streamlining of any requirements. It could be cumbersome if an overly rigid approach were taken which resulted in unnecessary administrative burden. However, careful design of the checklist could avoid this pitfall.

b. Schedule

Inspection schedules will depend upon existing practices. It may be desirable to have several schedules, depending upon the types of activities/permits and/or the timing of activities.

c. Reports

A standardized reporting format is needed to allow for consistency among all jurisdictions. Furthermore reports are also a useful tool for future refinement of pollution control regulations.

d. Follow-up Procedures

A format will be developed to do follow-up inspections on problem facilities. Its frequency will greatly depend on the land use and the degree of non-compliance of each facility.

C. LOCAL PERMITS

Permits are a form of "cross checking" by local agencies to ensure that regulations are being implemented. Prior to the issuance of a permit, information must be submitted for review and approved. A watershed wide concept to provide some consistency in local permits will be developed by June 1996.

1. COORDINATION WITH EXISTING PERMITS

Storm water issues should be incorporated into existing permits.

2. NEW PERMIT ISSUES

Storm water issues should be clearly stated in new permits to be issued for new and/or redevelopment activities.

D. TRAINING

Training will enable staff to keep current of the latest storm water regulations. A watershed wide staff training concept will be developed by June 1996.

1. PLANNING PERSONNEL

(See E.1.b. below)

2. PUBLIC WORKS PERSONNEL

(See E.1.b. below)

3. INSPECTORS

(See E.1.b. below)

E. CONTROL MEASURES

Best management practices for the control of construction related pollution can generally be divided into three categories:

Nonstructural Source Controls for Reducing Urban Stormwater Pollutants:

- Practices that reduce the generation and accumulation of potential stormwater contaminants at or near their source.

Development Layout Stormwater Controls:

- Practices that are directed at controlling the volume and discharge rate of runoff from urban areas, as well as, reduction of the magnitude of pollutants in discharges through temporary storage or flow restrictions.

Erosion and Sediment Controls:

- Practices that can prevent or treat problems related to transport of eroded material from construction and other land disturbing activities.

Development layout stormwater controls are of particular interest. These control measures can be incorporated in the initial planning phase of any project. A watershed wide concept will be developed by June 1996.

1. POLLUTION PREVENTION MEASURES

a. Site Design

Effective implementation of urban BMPs requires integration of water quality control elements early in the site planning and design process. Development of the water quality controls should not only achieve maximum pollutant removal with minimal costs, but also reduce potential maintenance.

This may include incorporating water quality concerns into the site layout and design (ie. maximize pervious areas, minimize directly connected impervious areas, etc.) and/or treatment control measures proven to be cost effective for local climate, soil, and development conditions.

Due to the diversity of climate and local conditions, the development of BMPs vary from location to location, and even jurisdiction to jurisdiction. The selected management practices should be designed for the local site conditions and especially seasonal rainfall conditions that are experienced in Southern California. Suitability for the major land use and drainage characteristics should also be fully assessed.

b. Education/Training

Education/training is imperative to the success of any BMPs selected for new or redevelopment projects. BMPs will fail if not properly designed, installed, and maintained. Only well trained personnel should be assigned to these responsibilities.

A program for effective education/training should be based on four objectives:

- Promote a clear identification and understanding of the problem, including activities with the potential to pollute stormwater;
- Identify solutions (structural and nonstructural BMPs);
- Make every employee responsible for stormwater pollution and its solution; and
- Integrate employee feedback into training and BMP implementation to improve BMPs.

c. Other

In many cases stormwater pollution control may already be achieved by existing regulations or programs. In California, the General Plan Law and the California Environmental Quality Act (CEQA) provide a basis for municipalities to review and comment on all projects within their jurisdiction. Under the General Plan Law, municipalities are required to develop policies and regulations which guide development within the municipality. Each development project is then reviewed for conformance with these policies. Under CEQA, projects are also subject to review and comment for any adverse impact the projects may have on the environment, including impacts from stormwater discharges.

2. POST CONSTRUCTION (TREATMENT) MEASURES

a. Applicability

Each site considered for development or redevelopment will (at the conclusion of construction) have final improvements and unique site characteristics such as: drainage patterns; soils; landscaping; topography; percent of impervious surfaces; rainfall; pollutants inherent with the use of the development; and pollutants that may be background to the area (existing vegetation, air fallout, etc.). The applicability of various treatment control BMPs for use in new

development will be evaluated through the use of pilot studies and examination of studies done on treatment control measures by other agencies.

b. Effectiveness

Prior to implementing any treatment control measures, they will need to be evaluated for their effectiveness. This can be done through pilot studies which could include elements such as: pre and post storm event inspections; water quality monitoring; record keeping to document deficiencies in the BMPs; Operation and Maintenance requirements and cost effectiveness.

c. Retrofit Opportunities

The feasibility of retrofitting existing developments with treatment control measures will be evaluated. However, the effectiveness of a treatment control measure vs. its cost must be fully evaluated prior to considering its use as a retrofit measure.

3. OPERATION AND MAINTENANCE

a. Requirements

Jurisdictions within the watershed will need to insure that BMPs incorporated into a private development are properly maintained. Deed restrictions, covenants, conditions and restrictions (CC&R) could be used to direct such requirements and responsibilities.

b. Responsible Party

The contractor, during construction, must ensure that the post-construction BMPs are installed properly and that any maintenance that may be necessary during construction is performed. After the project is completed, it will then be the responsibility of the fee owner, private or public, to provide for long term operation and maintenance. This may be accomplished by deed restriction and/or CC&R.

4. CONFLICTS WITH OTHER MANDATES

Often regulations of various Federal, State, and local agencies would conflict with each other. Health, fire, and building codes often have requirements focusing on short term human health and safety and neglecting the impacts on the environment.

a. Identification of Conflicts

As the Plan is developed, other regulatory requirements that conflict with the stormwater program requirements may be uncovered. Clarification of these regulations should be directed to the various responsible regulatory agencies.

b. Conflict Resolution

For regulatory conflict caused by local regulations, efforts will be taken to resolve them within the agencies. Input from other local, state, and federal agencies should be incorporated into a modification of current standards. The Regional Board should resolve conflicts involving other State and/or Federal requirements.

F. OUTREACH

See Chapter VII Public Information and Participation.

G. ENFORCEMENT

See Chapter II Illicit Discharges, Section C Enforcement Procedures.

**H. COORDINATION WITH STATE GENERAL CONSTRUCTION ACTIVITIES
STORM WATER PERMIT**

Compliance with the GCASP requirements is the responsibility of the developer/contractor, and enforcement is the responsibility of the SWRCB/Regional Board staff.

1. MEMORANDUM OF UNDERSTANDING

An agreement between the Regional Board and Co-Permittees may be used to enhance compliance of construction site BMPs. The need for such an agreement will be evaluated. If found to be desirable, an agreement will be developed by June 1996.

2. REPORTS

The local enforcement agency of the State Construction Stormwater Permit, which is the Regional Board, should forward all information, including Notices of Intent filed and any inspections and enforcement actions taken, to the

Permittees so that this information can be available to local municipal construction site inspectors to alert them of any specific concerns on the job site.

3. OTHER ISSUES

The Regional Board should explore funding to be channelled to the Co-Permittees so the Co-Permittee can be more actively involved with the State on the Permit.

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V. PUBLIC AGENCY ACTIVITIES

All municipalities perform functions that have an impact on stormwater quality. These include, among other things, vehicle maintenance, landscape maintenance, weed control, water body maintenance including swimming pool maintenance, etc. Other activities such as construction and maintenance of streets and roads, and construction and maintenance of the flood control system also could directly or indirectly cause adverse impact on the quality of stormwater/urban runoff. Since municipalities must address all significant sources of pollutants, all of these activities must be examined and mitigation measures be incorporated into the routines. As part of the requirements of the current Permit, many of the Permittees have already begun implementation of measures to address the above activities. An examination of these existing measures will be done on a watershed wide basis to establish the most effective approach to address these activities. Such approaches shall be developed and begin implementation by September 1996.

A. SEWAGE SYSTEMS

Sewage spills must not be allowed to enter the storm drain. Control procedures for identifying, repairing, and remediating sewer blockages, infiltration, inflow, and wet weather overflows from the sewers to the storm drain system should be implemented to protect stormwater quality. These procedures could include, but are not limited to, quick field response to overflows, follow-up testing, and complaint investigation.

When sewage spills do occur, they must be contained and collected for proper disposal. Individual permittees may need to modify their sewage overflow response procedures. The field personnel should also have procedural training for field screening, sampling, smoke/dye testing, and TV inspection, if appropriate, to be able to properly investigate any suspect connections or cross connections to the storm drain system.

Los Angeles County has a number of programs aimed at preventing sewage spills from entering the storm drain system. These include:

- Sewage Overflow Response Procedures Revision/Root Control Review. This involves improvement of procedures for containment and cleanup of spilled sewage resulting from overflow.
- Standby Maintenance Crew. This on-going program places a maintenance crew on stand by during heavy rainfall for Trancas and Malibu Sewage Treatment plants.
- Reline Sewer Lines. Two locations will undergo relining of existing sewer lines to prevent infiltration and exfiltration.

- Sewer Pipeline Reconstruction. 127 miles of cement pipelines will be analyzed and replaced or rehabilitated within 5 years.
- Sealing of Manhole Covers. This program has sealed manhole covers and bar holes in areas subject to flooding.
- Expansion of Emergency Call List. Beeper numbers of all supervisors, superintendents and standby crews were added to emergency call list.

B. CORPORATION YARDS

Corporation yards include any area or facility that is used for vehicle maintenance or washing, other maintenance, chemical storage, paint facilities, and supportive activities for field crews. Permittees will need to incorporate pollutant control measures at these facilities and develop a plan for each facility outlining the measures to be implemented. Since these are industrial type activities, the corporate yards would need to implement measures as described in the Industrial/commercial Source Chapter.

1. STORM WATER POLLUTION PREVENTION PLANS (SWPPP)

Though not required, permittees may elect to use some form of SWPPP as a vehicle for compliance. Any BMPs to be implemented must be part of a comprehensive plan designed to address the various pollutant sources at each corporate yard. To achieve this goal, the municipalities should first identify the potential pollution sources and who is responsible for implementing the storm water management measures. Based on the facility type, management practices and schedule of implementation will be developed. BMPs that can be used to improve the quality of runoff include, but are not limited to, housekeeping practices, material storage control, vehicle leak and spill control, and illegal dumping control.

2. OUTDOOR LOADING/UNLOADING OF MATERIALS

Municipal employees who handle potentially harmful materials should be trained in good housekeeping practices to prevent or reduce the discharge of pollutants to storm water from outdoor loading/unloading of materials. Materials spilled, leaked or lost during loading/unloading may collect in the soil or on other surfaces and be carried away by runoff or when the area is cleaned.

Applicable BMPs should be selected based on the following four factors: 1) Extent of exposure of material to rainfall, 2) preventing stormwater run-on, 3) checking equipment regularly for leaks, and 4) containing spills during transfer operations.

3. MATERIAL STORAGE CONTROL

A program should be developed to prevent or reduce the discharge of pollutants to storm water from outdoor container storage areas using measures such as installing safeguard against accidental releases, secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques. Employee education is paramount for successful implementation. Employees should be trained in emergency spill cleanup procedures.

To limit the possibility of storm water pollution, containers used to store dangerous waste or other liquids should be kept inside the building unless this is impractical due to site constraints. Storage of reactive, ignitable, or flammable liquids must comply with the fire and California OSHA codes. Practices such as placing containers in a designated area should be employed to enhance such requirements.

4. VEHICLE AND EQUIPMENT WASHING AND MAINTENANCE

Washing vehicles and equipment outdoors or in areas where wash water flows onto the ground can pollute storm water. For municipalities that wash vehicles or pieces of equipment on-site, it should be performed in a designated area equipped with an oil/water separator.

Vehicle or equipment maintenance is a potentially significant source of storm water pollution. Parts are cleaned with solvents. Many of these cleaners are harmful and must be disposed of as a hazardous waste. Appropriate BMPs are waste reduction, use of alternate products, recycling, and spill leak clean up control.

5. WASTE HANDLING AND DISPOSAL

Proper waste management is possible by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction; and preventing run-on and runoff from waste management areas.

C. PARKS AND RECREATION

Park Departments manage landscaping and swimming pools. Both of these activities involve the use of chemicals, waste management, and non-storm water discharges. In addition maintenance of swimming pools requires the periodic discharge of large quantities of swimming pool water.

1. FERTILIZERS/PESTICIDES

a. Use/Application management

Municipal facilities should develop controls on the application of pesticides, herbicides, and fertilizers. Control may include:

- List of approved pesticides and selected use;
- Product and application information for users;
- Equipment use and maintenance procedures; and
- Record keeping.

Employees can be educated about environmentally sensitive alternative products by using information developed by various public agencies and other environmental organizations.

b. Storage

Improper storage of fertilizers and pesticides can lead to potential groundwater, soil, and stormwater contamination. To prevent or reduce their impact on stormwater pollution, material storage areas must be designed and maintained to reduce exposure to storm water. The following BMPs can help to achieve this goal:

- Store materials inside or under cover on paved surfaces,
- Use secondary containment,
- Minimize storage and handling of hazardous materials,
- Inspect storage areas regularly.

2. FACILITY MANAGEMENT

a. Wash Waters

Wash waters cannot be discharged into the storm drains untreated. The storage area should be slightly sloped for wash water collection. If the water is not discharged to the sanitary or process waste sewer, or to a dead-end sump, the outlet should be equipped with an oil/water separator or other treatment systems.

b. Maintenance

Landscape maintenance involves the use of pesticides and fertilizers. Proper use of these materials will reduce the risk of loss to storm water. Whenever possible, leave or plant native vegetation to reduce

water, fertilizer, and pesticide needs. Integrated pest management should be employed where appropriate. The Park Departments should also establish a schedule for irrigation and fertilization. The chemicals will be carried from the site by the next storm if they are applied during the wet season. Overwatering leads to discharge of water that may have become contaminated with nutrients and pesticides.

Storm water from parking lots may contain undesirable concentrations of oil, grease, suspended particulates, and metals, as well as the petroleum byproducts of engine combustion. Possible maintenance BMPs include periodic sweeping and cleaning catch basins.

c. Swimming Pool Waters

The drainage of swimming pool water must insure that chlorine residual is below allowable water quality limits. The potential for recycle/reuse for irrigation of lawns and landscapes may be investigated. Swimming pool filter backwash waters should not be discharged to the storm drain, but should be allowed to settle and then disposed to the sanitary sewer. Other possible alternative measures would be to use the backwash for irrigation or disposal on a dirt area.

D. STORM DRAIN SYSTEM OPERATION AND MANAGEMENT

The maintenance and operation of the storm drain system has an impact on storm water quality and must be addressed. Material clogging storm drains cannot be discharged into drains. It must be disposed of properly.

1. INLET MAINTENANCE

Regular maintenance of public and private catch basins and inlets is necessary to ensure their proper function. Maintenance will remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, and restore the catch basin's functional capacity. Keys to effective catch basin cleaning include the following:

- All basins should be cleaned annually prior to the onset of the rainy season;
- Clean catch basins in known problem areas more frequently to remove sediments and debris accumulated during the dry weather months;
- Keep records of the number of catch basins cleaned; and
- Track the amount of waste collected.

Caltrans will develop a priority list of drains and pump houses requiring cleaning.

Five jurisdictions within this watershed perform catch basin cleaning annually. The City of Malibu and Ventura County inspect catch basins and subsequently clean them as needed.

2. DRAIN MAINTENANCE

Open channel storm drains should be cleaned at least annually prior to the rainy season. Problem areas should be cleaned more frequently as needed. Channels should also be monitored during the rainy season for any debris buildup and cleaned where needed.

To reduce the amount of debris entering the ocean, Los Angeles County field personnel inspect open channels and sumps after storms and clean up any debris.

3. WASTE MANAGEMENT

Excessive waste buildup will decrease the capacity of the channel, it is therefore crucial to reduce pollutant levels in storm water by regularly removing illegally-dumped items and material from storm drainage channels and creeks. A program should be developed to identify problem areas of illegal dumping so regular inspection and clean up can maintain the channel's optimum capacity and prevent the discharge of contaminants.

4. NEW SYSTEM DESIGNS

Current design standards for the construction of new storm drain systems will be evaluated in light of currently available pollutant control measures. Design standards may be modified to incorporate measures deemed appropriate for local conditions.

5. RETRO-FIT OPPORTUNITIES

The majority of the existing storm drain systems are in highly urbanized areas providing little opportunity for cost effective retro-fitting. However, currently available pollutant control measures will be reviewed for their effectiveness and possible use. This may include pilot studies to evaluate the performance of management practices under local conditions.

E. STREETS AND ROADS

Construction, operation, and maintenance of roads has an impact on storm water quality and will be addressed in the management plan.

1. SWEEPING

Street sweeping can collect refuse on street surfaces to prevent it from entering the storm drain system through catch basins.

a. Storm Water Quality Based Operation

In order to effectively implement the sweeping program, the permittees should keep accurate operation logs to track the program. Areas generating excessive refuse should be swept more frequently. Sweeping frequency may also be increased before the rainy season to reduce the amount of refuse entering the storm drain system. Parking on sweeping days should be regulated to facilitate the operation.

Three jurisdictions sweep roadways on a weekly basis while two perform this service bi-weekly. Ventura County's residential street sweeping is done every other week while Caltrans sweeps its roadways on a regular schedule determined by observable debris.

b. Waste Management

Two jurisdictions collect rubbish from roadside trash receptacles on a weekly schedule, while the City of Malibu and Ventura County do not provide any trash receptacles. The City of Agoura Hills' six trash receptacles are emptied three times a week while Westlake Village provides receptacles within City parks with a daily pick up schedule. Caltrans empties trash receptacles on an as needed basis.

2. STREET/PAVEMENT WASHING

Wash waters from street/pavement washing are contaminated and must be managed as non-storm water discharges.

3. MAINTENANCE

a. Saw-cut Slurry Management and Paving Practices

Existing saw-cut management and paving practices conducted by the permittees will be evaluated and appropriate control measures

developed. Possible control measures to be considered that would help reduce the impacts to storm water:

- Avoid paving during wet weather;
- Regularly repair potholes and worn pavement to reduce sediment loading;
- Store materials away from drainage courses to prevent pollution of storm water run-on; and
- Follow the storm water permitting requirements for industrial activities when mixing concrete with an on-site plant.

b. Waste Management

Vehicles transporting waste should have spill prevention equipment that can prevent spills during transport. The refuse collected will be transported to the appropriate disposal facilities.

Good housekeeping practices will be implemented to insure proper management of any waste products that may be generated during maintenance activities. For example, to prevent concrete waste from entering the storm drain system, washout of concrete trucks should be conducted off-site or on-site in designated area. Excess concrete should not be dumped on site. Employees and subcontractors should be trained in proper concrete waste management.

The following steps will help reduce storm water pollution from concrete wastes:

- Store dry and wet materials under cover, away from drainage areas;
- Avoid mixing excess amounts of fresh concrete or cement on-site;
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams;
- Do not allow excess concrete to be dumped on-site, except in designated areas;
- Avoid paving during wet weather;
- Regularly repair potholes and worn pavement to reduce sediment loading; and
- Cover catch basins and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.

Employee/subcontractor training to insure implementation of good housekeeping measures should be based on four objectives:

- Promote a clear identification and understanding of the problem, including activities with the potential to pollute storm water;
- Identify solutions (BMPs selection);
- Promote employee/subcontractor ownership of the problems and the solutions; and
- Integrate employee/subcontractor feedback into training and BMP implementation.

c. Medians/Landscaped Right-of-Way

i. Irrigation

Overwatering of landscaping produces runoff. A properly timed irrigation schedule should be set up to minimize overwatering. Drip irrigation system should be used when feasible in new installations.

ii. Fertilizers/Pesticides

The handling, storage, and usage of fertilizers/pesticides are addressed in Chapter V, Section C-1.

Caltrans has an existing Right-of-Way Maintenance Vegetation Control Program which provides Benefits for motorist' safety and erosion control.

F. FLOOD CONTROL

Common municipal practices, such as construction and operation and maintenance of the flood control system, may have a potentially adverse impact on storm water quality. Consequently, these practices shall be coordinated to the extent of preventing pollutants from impacting the water quality.

1. COORDINATION WITH NEW PROJECTS

Current design standards for the construction of new storm drain systems will be evaluated in light of currently available pollutant control measures. Design standards may be modified to incorporate measures deemed appropriate for local conditions. During construction, all appropriate BMPs will be utilized to control pollutants during the construction of the facility.

2. COORDINATION OF MAINTENANCE ACTIVITIES

Current maintenance activities with regards to desilting/sediment removal, vegetation management, and waste management shall be reviewed to insure that appropriate management measures are developed to comply with the storm water regulations.

3. OPERATION OF FACILITIES

Flood control facility operations will be reviewed to identify where appropriate management measures could be incorporated. However, primary consideration will need to be given to the flood control function of the facility to protect health and safety.

4. RETROFIT OPPORTUNITIES

The majority of the existing storm drain systems are in highly urbanized areas providing little opportunity for cost effective retro-fitting. However, currently available pollutant control measures will be reviewed for their effectiveness and possible use. This may include pilot studies to evaluate the performance of management practices under local conditions.

The City of Westlake Village working with L. A. County Flood Control Maintenance division constructed an oil boom across Lindero flood control channel. By measuring the quantity of materials removed the City can gauge the magnitude of urban runoff pollution.

G. PUBLIC FACILITIES

Storm water runoff and non-storm water discharges from other public facilities must also be addressed, including chemical use by these facilities, pressure blasting/cleaning sidewalks and other surfaces.

1. PARKING FACILITIES

Storm water from parking lots may contain undesirable concentrations of oil, grease, suspended particulates, and metals. Some control measures such as periodic sweeping and cleaning catch basins should be implemented. The need for more advanced structural controls would be evaluated through the pollutant source identification program. Pilot studies would be conducted on candidate structural controls to evaluate their effectiveness prior to large scale implementation.

2. GOLF COURSES

Golf courses require the use of large amount of water, fertilizers, and pesticides. Field personnel should be trained on the proper handling, storage, and usage of these chemicals (Refer to Chapter V, Section C-1 for detail). To prevent excess irrigation water from entering the storm drain system, proper management of watering schedules should be required.

3. SCHOOLS

The maintenance of playgrounds and athletic fields at schools require fertilizers and pesticides. Their safe storage and use affect not only the stormwater quality but also the health of the students and the staff. Therefore, BMPs under Chapter V, Section C-1-b should be implemented. Each municipality should develop a program to encourage these schools to use environmentally sensitive products for fertilizers, pesticides, detergents, and other chemicals. The schools should have proper material handling, storage, and disposal procedures for chemicals used in school laboratories.

4. HOSPITALS

Each hospital should have BMPs to control the handling and storage of medically related hazardous materials. All materials should be inventoried regularly, with record keeping protocols on supply and consumption. All personnel should be trained on the proper procedures on handling these materials, as well as emergency response. Each hospital should maintain a list of supervisors to be contacted if accident does occur. Disposal of these materials should be contracted out to commercial specialists.

5. PARKS/LANDSCAPES

Refer to **Section C Parks and Recreation**, of this Chapter, for information.

6. OTHER BUILDINGS/PLAZAS

Refer to **Section C-2 Parks and Recreation - Facility Management**, of this Chapter, for information.

H. PONDS, FOUNTAINS, AND OTHER PUBLIC WATER BODIES

Maintenance practices used on public water bodies, including waste management and non-stormwater discharges, must be addressed in the plan.

1. ALGAE CONTROL

a. Use of Chemicals

The use of herbicides or other chemicals to control algae growth should be carefully controlled and monitored to insure strict adherence to manufacturers' guidelines for use. Water sampling may be necessary to insure effective control.

2. CHLORINE MANAGEMENT

The use of chlorine for disinfection should be controlled. High dosage of chlorine may be harmful to the aquatic habitats. Dechlorination of pools and other water bodies would be required prior to draining.

3. MAINTENANCE

Each municipality should develop BMPs to prevent and control trash, debris, and other pollutants from entering water bodies. These measures could include routine trash collection along and on water bodies, public outreach to educate the public about the impacts of illegal dumping, and increase enforcement for violations.

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VI. RESIDENTIAL

INTRODUCTION

Residential activities including private vehicle washing and maintenance; use of chemicals such as pesticides, herbicides, and paints; private swimming pool maintenance; and other household and landscape maintenance can contribute to storm water pollution. These are all examples of non-point source pollution, a significant impact on water quality. Measures that can be taken to improve the quality of the runoff from residential area all require active public participation. Feasible BMPS to mitigate the stormwater pollution problem should include practicing good housekeeping and the use of environmentally sensitive alternative products, vehicle leak and spill control, and water conservation. Development of the residential stormwater program will be completed by December 1995.

A. HOUSEKEEPING PRACTICES

This BMP involves the development of a program to promote efficient and safe housekeeping practices (storage, use, and cleanup) when handling materials which may pollute stormwater/urban runoff. This could include, but are not limited to, fertilizers, pesticides, cleaning solutions, paint products, automotive products, and swimming pool chemicals.

A public education program will be developed to provide information on stormwater pollution and the beneficial effects of proper disposal on water quality; reading product labels; safe storage, handling, and disposal of hazardous products; list of local agencies; and emergency phone numbers. The above information can be disseminated through brochures or booklets made available at places such as public information fairs, municipal offices, and household hazardous waste collection events and facilities. City newsletter to residents is another means to inform the public, especially for those who do not participate or visit any offices or events.

B. ENVIRONMENTALLY SENSITIVE ALTERNATIVE PRODUCTS

This BMP, promoting the use of less environmentally sensitive products, can be implemented in conjunction with housekeeping practices. Alternatives exist for most product classes including fertilizers, pesticides, cleaning solutions, and automotive and paint products. The key to success will be to promote a willingness to try alternatives and to modify old habits.

General information will be developed and made available to the public on such alternatives. The emphasis may be placed on the need to preserve the natural environment of the receiving waters (ocean, bay, stream, wetland, etc.) with the use of alternative products because of their less toxic nature and proper disposal after its use.

C. VEHICLE LEAK AND SPILL CONTROL

This BMP prevents or reduces the discharge of pollutants to storm water/urban runoff from vehicle leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, and properly disposing of spill materials.

Vehicles will leak and spill fluids. The key to successful pollution management is to reduce the frequency and severity of leaks and spills; and when they do occur, to prevent or reduce the environmental impacts. Through education, the public should be encouraged to regularly inspect and maintain their vehicles. Guidelines should be developed to inform the public on spill containment and cleanup procedures such as having absorbent material on hand and disposing the material properly.

D. WATER CONSERVATION

Water is a scarce resource, especially so in Southern California. Wasteful use of water could channel pollutants into the receiving waters. Practices such as hosing the driveway and overwatering the landscape contribute not only to stormwater pollution, but also to the depletion of our natural resource. In order to prevent stormwater pollution, the public has to be educated on the mechanics of our storm drain system - discharges into the system will flow untreated into the receiving water. They have to know that the lawn clippings they wash down the road will end up in the ocean. Public awareness of the function of the storm drain system, of the important of environmental health, and of our necessity to slow down the depletion of water resources will be a long way in reducing the pollution of stormwater/urban runoff.

Ordinances could be use to endow the related officials with legal authority to enforce water conservation. An ordinance prohibiting the wasting of water is one way of enforcement.

In addition to the specific programs and plans outlined in this report, several watershed Co-Permittees have targeted activities occurring in and around the home that tend to contribute to degradation of storm water runoff quality. A practice that carries on-the-ground pollutants directly to storm drains is misuse of exterior water, namely the overwatering of landscaping, the hosing of driveways/sidewalks and the washing of cars in driveways--all of which allow water to run down the street into the nearest storm drain.

This situation can be addressed in two ways: 1) either reduce/prevent pollutants from being placed in areas where they may be carried by water into the streets or 2) minimize the amount of water allowed to flow on impervious surfaces that are connected to the street system.

Water conservation measures can be designed to address the issue of impervious surface water flow. While conservation has historically been used to conserve domestic water, many jurisdictions are now recognizing the additional benefit of prohibiting water flows from private properties onto the street system. All permittees within this watershed implement water conservation programs. Public outreach is a component of all programs, many of which carry fines for water wasting practices. Most jurisdictions encourage water efficient landscape. While some ordinances were established specifically to conserve water during periods of drought, several jurisdictions are keeping such controls in place at all times as measures to control pollution runoff.

Domestic water for much of this area is supplied by the Las Virgenes Municipal Water District. That agency promotes water conservation by providing a free exterior audit and review of sprinkler heads/systems and a free self-guided tour showing low-flow irrigation systems that can be installed at home.

Other residential programs that reduce pollution include Agoura Hills' actions encouraging property owners to fence their property to reduce the possibility of future dumping. Malibu has developed erosion control measures; the mountainous areas are particularly vulnerable to runoff during heavy rains.

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VII. PUBLIC INFORMATION AND PARTICIPATION

It is necessary to involve the public in the stormwater program for it to be effective. The outreach program should be focused on the specific needs of the individual cities. Due to the inter-relationship among the stormwater issues, the public information and participation program should be recognized as a whole, rather than a number of separate outreach programs. All public awareness efforts should clarify to the public that they are the ultimate beneficiaries of a successful stormwater management program.

A. GENERAL OUTREACH

The targeted audiences of a general outreach will include municipal employees, local construction contractors, businesses in the area, and the general public. They should be made aware of their responsibility for both the problems and the solutions to stormwater pollution. In order to effectively communicate the stormwater pollution abatement message throughout the watershed; written, audio, and visual materials should be utilized. The actual level, priority, and schedule of public information activities must be based on the community's needs and resources to maximize program effectiveness. A watershed-wide concept will be developed by December, 1995.

All Co-Permittees within the watershed acknowledge the value of public outreach. Extensive efforts have been made or are planned by every agency to supply the public with information on a full range of storm water quality activities with the intention of achieving a high level of public cooperation and participation. The cities within this watershed are particularly aggressive in promoting multi-jurisdictional programs, citing both greater effectiveness and cost savings as benefits. Westlake Village initiated a regional public education program in cooperation with Agoura Hills, Westlake Village, Thousand Oaks, Hidden Hills and Calabasas. Advantages include a uniform approach and cost savings by the elimination of redundant programs.

1. WRITTEN MATERIAL

Co-Permittees should produce a variety of written materials to inform the residents within the watershed. Materials can include, but are not limited to, the following: flyers, brochures, door-hangers, newspaper articles, mail-inserts, banners, and posters. When necessary, these materials should be translated into a variety of foreign languages to reach minority residents in the community.

Print media outreach programs have been used extensively throughout the watershed, particularly by Westlake Village, Agoura Hills, Malibu, Caltrans,

and Ventura and Los Angeles Counties. City newsletters in Agoura Hills, Malibu and Westlake Village mailed to all residents have included articles promoting various storm water programs. Utility bill inserts are also used extensively to promote public awareness. Billboard and bus stop shelter advertising are among the programs used by Los Angeles County. Door hangers and refrigerator magnets are distributed by Malibu, Westlake Village and Los Angeles County. The County will soon have a program mascot, Chilly Willy, to be used at public events.

2. AUDIO MATERIAL

Similarly, Co-Permittees may utilize audio materials to convey information regarding stormwater management. Examples of audio materials include radio advertisements/public service announcements and informational cassettes.

When calling the City of Calabasas, a caller placed on "hold" hears public service announcements that promote various City programs, including those that affect storm water quality.

3. VISUAL MATERIAL

Catch basin stenciling program is an excellent means of educating the public on the mechanics of the storm drain system. The intent of the program is to enhance public awareness of the impact of stormwater pollution on receiving waters and to discourage improper waste disposal practices. Another effective medium for communicating the importance of stormwater management is through television. Possible measures include producing a public service announcement, cable access programs, and/or an informational video.

The most universal of the general outreach programs--catch basin stenciling--is receiving full cooperation throughout the watershed. Extensive stenciling has already been done by all watershed jurisdictions, with some having completed the task. Westlake Village and Ventura County have used custom stencils; the others have used the stencil designed by Heal the Bay and City of Los Angeles.

Among broadcast media outreach, five cities--Westlake Village, Hidden Hills, Agoura Hills, Calabasas and Thousand Oaks--jointly sponsor cable TV public service announcements. Los Angeles County uses both television and radio outreach.

4. DISTRIBUTION PLAN

General outreach efforts must be conducted throughout the entire watershed. Materials should be available at all public counters and distributed at public events such as environmental fairs and contests. A city newsletter is another effective method of conveying the pollution abatement message.

B. FOCUSED OUTREACH

Efforts should be made to target special groups. Focus could be on specific pollutants, practices and/or activities, or businesses. A watershed-wide concept will be developed by June 1996.

1. POLLUTANT SPECIFIC

For a particular watershed, there may be priority pollutants which are of more concern than others. The reduction of these pollutants may be addressed in a more focused public education and outreach program. Any of the methods used in the general outreach program may be utilized in a pollutant specific outreach program.

2. PRACTICE/ACTIVITY SPECIFIC

Everyone who lives or works in a particular watershed must realize that their actions have a direct affect on the quality of stormwater. These special groups must be made aware that their current practices/activities may be contributing to stormwater pollution. Practice/activity specific outreach programs should be developed and implemented throughout the watershed. The use of written, audio, or visual materials should convey three primary messages: (1) what activities can cause stormwater pollution, (2) how Best Management Practices are used to prevent pollution, and (3) how one can report occurrences of stormwater polluting activities.

Practice/activity specific outreach should promote, publicize, and facilitate public reporting of illegal dumping, illicit discharges, or water quality impacts associated with discharges from municipal separate storm sewers. An effective program should include the establishment, operation, and promotion of a reporting hotline. Timely reporting by the public of improper disposal and illicit discharges are critical in controlling such sources of stormwater pollution. Increase in public involvement may be achieved by sending a follow-up letter to callers or providing callers with some type of reward. Educational efforts throughout the watershed should inform the public about the existence of the Los Angeles County-wide hotline and any other local

hotlines; provide them with information regarding what to look for, and guidelines/procedures on how to report incidents.

Another critical component of practice/activity outreach is the development of a program to facilitate the proper management and disposal of used oil and toxic materials. An effective program could include, but are not limited to, the operation of recycling facilities and the conduction of household hazardous waste round-ups. The program could also include information about alternatives to toxic materials. Educational efforts throughout the watershed should provide the public with detailed information regarding the Los Angeles County-wide Household Hazardous Waste Round-ups and any other local programs.

The varied sources/causes of storm water pollution have resulted in implementation activities that target specific types of pollutants, activities and land uses/types of businesses. Within this watershed co-permittees take part in public information and participation programs specifically aimed at preventing improper disposal of hazardous household products and encouraging actions that keep general wastes out of the storm drain system--such as recycling programs, public trash receptacles and the cleaning of sidewalks, alleys and vacant lots. Illegal dumping and discharges are also specific targets.

Such activities are encouraged through general outreach programs (discussed above) that promote such programs as toll-free phone hotlines for reporting illegal polluting activities, topic-specific brochures, speakers bureaus, special recycling facilities (used motor oil, hazardous products, etc.) Westlake Village promotes their recycling program through homeowners associations. Malibu's focused outreach includes promotion of their Gutter Patrol program. Ventura County is modifying its "Resource Efficient Yard Care" brochure to include specific storm water runoff information; this material can be used in conjunction with their yard waste composting workshops. Los Angeles County has a wide range of focused programs that can be tailored for special exhibits and interest groups, including elementary schools. Calabasas has an Earthday recycling art contest; the City also has a recycling hotline with recorded information. Agoura Hills has produced a series of seven pamphlets that outline good housekeeping practices for the construction trades.

3. BUSINESS SPECIFIC

Due to the fact that some business operation have a higher potential of discharging pollutants into the storm drain system, a more focused public education and outreach program should be developed for them. Employees of these businesses should be educated on the issue of nonpoint source

pollution and the effectiveness of Best Management Practices in reducing pollution. Besides written, audio, or visual materials that focus on specific businesses and their practices, mass mailings or articles in a trade/industry magazines are other possible means of focused outreach.

C. EDUCATION PROGRAMS

Increasing awareness is the major goal of the Public Information and Participation Program. An ideal means of accomplishing this task is through educational programs. Programs should be developed for a variety of audiences, including public employees and school children. Educational programs can also be an important part of a general or focused outreach. A watershed-wide concept will be developed by June 1996.

1. PUBLIC EMPLOYEES

It is important to educate all of the public employees about the stormwater program so that they do not continue with any practices that are counter productive. Furthermore, they can participate in the implementation and enforcement of the program. Ideas and suggestions of employees can be used to modify the program for improved effectiveness. The outreach must involve employees on many different levels - from program managers to field personnel. Educational programs for public employees may include, but are not limited to, articles in City newsletters, training classes, checklists for field personnel, and interdepartmental forum or committee. Any of the materials utilized in an outreach program - written, audio, or visual materials - may be used in a public employee educational program.

Both general and focused outreach are essentially programs of public education. More formal training/education is also conducted by Caltrans and the County of Los Angeles. Caltrans personnel is educated on highway maintenance--specifically on such subjects as Hazardous Substance Spill Awareness and Pesticide Safety and Vegetation Management. County personnel meet regularly to discuss development of and evaluate storm water quality practices. Malibu is developing a staff education program, specifically focusing on construction site operations. Ventura County has a hands-on watershed model for use in public presentations. That county also conducts a joint teacher workshop on water conservation and storm water pollution prevention.

2. K-12

School children can play an important role in a public information and participation program. First, children are generally more easily motivated and the behavior changes made at that point in life tend to stay with them through adulthood. Secondly, school children can convey the stormwater pollution prevention messages to the members in their family. School programs must include information on the storm drain system, stormwater quality awareness, and may also include, but are not limited to, illegal dumping awareness, source minimization, and pollution prevention. Written material, videos, assembly programs, and field trips are examples of effective components of a K-12 educational program.

3. OTHER

Educational programs can also be developed for professionals and technicians who are not public employees. Agencies should include public outreach material for business license renewal or outreach effort through professional and business associations.

D. CITIZENS PARTICIPATION

The residents of the watershed should not only be made aware of the stormwater program, they should be encouraged to participate in its implementation. Specific outreach programs should be developed to allow the public to participate and to inform them of available means for providing ideas and comments regarding the stormwater program. A watershed-wide concept will be developed by June 1996.

Residents can assist public agencies in the development and implementation of storm water quality programs. Several watershed jurisdictions have enlisted the assistance of neighborhood volunteers in the catch basin stenciling program. Caltrans' Adopt-A-Highway program relies on voluntary private participation to help with clean-up activities. Hotline programs also enlist the assistance of residents in active participation.

1. VOLUNTEER MONITORING

Volunteer monitoring is the result of increased public awareness and participation. The public can utilize the hotline for reporting suspected illegal practices. Such involvement, which is similar to the Neighborhood Watch Program on crime, usually has good results.

2. COOPERATIVE OUTREACH

In order to promote public participation, cooperative outreach programs should be developed. These cooperative programs should help to create an awareness and an identification with the watershed. The catch basin stenciling and other signing programs are excellent examples of this type of cooperative effort. One possibility for cooperative outreach is an "Adopt-A-" program. Residents can "adopt" a highway, storm drain, catch basin, stream, etc. Other cooperative outreach efforts include events such as "Stormwater Pollution Awareness Week." The purpose of any of these activities is to inform and involve the local residents in regards to the stormwater management program.

3. COMPLAINT PROCEDURES

Public comments/complaints are important to the success of a stormwater program. A hotline is an excellent mechanism for allowing the public to provide information. In Section B, "Focused Outreach - Practice/Activity", the various aspect of outreach effort is discussed.

E. EFFECTIVENESS EVALUATION

Permittees should develop a process to evaluate the effectiveness of their programs. Methods such as surveys and focus groups can be used to assess program's effectiveness. Results should gauge the community's level of awareness. Surveys and focus groups can also be used to provide insight into the program's direction and the formulation of attainable goals. A watershed-wide concept will be developed by June 1996.

There have been no reports of formal programs to assess program effectiveness, although staff discussions and management reviews have provided subjective evaluations that have resulted in program development and modifications.

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VIII. PROGRAM EVALUATION

The effectiveness of the storm water programs developed under the Municipal Storm Water Management Plan (hereinafter called the Plan) must be assessed on a regular and consistent basis. The Plan for this evaluation must include a schedule for evaluation, a methodology for the evaluation, a discussion of who will carry out the evaluation, and what will be evaluated. In addition, there must be a mechanism to follow up on the information generated by the evaluation. The Plan should be adjusted based on the program evaluation.

A. PERFORMANCE STANDARDS

The Permittees will develop standards to judge the effectiveness of the activities and control measures proposed under each chapter of the Plan. The standards will serve as minimum performance levels to evaluate the implementation of control measures. The subsequently developed performance evaluation procedures/methodologies will be the tool to determine if a particular BMP has an impact on stormwater quality. In developing these procedures, we resolve to ensure that each BMP is implemented to the maximum extent practicable. The targeted completion of this phase will be December 1996.

1. DEVELOPMENT OF PROCEDURES

General performance standards for evaluating the effectiveness of the Best Management Practices (BMPs) will be developed for all the BMPs proposed in the Plan. The Watershed Management Committee will be responsible for developing and adopting these evaluation criterion. The Management Committee may elect to establish subcommittees to develop performance standards for specific program areas. The area-wide Executive Advisory Committee will then review and endorse the standards. Standard recording format and implementation schedule will be developed for each BMP by the Management Committee for use by all permittees. The permittees will be required to document BMP implementation using the standard format according to an established schedule. The utilization of quantitative approaches in measuring effectiveness will be used whenever possible. Methods that would yield comparable results for year to year evaluation will be developed.

2. ACTIVITY/SOURCE/ACTION AREA SPECIFIC

Program effectiveness will be performed based on the information generated by the performance evaluation procedures. Using street sweeping as an example, the Plan will propose a method of determining if street sweeping has

an impact on water quality. This could include determining what kind of pollutants are removed by the sweeping, measuring the size of the pollutants and the amount removed. Methodologies would be developed for each BMP, which will assure that each control measure or action is implemented to the maximum extent practicable. For street sweeping; this may include the frequency of sweeping now, the method of sweeping, the equipment used, how the equipment is cleaned and maintained, and the method of disposal for the material collected. A schedule and format of evaluation shall be developed for all the BMPs.

The Regional Board has recommended 13 Baseline BMPs, to be developed and/or implemented by all permittees by the end of the current NPDES Permit. Existing Permit Task 5.2.5 requires an evaluation of the need for additional BMPs, source control, and/or structural control measures.

BMPs have only been implemented for a short time period by Phase I and Phase II cities. Phase III, which contains 30 new cities, has not yet implemented any BMPs. Therefore there is little or no data available to adequately assess effectiveness. In lieu of recommending any changes or additions to BMPs currently being implemented or proposed by the Permittees, a uniform data collection methodology will be established for each of the 13 baseline BMPs. This methodology would be used by all Permittees to compile data on their BMP implementation to allow for a uniform Countywide evaluation of BMP effectiveness. Priority will be given to the development of a uniform data collection methodology to document the success or effectiveness of these 13 BMPs. Upon reorganization of the NPDES Permit Program, as described in Chapter I, this will be the first task addressed by the Watershed Management Committee. The Uniform data collection methodology will be developed by January 15, 1995 for the Santa Monica Bay watershed and by July 1995 for all other watersheds with subsequent implementation by all permittees in each watershed.

B. ANNUAL REPORTS

An annual report for each watershed will be submitted to the Regional Board not more than 45 days after the end of each permit year. Each annual report will include a summary on the programs implemented during the previous year and plan activities that will be implemented during the current year. Any revisions to the Plan would be addressed in the report.

1. FORMAT/STRUCTURE

In order to insure uniform annual reporting by all watersheds, the Executive Advisory Committee will develop a uniform annual report outline for use by

each watershed. Each Watershed Management Committee will develop a standard format to be used by all the permittees in its watershed in reporting the progress and the status of all stormwater programs implemented in its jurisdiction. The Principal Permittee will utilize this information to develop the annual report for the watershed. Upon approval by the Management Committee, the annual report will be provided to the Executive Advisory Committee which will compile the annual reports from all watersheds for submittal to the Regional Board.

2. EFFECTIVENESS MEASURES

Under Chapter VIII, Section A, the permittees will have developed performance standards for each BMP. These performance standards will be used to assess the effectiveness of the BMPs. By the end of each permit year, the findings of the previous program year will be evaluated and used to suggest changes that are appropriate for implementation during the next year. Focus should also be given to the use of empirical studies, in a control setting, to more fully assess the effectiveness of BMPs.

3. CONTENT

The annual report will include a matrix illustrating the levels of implementation for all permittees. Tables will be developed for each BMP listing all the participating Co-Permittees, describing the status of implementation by each Co-Permittee of the BMP, and documenting any modifications of the BMP from the standard program. The effectiveness of each program area will be assessed using the performance standards developed under Chapter VIII, Section A. For effectiveness measures, the findings should be presented graphically for ease of comparison with the established levels of effort. Fiscal budget for all the BMPs implemented should also be prepared, grouped by programs. An analysis and evaluation of the results of the past year's monitoring program data will also be included in the report. Any revisions to the Plan should be addressed here, with all the elements affected discussed in their entirety. All relevant information, such as water samples analyses and evaluation, should be included in the appendices.

C. SEMI-ANNUAL REPORTS

A semi-annual progress report will update the Regional Board on Permit compliance activities six months into each permit year. The semi-annual report will be provided to the Regional Board within 30 days after the end of the six-month period.

1. PURPOSE

The semi-annual report will serve as a status report on the progress of the implementation of the Plan.

2. FORMAT/STRUCTURE

In order to insure uniform semi-annual reporting by all watersheds, the Co-Permittees will use the standard format developed for the annual report in reporting the progress and status of all the BMPs implemented in their jurisdictions. The Principal Permittee will utilize this information to develop the semi-annual report for the watershed for submittal to the Regional Board.

3. CONTENT

The semi-annual report will include a matrix illustrating the levels of implementation for all permittees. Tables will be developed for each BMP listing the participating Co-Permittees, describing the status of implementation by each Co-Permittee of the BMP, and documenting any modifications of the BMP from the standard program. The permittees will describe the problems encountered during implementation and discuss the modifications to the program in order to solve these problems.

D. INTERNAL REPORTING

In order to facilitate the preparation of semi-annual and annual reports, standard internal formats for use by all Permittees will be developed. The internal reporting procedures will be completed for all Plan chapter elements by December 1996.

1. STANDARD FORMS

The Watershed Management Committee will be responsible for developing standard forms for use by each Permittee. Standard forms will be developed for each BMP to monitor its progress. Some Permittees may have to customize the standard forms in order to reflect their programs' additional features. The forms will collect all the information essential to the preparation of the annual and semi-annual reports. In developing the standard report forms, information that is quantifiable and specific for each program area and/or BMP will be collected.

2. PROCEDURES

Co-Permittees will submit all the BMP report forms to the Principal Permittee at the end of the six-month period and the permit year, respectively.

3. RECORD KEEPING

The Regional Board does not need to see all of the extraneous information, but the records will be retained by the Principal Permittee for 2 years. Each Permittee will keep a permanent copy of its reporting forms in case they are needed.

E. STORM WATER MANAGEMENT PLAN REVISIONS

There will be an annual review process that will allow the Permittees to revise the Plan for the next year and for the rest of the permit period. Revision procedures will be developed by December 1996.

1. PROCESS

In the annual report, Permittees will compare the progress made on all the BMPs with the established level of effort. If the level of implementation is inadequate, the program should be adjusted to accelerate the progress. If the progress made to date shows that the program is ineffective or inefficient in protecting the stormwater quality, a new program should be developed and implemented for the next fiscal year and the rest of the permit period.

2. REPORTING

All refinements or revisions to be made in the fiscal year will be documented in the annual report, with the dates of implementation proposed.

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IX. MONITORING

The Monitoring Program is a critical element in the Stormwater Management Plan. It will provide important data for use in characterizing existing stormwater/urban runoff quality, guiding future development, and modifications to the Plan and also to assess its effectiveness. A watershed wide monitoring program shall be developed by December 1996.

A. SYSTEM CHARACTERIZATION

The existing Permit subdivided the County into six drainage basins with information to be collected to characterize each of the basins.

1. WATERSHED

Each drainage basin has been subdivided into numerous drainage areas, based on an evaluation of the existing drainage system and surface flow patterns. For each drainage area, the following information has been compiled: size; breakdown of existing land use; imperviousness; description of soils; location of waste disposal facilities; and the location, type, and number of industries by Standard Industrial Classification (SIC) Code. This information has been submitted to the California Regional Water Quality Control Board, Los Angeles Region, for Phases I and II. Phase III watershed characterization is in progress and will be completed by the end of December 1994. Due to the volume of the watershed characterization data, this information has not been included herein, but is available for review at either the Regional Board or the Los Angeles County Department of Public Works.

This information will provide a basis for developing other monitoring program elements such as pollutant loading estimates from major land uses and watersheds; pollutant source identification, and identification of illegal discharges/illicit disposal practices.

2. STORM DRAIN SYSTEM

In subdividing each basin into drainage areas, the drainage area tributary to all major outfalls has been identified. Within each drainage area, the tributary storm drain system is being identified and mapped. Key information such as the size of the storm drain facilities, locations of manholes and inlets, and storm drain connections is being compiled. This information will be vital in conducting storm drain inspections to identify and eliminate illegal discharges.

3. RECEIVING WATERS

Due to the extent of urbanization in Los Angeles County over the past decades, most of the streams designated as receiving waters in the Los Angeles basin have been replaced with man-made storm drainage systems to provide flood protection to the urbanized areas. These streams have been mapped as part of the storm drain system mapping done under A.2. above. The remaining natural streams are also being mapped.

The Los Angeles County Department of Public Works (Department) has been performing surface water quality monitoring on a voluntary basis since the late 1960s. Samples have been collected and analyzed from various receiving water streams and channels throughout the County to collect general information as to the quality of the surface runoff within our storm drain system.

The program in existence at the time the current Permit was issued was established in the mid 1980s. Twenty-eight sites are sampled monthly for dry weather flows. Twenty-one of the 28 sites are sampled for storm flows up to five times per year. The collected samples are analyzed for general minerals, pH, total dissolved solids, specific conductance, biochemical oxygen demand, bacteria, heavy metals, pesticides, PCBs, total organic carbon, volatile organic compounds, and total petroleum hydrocarbons.

The sample collection at these sites will continue while the new National Pollutant Discharge Elimination System (NPDES) Permit monitoring stations are established. Once all NPDES Permit monitoring stations are operational, sampling at these 28 sites will be discontinued.

In order to provide an initial assessment of the water quality in the major streams and channels in the County, an analysis has been performed on the data collected through the existing surface water monitoring program. The analysis has been done on a Countywide basis and also by major drainage basin. The report can be found in Volume 8.

To better assess the receiving water impacts of stormwater the Department will be developing a program to further study stormwater impacts on selected receiving waters, including conducting toxicity studies. Initial efforts will focus on the Santa Monica Bay Watershed. A Request for Proposal for the development of such a program will be advertized by January 15, 1995.

The water quality data collected by the new NPDES Monitoring Program will provide more detailed data to better assess in upcoming years the quality of our receiving waters. Ten monitoring stations have been proposed along the

major streams in the County. A description of these site locations can be found in the monitoring work plans for Phases I, II, and III, previously submitted to the Regional Board, see Volume 8.

4. LAND USE

As described under Section A.1. above, the existing land use categories within each drainage area have been identified. This information has been used to select drainage areas comprised of a single homogeneous land use for land use specific monitoring. A total of 14 land use monitoring sites are being established in the County. Five sites are being installed in the Santa Monica Bay Watershed with the remaining nine to be selected from within the Los Angeles, San Gabriel, and Santa Clara River Watersheds. For a description of the sites, please see Volume 8. These sites will provide valuable information as to the types and levels of pollutants found in runoff from various land uses. This information can then be used to refine the Stormwater Management Plan to develop specific management measures to target identified problems.

B. SOURCE IDENTIFICATION

Identifying the sources of stormwater pollutants from both specific land uses and specific activities will provide the information needed to identify problem areas and allow specific management measures to be developed to address these problems.

1. SPECIFIC LAND USE

As described in Section A.4. above, major land use classifications will be subject to individual monitoring to determine the types and levels of pollutants present.

2. SPECIFIC ACTIVITIES

- a. A pollutant source identification program will be designed to identify significant pollutant sources (i.e., parking lots, industrial activities, etc.), with the hope that remedial action can be undertaken to reduce any significant impacts so identified. It will focus on monitoring very small areas (i.e., less than five acres) where a specific and/or interrelated set of pollutant generating activities are occurring. Its objective is to provide data for selecting BMPs for specific activities rather than characterizing discharges for long-term pollutant loading estimates.

Identification of pollutant sources can be done using a number of methods. Potential sources of storm water pollutants can be identified

by records of chemical use and/or storage, by studies of specific activities which lead to the deposition of pollutants throughout the watershed, and by field inspection or monitoring. Watersheds which may contain significant pollutant sources can be identified through land use information or by mass loading estimates.

By mid January 1995, the County will begin targeted monitoring of a municipal corporation yard in the Santa Monica Bay Watershed. A full program for pollutant sources identification will be developed by December 1996.

- b. A storm drain inspection program has also been developed and is being implemented. The first phase of the inspection program will target the open channel storm drains to identify illegal discharges.

The open channel inspections will also be used to screen outfalls from underground storm drains for the presence of dry weather flows. This information will be used in the next phase of the storm drain inspection program to prioritize the underground storm drain system for further field screening and inspection of problem areas.

C. CONTROL MEASURE EFFECTIVENESS

It is unlikely that the effectiveness of the various control measures implemented by the storm water management plan can be determined solely through the data produced by monitoring the quality of storm drain flows, because it is difficult to obtain statistically significant comparisons of watershed-wide control measure performance with such data. For this reason the effectiveness of control measures will be assessed through other means.

Two general types of methods are available for assessment of control measure effectiveness: direct water quality (conventional) monitoring and indirect (non-conventional) monitoring. Direct water quality monitoring can be used to determine pollutant reduction by a specific facility or device. This technique is commonly used for structural or treatment controls, such as detention basins and constructed wetlands, where there is an accessible inflow and outflow. Inflow and outflow results are compared to determine pollutant removal and effectiveness.

Direct water quality monitoring of site runoff before and after implementation of non-structural control measures is also possible. However, it is difficult to demonstrate effectiveness at a statistically significant level because of the high degree of variability in stormwater pollutant concentration and mass loading data. The water quality improvement due to non-structural control measures is generally expected to be less dramatic than that achieved through structural controls. A larger

number of samples is therefore required to produce a statistically significant result. This is especially difficult in relation to the monitoring of the pre-control measure condition. Collection of adequate baseline information is necessary prior to the implementation of management practices. Direct monitoring of the effectiveness of non-structural controls is feasible typically only under experimentally controlled conditions (e.g., selection of small, well-defined watershed; control of management practice implementation; effective siting and timing of monitoring activities), including a sufficient number of samples to achieve statistical significance.

Indirect monitoring currently is the primary method of choice of assessment of management plan effectiveness. A number of indirect monitoring techniques are available for assessment of management plan effectiveness.

Verification of program implementation is an indirect monitoring method that can be used to determine how a management plan is being implemented. Another indirect monitoring method, pollutant removal inventories, can be used to assess the amounts of pollutants that have been prevented from entering the municipal storm drain system.

The 13 Baseline BMPs recommended for implementation by the Regional Board plus other BMPs proposed by the various Co-Permittee are in general all non-structural control measures. In the short-term, a uniform data collection methodology will be developed for use by all Permittees to compile information on the level of implementation of the 13 Baseline BMPs. This will allow for a uniform watershed-wide evaluation of BMP effectiveness. For the Santa Monica Bay watershed, this uniform data collection methodology will be developed and begin implementation by January 15, 1995. For the other watersheds, implementation would begin July 1, 1995.

For the long-term, as the various chapters of the Plan are more fully developed, possibilities for the use of direct water quality monitoring for control measure assessment will be evaluated as opportunities arise.

D. POLLUTANT LOADING

One of the objectives of the monitoring program is to estimate the annual pollutant loadings from each watershed. Knowing the types and quantities of pollutants discharged into receiving waters are important in assessing the impacts of stormwater and, in turn selecting appropriate control measures to address problem areas.

The 24 permanent monitoring stations that are being established Permit-wide will be utilized to estimate pollutant loads from each watershed and also from various land uses. For a description of the methodology to be used to estimate pollutant loadings, please see Volume 8. For the Santa Monica Bay Watershed, the pollutant loading

model will be tested and operational by January 15, 1995. Actual pollutant loadings will be calculated subsequent to storm events occurring for which water quality data has been obtained. For the other watersheds, a schedule for pollutant load modelling will be provided by January 15, 1995.

To more closely model pollutant loadings and evaluate control measure impacts, a more detailed dynamic modelling will be undertaken on a smaller, representative sub-watershed. The EPA-SWMM model has been selected for use in our dynamic modelling efforts. For the Santa Monica Bay Watershed, the Kenter Canyon Drain sub-watershed has been selected for this modelling efforts. This sub-watershed is typical of the urbanized areas in the Santa Monica Bay Watershed. It is comprised of multiple land uses, has well-defined boundaries, and has no upstream flow regulation. We are reviewing and identifying the existing drainage system, defining current and future land uses, and conducting field checks. The model will be tested and operational by January 15, 1995, with actual modelling results to be available later when local water quality data from our monitoring stations becomes available. Based on the results of the dynamic modelling of the Kenter Canyon sub-watershed, other sub-watersheds may be selected from the other major watersheds in the County.

E. COMPONENTS OF A MONITORING PROGRAM PLAN

The components of the monitoring program plan such as monitoring site locations, dry/storm sampling frequency and methodology, constituents to be sampled, field and laboratory procedures, QA/QC, etc., can be found in Volume 8 which has been previously provided to the Regional Board.

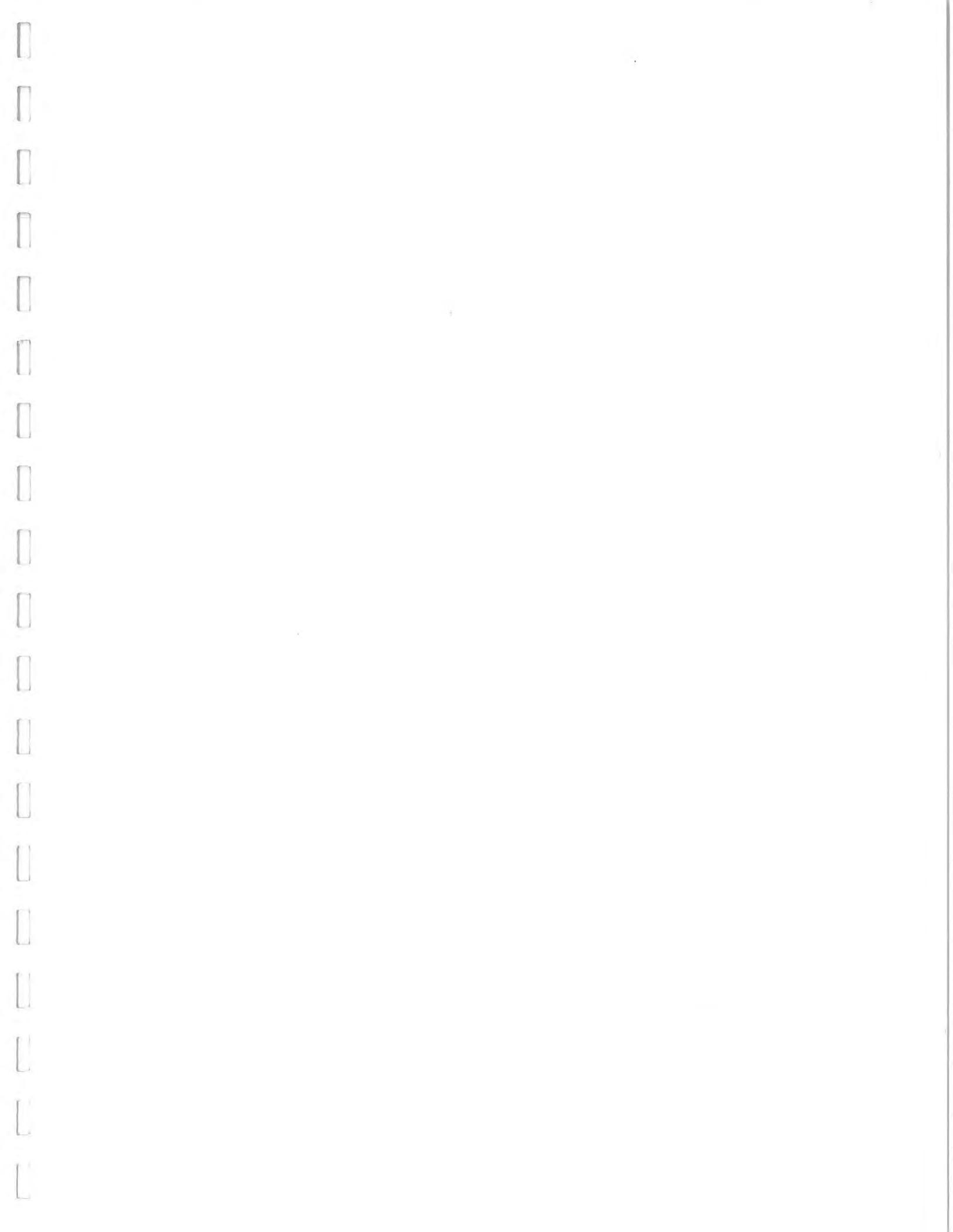
The Monitoring Program elements described in Volume 8 will be revised to address the Monitoring Program needs described in Section A - D above as agreed to in the letter from the County to the Regional Board dated September 22, 1994.

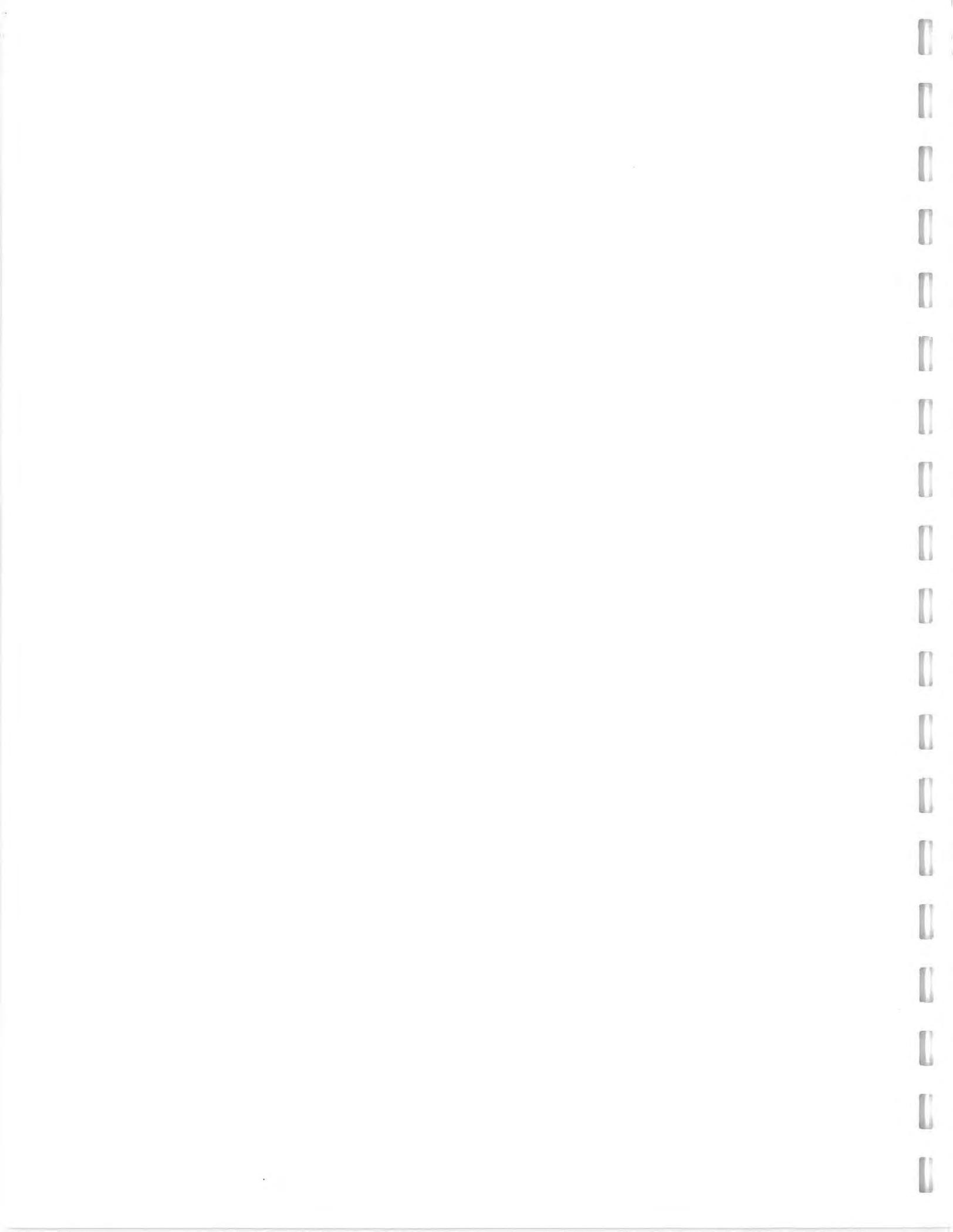
As the various chapters of the Plan are more fully developed, the Monitoring Program will be revised to address any additional monitoring needs that may result

F. DATA MANAGEMENT

For water quality data collected at the 24 monitoring stations, please see Volume 8 for data storage and reporting methods.

For each Section A - E of the Monitoring Program described above, an annual report will be prepared detailing the data collected, with an evaluation and interpretation the data including water quality impacts.





ATTACHMENT H-2



California Regional Water Quality Control Board

Los Angeles Region



RD

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

Alan C. Lloyd, Ph.D.
Agency Secretary

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Arnold Schwarzenegger
Governor

June 14, 2005

Ms. Rita L. Robinson, Director
Bureau of Sanitation
Department of Public Works
City of Los Angeles
433 South Spring Street
Los Angeles, CA 90013

**FINAL APPROVAL OF CHANGES TO THE SANTA MONICA BAY SHORELINE
MONITORING REQUIREMENTS CONTAINED IN THE MONITORING AND REPORTING
PROGRAM UNDER THE LOS ANGELES COUNTY MUNICIPAL STORM WATER
DISCHARGE PERMIT (NPDES NO. CAS004001) TO CONFORM TO THE EXTENT
POSSIBLE WITH THE SANTA MONICA BAY BEACHES BACTERIAL TMDLS**

Dear Ms. Robinson:

We have received your letter dated December 2, 2004 requesting approval for proposed changes to the shoreline monitoring requirements contained in the monitoring and reporting program under the Los Angeles County Municipal Storm Water Discharge Permit (NPDES No. CAS004001) to conform to the extent possible with those of the Santa Monica Bay Beaches Bacterial TMDLs.

This letter is to notify the City of Los Angeles (City) that subsequent to a public comment period, I am approving the changes as described in our March 15, 2005 letter to you. This public comment period was conducted in conformance with Part 6.C of the Los Angeles County Municipal Storm Water Permit and lasted 31 days from March 20, 2005 the day of posting to April 20, 2005. Water Board staff received two comment letters after the close of the comment period from the City of Redondo Beach and the County of Los Angeles Department of Public Works (attached). We will consider their comments at the time that the Water Board integrates TMDL requirements into the next Los Angeles County Municipal Storm Water Permit. However, the specific language changes identified in our March 15, 2005 letter remain unaltered.

The Los Angeles County Municipal Storm Water Permit requires that the City of Los Angeles monitor eighteen shoreline stations to determine compliance with bacteria water quality objectives for water contact recreation. The monitoring and reporting program states that station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project (now Commission, SMBRC) and approval from the Water Board Executive Officer. It also states that shoreline monitoring frequencies (six times per week) may be modified as recommended by the SMBRC Technical Advisory Committee and the Los Angeles County Department of Health Services.

California Environmental Protection Agency



In 2002, the Water Board adopted two TMDLs to address bacteria impairments at the beaches along Santa Monica Bay. One of the requirements of these TMDLs was to develop a coordinated shoreline monitoring plan to track compliance with TMDL requirements. The TMDLs require a minimum of weekly monitoring at all existing shoreline monitoring stations¹ and also require establishment of new monitoring sites at major drains or natural creeks. *The Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan (CSMP)* prepared by responsible jurisdictions and agencies under the TMDLs was approved by the Water Board's Executive Officer in April 2004. The general elements of the plan include weekly monitoring at 67 shoreline sites along the beaches of Santa Monica Bay. Fifty sites are existing monitoring sites, while 17 are newly established sites. Where the site is adjacent to a major drain or natural creek, the compliance point is the wave wash (i.e. point zero).

At permit reissuance, the monitoring requirements for the Santa Monica Bay Beaches Bacterial TMDLs in their entirety and any amendments to these requirements will be incorporated into the Los Angeles County Municipal Storm Water Discharge Permit as monitoring requirements to determine compliance with the Santa Monica Bay Beaches Bacterial TMDLs. Until permit reissuance, the following interim changes are approved to conform to the extent possible the current shoreline monitoring done by the City of Los Angeles per requirements in the monitoring and reporting program of the Los Angeles County Municipal Storm Water Discharge Permit to that required under the Santa Monica Bay Beaches Bacterial TMDLs.

Your December 2, 2004 letter requested that we approve the following changes, which were reviewed and approved by the SMBRC Technical Advisory Committee at its November 23, 2004 meeting:

- Reduce the daily (i.e., six times per week) sampling frequency to five times per week with the requirement that sampling must be conducted on Saturdays with days off on either Sundays and Mondays or Sundays and Tuesdays;
- Retain a monitoring frequency of five times per week for nine of the eighteen sites currently listed in the monitoring and reporting program. These sites require more frequent monitoring based on historical water quality, which based on available data has been shown to be worse than the reference beach used in the Santa Monica Bay Beaches Bacterial TMDLs. These sites include S1, S2, S4, S5, S6, S7, S9, S10, and S16;
- Reduce to weekly monitoring nine of the eighteen sites currently listed in the monitoring and reporting program. Based on historical data, these sites have been shown to have water quality as good as or better than the reference beach used in the Santa Monica Bay Beaches Bacterial TMDLs. These sites include S3, S8, S11, S12, S13, S14, S15, S17, and S18;

¹ Those monitored by the City of Los Angeles, County Department of Health Services and the County Sanitation Districts of Los Angeles County at the time of adoption of the Santa Monica Bay Beaches Bacterial TMDLs.

Ms. Rita L. Robinson, Director
Bureau of Sanitation
Department of Public Works
City of Los Angeles

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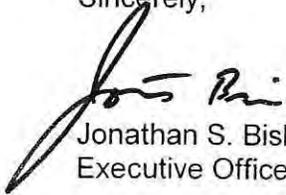
June 14, 2005

- Reduce monitoring to five times per week at the two Inner Cabrillo Beach sites currently monitored by the City of Los Angeles to align the monitoring requirements of all shoreline stations monitored by the City;
- Increase monitoring frequency from weekly to five times per week at DHS 113 (Manhattan Beach at 28th Street) and DHS 115 (Herondo Avenue drain);
- Evaluate DHS 102 (Temescal Canyon), DHS 103 (Bel Air Bay Club), and DHS 104 (Montana Avenue) for stormwater impact and the necessity of increasing monitoring frequency to five times per week.² If necessary, based on the evaluation, increase the monitoring frequency to five times per week; and
- Monitor additional sites at Mother's Beach in Marina del Rey and Inner Cabrillo Beach in the Los Angeles Harbor as required by forthcoming compliance monitoring plans for the Marina del Rey Bacterial TMDL and the Los Angeles Harbor Bacterial TMDL.

Finally, we want to reiterate that the financial responsibility for conducting shoreline monitoring at the eighteen stations as outlined in the monitoring and reporting program of the Los Angeles County Municipal Storm Water Discharge Permit, or the alternative set of shoreline monitoring sites outlined in this letter, currently rests on the City of Los Angeles. This responsibility will remain the City's until the Los Angeles County Municipal Storm Water Discharge Permit is reissued. During permit issuance, the City may request that the Water Board assign financial responsibility for this shoreline monitoring to all responsible jurisdictions and agencies within the appropriate subwatershed.

If you should have any questions regarding this letter please feel free to call me at (213) 576-6605 or your staff may contact Carlos Urrunaga at (213) 620-2083 or Renee DeShazo at (213) 576-6783.

Sincerely,



Jonathan S. Bishop, P.E.
Executive Officer

Enclosures

cc: Dan Lafferty, County of Los Angeles Department of Public Works
Frank Wu, Co-chair, SMBBB TMDL TSC and County of Los Angeles Dept. of Public Works
Shahram Kharaghani, City of Los Angeles Bureau of Sanitation
Masahiro Dojiri, Co-chair, SMBBB TMDL TSC and City of Los Angeles Bureau of Sanitation

² As agreed upon by City staff and Water Board staff, the evaluation should be conducted within 90 days of this approval.

California Environmental Protection Agency



UNDERLINE/STRIKEOUT VERSION OF CHANGES TO SHORELINE MONITORING REQUIREMENTS
MADE ON JUNE 15, 2005

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM - CI 6948
FOR
ORDER No. 01-182
NPDES No. CAS004001
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES, EXCEPT THE CITY OF
LONG BEACH

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Monitoring and Reporting Program No. 6948

I. Program Reporting Requirements

The Principal Permittee shall submit, no later than October 15 of each year beginning in the year 2002, a Unified Annual Storm Water Report (Unified Annual Report) documenting the progress of Permittees' implementation of the SQMP and the requirements of this Order. The Unified Annual Report shall contain a section covering common activities conducted collectively by the Permittees, and an integrated summary of the Monitoring Program results. Each Permittee shall submit an Individual Annual Report to the Principal Permittee, by the date determined by the Principal Permittee, to be included in the Unified Annual Report. The Unified Annual Reports shall cover each fiscal year from July 1 through June 30. The first Unified Annual Report, to be submitted on October 15, 2002, shall report for the period from July 1, 2001 through June 30, 2002. Specific requirements that must be addressed in the Annual Reports are listed below.

A. Unified Annual Report

The Principal Permittee shall include the following in the Unified Annual Report:

1. A compilation of Permittee Individual Annual Reports.
2. Proposed changes to the SQMP, as recommended by the WMCs.
3. An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment shall be comprised of a compilation of watershed-wide assessments conducted by each WMC. Assessments shall be based upon the specific record-keeping information requirement in each section of the permit, monitoring data, summaries of program effectiveness from each Permittee, and any other information related to program effectiveness. The program assessment shall include summaries of the following:
 - a) Summary of common activities conducted by all Permittees;
 - b) WMA BMP implementation;
 - c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;
 - d) Permittee level of effort, as indicated in their Individual Annual Report self evaluations (Attachment U-4, section VI); and
 - e) Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the Monitoring Program.

4. Pursuant to Part 2 of this Order, after a determination by either a Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, a Receiving Water Limitations (RWL) Compliance Report shall be attached to the subsequent Unified Annual Report. A status RWL Compliance Report shall be submitted every alternate year following the submittal of the first Report. The RWL Compliance Report shall include the following:
 - a) A plan to comply with the RWL (Part 2 of this Order);
 - b) Changes to the SQMP to eliminate water quality exceedances;
 - c) Enhanced monitoring to demonstrate compliance; and
 - d) Results of implementation.

After all water quality exceedances have been abated, a RWL Compliance Report is not required.

B. Individual Annual Reports

Each Individual Annual Report shall document and describe all activities conducted by a Permittee to meet all requirements of this Order, during the completed annual reporting period. Individual Annual Reports shall use the attached form (Attachment U-4), or create another reporting format that includes all items on the attached form. Each Permittee shall complete the form in its entirety, except for those requirements applicable only to the Principal Permittee, as indicated on the form. Status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in this Order and in the SQMP shall be included for each program area.

C. Monitoring Program Management

The Principal Permittee shall submit a Storm Water Monitoring Report (Monitoring Report) on August 15, 2002, and annually on August 15, thereafter. The Monitoring Report to be submitted on August 15, 2002 shall include the results of monitoring from July 1, 2001 through June 30, 2002. Each Monitoring Report shall include:

1. Status of implementation of the Monitoring Program.
2. Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program.
3. An analysis of the findings of each Monitoring Program component. The analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future

monitoring and BMP implementation measures for identifying and addressing the sources. The analysis shall also include an evaluation of the effectiveness of existing control measures.

4. Identification and analysis of any long-term trends in storm water or receiving water quality.
5. An estimation of total pollutant loads due to storm water/urban runoff for each mass emission station.
6. A comparison to the applicable Water Quality Standards for each component of the Monitoring Program. The lowest applicable standard from the Basin Plan, the Ocean Plan, or the CTR shall be used for comparison. Constituents that exceed applicable Water Quality Standards shall be highlighted. When data indicate that discharges are causing or contributing to exceedances of applicable Water Quality Standards, a discussion of possible pollutant sources shall be included in the Monitoring Report and a RWL Compliance Report (Section I.A.4) shall be submitted with the subsequent Unified Annual Report.
7. For each monitoring component, maps of all monitoring station locations and descriptions of each location.
8. All Monitoring Reports shall be submitted in both electronic and paper formats.

D. Integrated Receiving Water Impacts Report

The Principal Permittee shall, not later than August 15, 2005, prepare and submit an Integrated Receiving Water Impacts Report, which may also serve as the fourth-year Monitoring Report. The Report shall include, but not be limited to, a comprehensive analysis of the results of the data from each component of the Monitoring Program, and other pertinent studies available, and feasible environmental indicators. It should also include a budget summary for each monitoring requirement and recommendations on future monitoring requirements. This report will be an integral part of the next ROWD.

E. Certification

All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to US EPA regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for

submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____, 20__,

at _____.

(Signature) _____ (Title) _____";

Permittee submittals to the Principal Permittee shall also be signed and certified pursuant to USEPA regulations 40 CFR 122.41 (k).

The Principal Permittee shall submit the original of each Unified Annual Report to:

INFORMATION TECHNOLOGY
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - LOS ANGELES REGION
320 W. 4TH STREET, SUITE 200
LOS ANGELES, CA 90013

A copy of the Unified Annual Report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to:

- Assessing compliance with this Order;
- Measuring and improving the effectiveness of the SQMPs;
- Assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
- Characterization of storm water discharges;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

Ultimately, the results of the monitoring requirements outlined below should be used to refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County.

The Principal Permittee and Permittees shall implement the Monitoring Program as follows:

CORE MONITORING

A. Mass Emissions

The Principal Permittee shall monitor mass emissions to accomplish the following objectives:

- Estimate the mass emissions from the MS4;
 - Assess trends in the mass emissions over time; and
 - Determine if the MS4 is contributing to exceedances of Water Quality Standards by comparing results to applicable standards in the Basin Plan, the Ocean Plan, or the CTR, and with emissions from other dischargers.
1. The Principal Permittee shall monitor mass emissions from the following seven mass emission stations: Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and the Santa Clara River. The Principal Permittee shall monitor the first storm event and a minimum of 2 additional storm events for each season. A minimum of two dry weather samples per year at each mass emission station shall also be analyzed. Sampling at all stations shall begin no later than February 1, 2002, except for sampling in the Santa Clara River, which will begin no later than October 15, 2002.
 2. All storms events, in addition to those required above, that result in at least 0.25 inches of rainfall shall be sampled and analyzed for TSS. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of mass emissions (pollutant correlation with TSS). This requirement does not apply to manual sampling stations.
 3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 96-054. Grab samples shall be taken for pathogen indicators and oil and grease. The samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall.

Samples taken at mass emission stations during the first storm event of the wet season shall be analyzed for all constituents listed in Attachment U-1.

4. Manual samples shall be collected from mass emission stations where it is not feasible to install an automatic sampler (Santa Clara River). Manual samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge¹, unless the Regional Board Executive Officer approves an alternate protocol.
5. Samples from mass emission stations shall be analyzed for all constituents listed in Attachment U-1. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment U-1 in more than 75 percent of the first 48 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.
6. The Principal Permittee shall perform an annual analysis, to be included in the Monitoring Report, of the correlation between pollutants of concern (including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the complete list of constituents.

B. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing for each station event. Specifically, *Ceriodaphnia dubia* (water flea) 7-day survival/reproduction and *Strongylocentrotus purpuratus* (sea urchin) fertilization tests shall be used. These tests should include a dilution series (0.5x steps) that ranges from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) to less than or equal to 6% sample.
2. Toxicity Identification Evaluations (TIE)

The Principal Permittee shall begin a Phase I TIE immediately on all samples that are substantially toxic (greater than or equal to 1 Toxic Unit)

¹ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

to either test species.² If a sample is substantially toxic to both species, a TIE shall be performed for both species. The Phase I TIE shall include the following treatments and corresponding blanks:

- a) Baseline toxicity;
- b) Particle removal by centrifugation;
- c) Solid phase extraction of the centrifuged sample using C18 media;
- d) Complexation of metals using ethylenediaminetetraacetic acid (EDTA) addition to the raw sample;
- e) Neutralization of oxidants/metals using sodium thiosulfate addition to the raw sample; and
- f) Inhibition of organo-phosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

3. Toxicity Reduction Evaluations (TRE)

- a) When the same pollutant or class of pollutants is identified through the TIE process as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:
 - (1) The potential sources of pollutant(s) causing toxicity;
 - (2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;
 - (3) Recommended BMPs to reduce the pollutant(s) causing toxicity;
 - (4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and
 - (5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

² Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. Toxic Units are calculated by dividing 100 by the calculated median test response value (e.g., LC50 or EC50). For example, a LC50 of 50% sample equals 2 Toxic Units. Ceriodaphnia TIEs require at least 50% mortality in undiluted sample (1 Toxic Unit) at any time during the 7-day duration of the initial chronic bioassay (SCCWRP).

- b) Since the Phase I TIEs may only identify a broad category of toxicants (e.g., nonpolar organics), additional TIE analyses may be required in order to identify or confirm the identity of the pollutants causing toxicity before the TRE can be completed.
- c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.
- d) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.
- e) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (i.e. If a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).
- f) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

C. Tributary Monitoring

The Principal Permittee shall monitor tributaries to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of Water Quality Standards, and to prioritize drainage and sub-drainage areas that need management actions.

1. The Principal Permittee shall develop and implement a watershed-based tributary monitoring program, in which a minimum of six tributaries per year will be monitored, based on the schedule described below:
 - a) Monitoring station locations will be rotated so that a minimum total of six tributaries will be monitored per year. Each tributary shall be monitored for a minimum period of one year. If no exceedances of applicable water quality standards occur during one year of monitoring at a single tributary station, the Principal Permittee may move that monitoring station to another tributary, subject to the approval of the Regional Board Executive Officer. When an applicable water quality standard is exceeded in three out of four sampling events in a given monitoring year, the Permittees shall initiate a focused effort to identify sources of pollutants within that subwatershed.
 - b) Tributary monitoring shall begin in the Los Angeles River WMA, and shall be rotated to locations in other watersheds as monitoring at each station is complete, as approved by the Regional Board Executive Officer. The Principal Permittee shall include a

description and explanation of each proposed station location and a summary of the prior year's results of the tributary monitoring program in the annual Monitoring Report.

- c) Monitoring shall begin at the following tributaries:
 - (1) Aliso Creek;
 - (2) Bull Creek;
 - (3) Arroyo Seco Channel;
 - (4) Rio Hondo Channel;
 - (5) Burbank West; and
 - (6) Verdugo Wash.
2. Tributary monitoring shall begin October 15, 2002.
3. The Principal Permittee shall monitor the first storm event and at least 3 additional storm events during each storm season. At least one dry weather flow per year will also be sampled at each station.
4. Samples shall be flow-weighted composites, collected during the first 3 hours or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge³, unless the Regional Board Executive Officer approves an alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstem. Constituents to be analyzed for each location shall include the following:
 - a) pH, dissolved oxygen, temperature, conductivity, and total suspended solids;
 - b) Indicator bacteria;
 - c) All priority pollutants (Attachment U-1) for the first storm of the year;
 - d) All constituents for which the water body is impaired downstream of the monitoring station;⁴
 - e) All constituents that caused toxicity or exceeded any applicable water quality criteria at the associated mass emission station the previous year (these constituents shall be listed in each Monitoring Report); and
 - f) Flow (flow may be estimated using EPA methods⁵ at sites where flow measurement devices are not in place).

³ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

⁴ The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303d98.pdf#reg4

⁵ NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992

D. Shoreline Monitoring

The City of Los Angeles shall monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. This component shall be integrated and coordinated with similar monitoring programs in the region.

1. The City of Los Angeles shall monitor eighteen water quality sampling stations and supplement the monitoring conducted by the County of Los Angeles Department of Health Services at two additional water quality stations along the shoreline of the Pacific Ocean within the Santa Monica Bay to determine compliance with the California's bathing water standards for public beaches and ocean water-contact sport areas⁶, and the related impacts of discharges from storm drains and piers. The shoreline monitoring program shall be implemented as follows:

a) The eighteen established shoreline water quality stations listed in Attachment U-2 shall be monitored. Station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project Commission (SMBRPSMBRC) and approval from the Regional Board Executive Officer⁷;

b) The City of Los Angeles shall supplement the weekly sampling done by the Los Angeles Department of Health Services at two additional shoreline monitoring locations, Manhattan Beach at 28th Street (DHS 113) and the Herondo storm drain (DHS 115), to increase sampling frequency at these sites to 5 times per week.

c) The City of Los Angeles shall evaluate three additional sites, Temescal Canyon (DHS 102), Bel Air Bay Club (DHS 103), and Montana Avenue (DHS 104), for storm water impact and the necessity of increasing monitoring frequency to 5 times per week. The City of Los Angeles shall report its findings to the Regional Board no later than September 16, 2005. The Regional Board Executive Officer will make a final determination regarding sampling frequency at these sites on the basis of the report. If more frequent sampling is required at one or more of these sites by the Regional Board, the City of Los Angeles shall supplement, as necessary, the weekly sampling done by the Los Angeles County Department of Health Services to increase the sampling frequency to 5 times per week until this Order is re-adopted.

b)d) Three indicator groups shall be tested for using either membrane filtration, multiple tube fermentation, or chromogenic substrate test kits. Monitoring shall include the following types and frequencies of sampling:

Parameter	Units	Sample Frequency
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⁶ California Department of Health Services, Health and Safety Code §115880 (Assembly Bill 411, Statutes of 1997, Chapter 765

⁷ Station locations were modified based on the recommendations of the SMBRC TAC at its November 23, 2004 meeting on [insert date] to align the shoreline monitoring program contained herein with that of the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan, April 7, 2004, developed to assess compliance with the requirements of the Bacteria TMDLs for Santa Monica Bay Beaches.

Total coliforms	CFU or MPN/100 ml	6/week (Mon-Sat) ⁸
Fecal coliform ⁹	CFU or MPN/100 ml	6/week (Mon-Sat) ⁵
Enterococcus	CFU or MPN/100 ml	6/week (Mon-Sat) ⁵

- e) Sample frequency shall be either weekly or 5 times per week, depending upon historical shoreline monitoring data. Days not sampled shall be Sundays and Mondays or Tuesdays. Sampling shall be conducted 5 times per week at shoreline monitoring sites with historical water quality that is worse than the reference beach identified in the Santa Monica Bay Beaches Bacteria TMDLs (Resolutions 2002-004 and 2002-022). Systematic weekly sampling shall be conducted at shoreline monitoring sites with historical water quality that is as good as or better than the reference beach.¹⁰
- (1) Sampling shall be conducted 5 times per week at the following sites listed in Attachment U-2: S1, S2, S4, S5, S6, S7, S9, S10, and S16.
- (2) Sampling shall be conducted once per week at the following sites listed in Attachment U-2: S3, S8, S11, S12, S13, S14, S15, S17, and S18.
- e)f) Shoreline monitoring shall occur during daylight hours. Samples may be omitted in the event of hazardous weather;
- d)g) Shoreline monitoring frequencies at certain stations may be modified based on the use of the adjacent beaches and their proximity to storm drains, as recommended by the SMBRP's SMBRC's Technical Advisory Committee and the Los Angeles County Department of Health Services (LA County DHS).
- e)h) Data collected shall be transmitted daily to the LA County DHS. The City of Los Angeles will annually assess the data and submit it to the Principal Permittee for inclusion in the Monitoring Report;
- f)i) When exceedances of public health standards for bacteria occur, the LA County DHS shall take the appropriate action, as described in the Regulations for Public Beaches and Ocean Water-Contact Sports Areas.¹¹
- g)j) The City of Los Angeles will continue to conduct all monitoring, testing, and data transferring actions as part of the Santa Monica Bay Restoration Commission (SMBRPC) Regional Program for the Santa Monica Bay.

⁸ Samples will be collected on Sundays preceding Monday holidays

⁹ Escherichia Coli (E. Coli) may be substituted for Fecal Coliform if chromogenic substrate test kits are used

¹⁰ As recommended by the SMBRC at its November 23, 2004 meeting, and approved by the Regional Board Executive Officer on [insert date].

¹¹ Regulations for Public Beaches and Ocean Water-Contact Sports Areas, Title 17 CCR Group 10, developed in response to Health and Safety Code §115880

E. Trash Monitoring

To assess the quantities of trash in receiving waters after storm events and to identify areas impaired for trash, the Principal Permittee shall conduct visual observations of trash and take a minimum of one photograph at each mass emission station after the first storm event and 3 additional storm events per year.

1. The Principal Permittee and Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Permit Attachment A) shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002. The monitoring program and schedule shall be consistent with and pursuant to CWC §13267 "Request for Trash Monitoring", issued by the Regional Board on December 21, 2001. For the first two years of monitoring, either of the following formats for monitoring plans may be used:
 - a) For each watershed, the group of Permittees in that watershed will capture and quantify trash from an area no less than 10% of the total land area over which they have jurisdiction. The monitoring areas shall represent 10% of every land use the group of Permittees has jurisdiction over. If storm drain configuration versus land use make the representation of 10% of a land use infeasible, the Permittees can choose areas that represent their land uses as accurately as possible, as long as the extent of the surface being monitored represents 10%. This monitoring shall use full capture devices. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.
 - b) For each watershed, the group of Permittees in that watershed will sample a minimum of ten representative sites for each land use monitored. For each sampling site, a minimum of five catch basins will be fitted with inserts, for a total of not less than 50 catch basin inserts per land use monitored. The existing litter removal practices that the cities implement will remain in place, so that monitoring will evaluate how much trash is washed into the system under current practices. A structural full capture device shall be installed downstream of at least one sampling site for each land use monitored. For this sampling site, all of the catch basins that are upstream of the full capture-monitoring device must be fitted with inserts. This configuration will provide information on the relative effectiveness of the catch basin inserts as opposed to the full capture systems in varying land uses and under varying weather conditions. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.
2. Permittees shall report data in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g. compacted volume based on a standardized compaction rate, or dry weight). Permittees may select the unit, but all Permittees must use the same unit of measure.
3. Following the first two years of data collection, Permittees shall conduct compliance monitoring, which involves calculating trash loading as a

running three-year average (estimated total load discharged from 2003-2006, divided by three).

4. All trash collected shall be disposed of in compliance with all applicable State, federal, and local regulations.

REGIONAL MONITORING

The Principal Permittee shall participate on regional monitoring committees to help establish on-going regional programs that address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Regional Monitoring participation shall include, but not necessarily be limited to, the efforts described below.

F. Estuary Sampling

The Southern California Coastal Waters Research Project (SCCWRP), in conjunction with the USEPA, the State Board, three Regional Boards, and participating dischargers, has organized an effort to implement a regional monitoring program for the southern California bight. Previous studies (in 1994 and 1998) included microbiology, water quality, sediment chemistry, sediment toxicity testing, benthic infauna, demersal fish, and bioaccumulation. A similar bight-wide monitoring effort is planned to be conducted in 2003. The Principal Permittee shall participate on the Steering Committee for this bight-wide monitoring project, and complete the estuary sampling requirement described below in parallel with this effort.

In addition to participation in the Bight-wide study, the goal of this requirement is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertebrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. A map of each estuary which depicts the impacted areas shall be produced. The maps shall provide the information necessary to conduct effective sediment monitoring to determine trends and accumulation, as a future permit requirement.

1. The Principal Permittee shall sample a maximum of 25 sites in each estuary/mouth (Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, and Dominguez Channel) once during the permit term. Sediment samples shall be taken at each station by means of a 0.1m² (1.1 ft²) modified Van Veen sediment grab sampler.
2. The Principal Permittee shall also sample a total of 25 sites outside of the direct outfalls to assess cumulative effects.
3. All samples shall be analyzed for the following:
 - a) Sediment Chemistry (priority pollutants)
 - b) Total Organic Carbon (TOC)
 - c) Grain size
 - d) Sediment Toxicity
 - (1) Amphipod survival bioassays shall be conducted on each sediment sample. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test.

- (2) Phase I TIEs of interstitial water, using the amphipod test species, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay.
- e) Benthic Macroinvertebrates
- (1) All sediment samples shall be passed through a 1.0mm (0.039 in) screen to retrieve the benthic organisms. Benthic epifauna and infauna shall be analyzed to determine the structure of the benthic community.
 - (2) The Principal Permittee shall identify all organisms to lowest possible taxon.
 - (3) The Principal Permittee shall determine the Total Biomass of:
 - (i) Mollusks;
 - (ii) Echinoderms;
 - (iii) Annelids/polychaetes
 - (iv) Crustaceans; and
 - (v) All other macroinvertebrates.
 - (4) The Principal Permittee shall determine the community structure analysis, including wet weight of each taxonomic group (listed above), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species diversity, species evenness and dominance, similarity analysis, cluster analyses, or other appropriate multivariate statistical techniques approved by the Regional Board Executive Officer, and the Infaunal Index¹².
4. The Principal Permittee shall create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water. In the Integrated Monitoring Report, the Principal Permittee shall suggest appropriate locations for regular sediment monitoring, based on the results of this study.

G. Bioassessment

The Principal Permittee shall continue participation in the Stormwater Monitoring Coalition (SMC), as well as coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Board to complete the bioassessment requirement. The Regional Board anticipates that the SMC will organize an effort to evaluate the biological index approach for southern California and to design a research project for developing an Index of Biological Integrity (IBI) for this region. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of IBI development.

¹² Benthic Response Index for Assessing Infaunal Communities on the Mainland Shelf of Southern California, the SCCWRP

The purpose of the bioassessment requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI for southern California. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Principal Permittee shall coordinate with the SMC and SWAMP to identify the most appropriate locations for bioassessment stations within Los Angeles County.
2. Station selection shall be complete within one year from the date this Order is adopted, and sampling shall begin no later than October of 2003.
3. The Principal Permittee shall monitor a minimum of 20 bioassessment stations in October of each year, beginning in 2003. A minimum of three replicate samples shall be collected at each station during each sampling event.
4. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures. The Principal Permittee may collect samples when properly trained in CSBP methods. The Principal Permittee shall develop Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program that describes all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. There must also be specific information about the bioassessment program including: assessment program description, its organization and the responsibilities of all its personnel; assessment project description and objectives; qualifications of all personnel; and the type of training each member has received. A copy of the SOPs shall be available to the Regional Board Executive Officer upon request.
5. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (i.e., an estuary or unwadable stream), California Department of Fish and Game and the Regional Board Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors by the field crews, the receiving laboratory, and the Principal Permittee. These forms shall be available to California Department of Fish and Game or the Regional Board Executive Officer upon request. Field inspections should be planned with random visits and should be performed by the Principal Permittee, if properly trained in CSBP methods, or an independent auditor. These visits should report on all aspects of the field procedure with corrective action occurring immediately.
6. Taxonomic identification laboratories process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format.

There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Principal Permittee can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval from the Regional Board. External QA/QC should be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory in Rancho Cordova.

7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)¹³. The following results and information shall be included in the annual Monitoring Report:
 - a) All physical, chemical and biological data collected in the assessment;
 - b) Photographs and GPS locations of all stations;
 - c) Documentation of quality assurance and control procedures;
 - d) Analysis that shall include calculation of the metrics used in the CSBP;
 - e) Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;
 - f) Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and
 - g) Copies of all QA/AC documents from laboratories.

SPECIAL STUDIES

H. New Development Impacts Study in the Santa Clara Watershed

The Principal Permittee, with support from the City of Santa Clarita, shall monitor tributaries in the Santa Clara watershed to determine impacts from new development and to compare storm water quality between subwatersheds with and without SUSMPs.

1. The Principal Permittee, in cooperation with the City of Santa Clarita, shall select one station that is representative of a subwatershed in which the majority of development has occurred without SUSMP

¹³ California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

implementation, and one station (SUSMP station) in a subwatershed in which the majority of the development has/will include SUSMP implementation. Other inputs to runoff, such as septic systems, in the two subwatersheds should be similar.

2. The Principal Permittee shall coordinate with the City of Santa Clarita and the Regional Board to develop a proposed study design, including a description of the drainage areas to be monitored and sampling locations, no later than August 1, 2002. If appropriate, this study may be conducted in conjunction with the Peak Discharge Impact Study, described below.
3. The Principal Permittee shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.
4. Samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge¹⁴, unless the Regional Board Executive Officer approves alternate protocol. Constituents to be analyzed for each location shall include the following:
 - a) pH, dissolved oxygen, temperature, conductivity, chloride, nitrogen, and TSS;
 - b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc;
 - c) Pathogen Indicators (Coliform);
 - d) PAHs; and
 - e) Flow (flow may be estimated using EPA methods at sites where flow measurement devices are not in place).
5. The Principal Permittee shall submit an analysis of the data, including a description of each subwatershed, year-to-year changes compared to the amount of development that occurred in each, comparisons between stations, and an analysis of SUSMP effectiveness, with the fourth year Monitoring Report.

I. Peak Discharge Impact Study

The Principal Permittee shall conduct a study to evaluate peak flow control and to determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.¹⁵ The Principal Permittee may partner with the Ventura County Flood Control District to expand the stream erosion study to the Santa Clara River watershed. The study shall begin no later

¹⁴ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

¹⁵ Permit, Part 4.D.2 (Development Planning Program) requires the development of numerical criteria for peak flow control in natural drainage systems.

than August 1, 2002.

J. BMP Effectiveness Study

The Principal Permittee shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs. The objective of this study shall include the following:

- Monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined.
- Evaluate the requirements, feasibility and cost of maintenance for each BMP.
- Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Los Angeles County.

The Principal Permittee may participate in the SMBRP's, "Performance Evaluation of Structural BMPs for Storm Water Pollution Control in the Santa Monica Bay Watershed" study to meet this requirement. Participation includes collaboration and fund contribution to cover the scope of the proposed study.

K. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]
Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. Monitoring and Records [40 CFR 122.41(j)(2)] [CWC §13383(a)]
The Principal Permittee and Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.
3. Monitoring and Records [40 CFR 122.21(j)(3)]
Records of monitoring information shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individual(s) who performed the sampling or measurements;
 - c) The date(s) analyses were performed;

Monitoring and Reporting Program No. 6948

- d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used; and,
 - f) The results of such analyses.
4. **Monitoring and Records [40 CFR 122.21(j)(4)]**
All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.
 5. **Monitoring and Records [40 CFR 122.21(j)(5)]**
The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.
 6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.
 7. For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg.* 31682), the MLs published in Appendix 4 of the SIP shall be used for all analyses, unless otherwise specified. The MLs from the SIP are incorporated into the Constituent List (Attachment U-1).
 8. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:
 - a) An actual numerical value for sample results greater than or equal to the ML;
 - b) "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or
 - c) "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.
 9. For priority toxic pollutants, if the Principal Permittee or Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead

of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]
If the Principal Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual Monitoring Reports.
11. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]
Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.
12. If no flow occurred during the reporting period, the Monitoring Report shall so state.
13. The Regional Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:
 - a) By petition of the Principal Permittee or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or
 - b) As deemed necessary by the Regional Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Dennis A. Dickerson
Executive Officer
Date: December 13, 2001

Changes approved by:

Jonathan Bishop
Executive Officer
Date: June 15, 2005

**ATTACHMENT U-2
SHORELINE MONITORING STATIONS**

Station	Location¹	Latitude	Longitude
S1	Surfrider Beach, Malibu, 50-yds E. of breechpoint zero	34.03500 03244	- 118.678336 7900
S2	Topanga Point Creek, Malibu, seaward of lifeguard station point zero	34.03833 03814	- 118.580835 8200
S3	Pulga storm drain, Pacific Palisades, 50-yds E. of drainpoint zero	34.03361 03757	- 118.534175 4200
S4	Santa Monica Canyon storm drain, Pacific Palisades, 50-yds E. of drainpoint zero	34.02639 02784	- 118.518615 1800
S5	Santa Monica Pier, Santa Monica, 50-yds S. of pierpoint zero	34.00833 00870	- 118.496674 9600
S6	Pico-Kenter storm drain, Santa Monica, 50-yds S. of drainpoint zero	34.00583 00615	- 118.492504 9100
S7	Ashland storm drain, Santa Monica, 50-yds S. of drainpoint zero	33.99639 99702	- 118.484724 8400
S8	Windward storm drain, Los Angeles, 50-yds S. of drainpoint zero	33.98778 98520	- 118.477504 7600
S9	Marina Del Rey Beach, Marina Del Rey, at lifeguard tower.	33.98139	-118.45833
S10	Ballona Creek, Playa Del Rey, 50 yds S. of south jetty	33.96083 96077	- 118.456114 5550
S11	Culver Blvd., extended storm drain, Playa Del Rey, N-side of Culver storm drainpoint zero	33.95639 95641	- 118.451674 5100
S12	Imperial Hwy. Storm storm drain, Playa Del Rey, 50-yds S. of drainpoint zero	33.93028 93005	- 118.437224 3600
S13	El Porto, Manhattan Beach, 40 th St. extended	33.90389 90390	-118.42250
S14	Manhattan Beach Pier, Manhattan Beach, 50-yds S. of pierpoint zero	33.88360 88422	- 118.412784 1100
S15	Hermosa Beach Pier, Hermosa Beach, 50 yds S.	33.86111	-

Los Angeles County Municipal Storm Water Permit
December 13, 2001

Changes to Shoreline Monitoring Requirements approved on June 15, 2005

Station	Location ¹	Latitude	Longitude
	of pier	<u>86112</u>	<u>118.402784</u> <u>0270</u>
S16	Redondo Pier, Redondo Beach, <u>50-100 yds S. of pier</u>	<u>33.83833</u> <u>83908</u>	= <u>118.391113</u> <u>9000</u>
S17	Ave. I storm drain, Redondo Beach, Ave. I extended, <u>50 yds S. of drainpoint zero</u>	<u>33.81889</u> <u>81944</u>	= <u>118.391113</u> <u>9000</u>
S18	Malaga Cove, Palos Verdes Estates, Arroyo Circle extended	<u>33.80500</u> <u>80440</u>	= <u>118.394673</u> <u>9424</u>

¹ Station locations from *Ocean Water Regulatory & Monitoring Protocol*, County of Los Angeles, Department of Health Services, May 5, 1999, updated based on *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan*, April 7, 2004.



COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

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ALHAMBRA, CALIFORNIA 91802-1460

•IN REPLY PLEASE
REFER TO FILE: WM-9

May 10, 2005

Mr. Jonathan S. Bishop
Executive Director
California Regional Water
Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Bishop:

PROPOSED CHANGES TO THE SANTA MONICA BAY BEACHES BACTERIA TOTAL MAXIMUM DAILY LOADS AND MS4 MONITORING REQUIREMENTS

We appreciate the opportunity to comment on the subject matter as described in your letter to the City of Los Angeles dated March 15, 2005 (enclosed). We strongly disagree with the monitoring approach recommended by the Santa Monica Bay Restoration Commission's Technical Advisory Committee because it is inappropriate and counter-productive. We propose the following alternative recommendations, which are consistent with the Santa Monica Bay Beaches Bacteria Total Maximum Daily Loads' approved Coordinated Shoreline Monitoring Plan (CSMP):

- Reduce the monitoring frequency at all 18 sites currently listed in the monitoring and reporting program to a weekly schedule.
- Maintain weekly monitoring at all Health Services sites.
- Approve the draft Marina del Rey Coordinated Monitoring Plan dated July 16, 2004, as is, including weekly monitoring at 3 sites located at Mothers' Beach.

The regulations as currently drafted allow responsible agencies to conduct daily or weekly monitoring to measure compliance. Responsible agencies proposed weekly monitoring in the CSMP, which was the culmination of an extensive stakeholder process

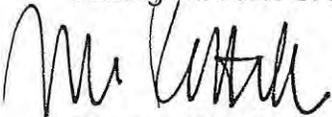
Mr. Jonathan S. Bishop
May 10, 2005
Page 2

that included participation by Regional Board staff and environmental advocacy groups. The CSMP as adopted reflects the consensus of all interested parties and appropriately balances the need for data with the need to preserve funding for programs and projects to improve water quality.

If you have any questions, please contact Mr. Daniel Lafferty at (626) 458-4325.

Very truly yours,

DONALD L. WOLFE
Acting Director of Public Works



MARK PESTRELLA
Assistant Deputy Director
Watershed Management Division

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Enc.

cc: Department of Health Services
City of Los Angeles Watershed Protection Division
City of Los Angeles Environmental Monitoring Division



**Engineering and Building
Services Department**

415 Diamond Street, P.O. Box 270
Redondo Beach, California 90277-0270
www.redondo.org

Building 310 318-0636
Engineering 310 318-0661
fax 310 374-4828

April 27, 2005

Renee Deshazo
320 W. 4th. Street, Suite 200
Los Angeles, CA 90013

Re: Los Angeles County Municipal Storm Water Discharge Permit - Shoreline
Monitoring Requirements Modification

Dear Renee:

I know that the following comments are being sent after the comment period for the proposed modifications but I hope that you will consider them in the future. My major concern is how these changes will affect compliance with the SMBBB TMDL and future monitoring requirements. I request that the following comments/questions be considered at the time the TMDL requirements are integrated into the Municipal NPDES Permit:

- The TMDL specifies that the responsible jurisdiction and responsible agencies select between daily (seven days per week) and systematic weekly (one day per week) shoreline sampling during the CSMP development. In the CSMP, that was approved by the Regional Board, the agencies selected weekly sampling.
- The CSMP established a systematic schedule of weekly sample where all samples were to be collected on Monday. The modification indicates that the City of Los Angeles has the option of not monitoring on Monday. If they select Monday as the day not to sample, how will the CSMP be affected? Who will be responsible for taking the samples on Monday for the TMDL?
- The CSMP established an accelerated sampling sequence where additional samples, if required, would be taken on Wednesday and Friday (48 hours after the exceedance occurred). If the City of Los Angeles selects a schedule of Tuesday, Wednesday, Thursday, Friday and Saturday will they also have to take a sample on Monday if an exceedance occurs on Saturday?
- Since Monday maybe an off day for the Five-Day per week sites, does the City of Los Angeles have the option of not sampling the Weekly sites on Monday? If so who will be responsible for sampling on Monday for the TMDL?
- At some of the sampling locations there will be samples collected by two different laboratories and possibly on the same day. What data will be used for compliance purposes?

- The TMDL specified exceedance limits for daily or weekly sampling only. There was no mention of a five or six day per week sampling schedule.
- The Wet Weather TMDL delineates compliance milestones based on historical sampling. This included a combination of daily (EMD samples) and weekly (DHS samples). It is not clear how this new Five-day monitoring frequency will affect these compliance targets.

Although the modifications are only intended to apply to the Municipal NPDES permit it does appear to have some effect on the CSMP of the TMDL. My main concern is that there is a significant amount of sampling data being collected beyond that required by the TMDL and the agencies have not received any indication from the Regional Board as to how this data will be used. This is of significant concern in regards to the Summer Dry Weather portion of the TMDL because full compliance must be achieved before the TMDL re-opener and the NPDES permit is renewed. I would appreciate a written response to my comments/questions. Please contact me at (310) 318-0661 x2455 if you have any questions.

Sincerely,



Michael Shay
Principal Civil Engineer

ATTACHMENT H-3



Los Angeles Regional Water Quality Control Board

August 13, 2015

Permittees of the Los Angeles River Upper Reach 2 Watershed Management Group¹

FINAL APPROVED LOS ANGELES RIVER UPPER REACH 2 GROUP'S WATERSHED MANAGEMENT PROGRAM (WMP), PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Permittees of the Los Angeles River Upper Reach 2 Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4* (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program.

On April 28, 2015, on behalf of the Los Angeles Water Board, I approved, with conditions, the Los Angeles River Upper Reach 2 (LAR UR2) Group's WMP. My approval letter directed the LAR UR2 Group to submit a final WMP that satisfies all the conditions listed in the letter no later than June 12, 2015. On June 12, 2015, the LAR UR2 Group submitted its final WMP, as directed.

After review of the final LAR UR2 Group's WMP submitted on June 12, 2015, I have determined that the ULAR2 Group's WMP satisfies all of the conditions identified in my April 28, 2015

¹ Permittees of the Los Angeles River Upper Reach 2 Watershed Management Group include the City of Bell, City of Bell Gardens, City of Commerce, City of Cudahy, City of Huntington Park, City of Maywood, City of Vernon, and the Los Angeles County Flood Control District. See attached distribution list.

approval letter. The WMP dated June 12, 2015 constitutes the final approved WMP for the LAR UR2 Group.

The Los Angeles Water Board appreciates the participation and cooperation of the LAR UR2 Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosure: Distribution List

LOS ANGELES RIVER UPPER REACH 2

Name	City	Email Address
Terry Rodrigue	Bell	trodrigue@cityofbell.org
Al Cablay	Bell	acablay@cityofbell.org
Philip Wagner	Bell Gardens	pwagner@bellgardens.org
Young Park	Bell Gardens	ypark@infeng.co
Chau Vu	Bell Gardens	cvu@bellgardens.org
Gina Nila	Commerce	ginan@ci.comerce.ca.us
Aaron Hernandez-Torres	Cudahy	ahernandez@cityofcudahyca.gov
Elroy Kiepke	Cudahy	ekiepke@willdan.ocm
Jose Pulido	Cudahy	jpulido@cityofcudahyca.gov
Michael Ackerman	Huntington Park	mackerman@hpca.gov
Christina Dixon	Huntington Park	cdixon@hpca.gov
Angela George	LA Co DPW	ageorge@dpw.lacounty.gov
Genevieve Osmena	LA Co DPW	gosmena@dpw.lacounty.gov
Jolene Guerrero	LA Co DPW	jguerrer@dpw.lacounty.gov
Andre Dupret	Maywood	andre.dupret@cityofmaywood.org
Lilian Myers	Maywood	lmyers@cityofmaywood.org
Elroy Kiepke	Maywood	ekiepke@willdan.ocm
Cladia Arellano	Vernon	carellano@ci.vernon.ca.us
Kevin Wilson	Vernon	kwilson@ci.vernon.ca.us
Dr. Gerald Greene	CWE	GGreene@cwecorp.com

Los Angeles Regional Water Quality Control Board

July 21, 2015

Permittees of the Lower San Gabriel River Watershed Management Group¹

FINAL APPROVED LOWER SAN GABRIEL RIVER WATERSHED MANAGEMENT PROGRAM (WMP), PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175) AND THE CITY OF LONG BEACH MS4 PERMIT (NPDES PERMIT NO. CAS004003; ORDER NO. R4-2014-0024)

Dear Permittees of the Lower San Gabriel River Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4* (hereafter, LA County MS4 Permit). On February 6, 2014, the Board adopted Order No. R4-2014-0024, *Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach* (hereafter, Long Beach MS4 Permit). The LA County MS4 Permit and the Long Beach MS4 Permit allow Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program².

On April 28, 2015, on behalf of the Los Angeles Water Board, I approved, with conditions, the Lower San Gabriel River (LSGR) Group's WMP. My approval letter directed the LSGR Group to

¹ Permittees of the Lower San Gabriel River Watershed Management Group include the Los Angeles County Flood Control District; and the cities of Artesia, Bellflower, Cerritos, Diamond Bar, Downey, Hawaiian Gardens, La Mirada, Lakewood, Long Beach, Norwalk, Pico Rivera, Santa Fe Springs, and Whittier.

² The cited permit sections are from the LA County MS4 Permit. Equivalent requirements in the Long Beach MS4 Permit are as follows: Part VI.A (Receiving Water Limitations), Part VIII (Total Maximum Daily Load Provisions), Part IV.B (Prohibitions – Non-Storm Water Discharges), and Part VII.D-VII.M (Minimum Control Measures).

July 21, 2015

submit a final WMP that satisfies all the conditions listed in the letter no later than June 12, 2015. On June 12, 2015 the LSGR Group submitted its final WMP, as directed.

After review of the final LSGR WMP submitted on June 12, 2015, I have determined that the LSGR Group's WMP satisfies all of the conditions identified in my April 28, 2015 approval letter. The WMP dated June 12, 2015 hereby constitutes the final approved WMP for the LSGR Group.

The Los Angeles Water Board appreciates the participation and cooperation of the LSGR Group in the implementation of the LA County MS4 Permit and the Long Beach MS4 Permit. If you have any questions, please contact Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Los Angeles Regional Water Quality Control Board

July 21, 2015

Permittees of the Los Cerritos Channel Watershed Management Group¹

FINAL APPROVED LOS CERRITOS CHANNEL WATERSHED MANAGEMENT PROGRAM (WMP), PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175) AND THE CITY OF LONG BEACH MS4 PERMIT (NPDES PERMIT NO. CAS004003; ORDER NO. R4-2014-0024)

Dear Permittees of the Los Cerritos Channel Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4* (hereafter, LA County MS4 Permit). On February 6, 2014, the Board adopted Order No. R4-2014-0024, *Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach* (hereafter, Long Beach MS4 Permit). The LA County MS4 Permit and the Long Beach MS4 Permit allow Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program².

On April 28, 2015, on behalf of the Los Angeles Water Board, I approved, with conditions, the Los Cerritos Channel (LCC) Group's WMP. My approval letter directed the LCC Group to submit a final WMP that satisfies all the conditions listed in the letter no later than June 12, 2015. On June 9, 2015 the LCC Group submitted its final WMP (dated June 8, 2015), as directed.

¹ Permittees of the Los Cerritos Channel Watershed Management Group include the Los Angeles County Flood Control District; and the cities of Bellflower, Cerritos, Downey, Lakewood, Long Beach, Paramount, and Signal Hill.

² The cited permit sections are from the LA County MS4 Permit. Equivalent requirements in the Long Beach MS4 Permit are as follows: Part VI.A (Receiving Water Limitations), Part VIII (Total Maximum Daily Load Provisions), Part IV.B (Prohibitions – Non-Storm Water Discharges), and Part VII.D-VII.M (Minimum Control Measures).

After review of the LCC Group's final WMP dated June 8, 2015, I have determined that the LCC Group's WMP satisfies all of the conditions identified in my April 28, 2015 approval letter. The WMP dated June 8, 2015 hereby constitutes the final approved WMP for the LCC Group.

The Los Angeles Water Board appreciates the participation and cooperation of the LCC Group in the implementation of the LA County MS4 Permit and the Long Beach MS4 Permit. If you have any questions, please contact Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Los Angeles Regional Water Quality Control Board

July 21, 2015

Permittees of the Lower Los Angeles River Watershed Management Group¹

FINAL APPROVED LOWER LOS ANGELES RIVER WATERSHED MANAGEMENT PROGRAM (WMP), PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175) AND THE CITY OF LONG BEACH MS4 PERMIT (NPDES PERMIT NO. CAS004003; ORDER NO. R4-2014-0024)

Dear Permittees of the Lower Los Angeles River Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4* (hereafter, LA County MS4 Permit). On February 6, 2014, the Board adopted Order No. R4-2014-0024, *Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach* (hereafter, Long Beach MS4 Permit). The LA County MS4 Permit and the Long Beach MS4 Permit allow Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program².

On April 28, 2015, on behalf of the Los Angeles Water Board, I approved, with conditions, the Lower Los Angeles River (LLAR) Group's WMP. My approval letter directed the LLAR Group to

¹ Permittees of the Lower Los Angeles River Watershed Management Group include the Los Angeles County Flood Control District; and the cities of Downey, Lakewood, Long Beach, Lynwood, Paramount, Pico Rivera, Signal Hill, and South Gate.

² The cited permit sections are from the LA County MS4 Permit. Equivalent requirements in the Long Beach MS4 Permit are as follows: Part VI.A (Receiving Water Limitations), Part VIII (Total Maximum Daily Load Provisions), Part IV.B (Prohibitions – Non-Storm Water Discharges), and Part VII.D-VII.M (Minimum Control Measures).

July 21, 2015

submit a final WMP that satisfies all the conditions listed in the letter no later than June 12, 2015. On June 12, 2015 the LLAR Group submitted its final WMP, as directed.

After review of the final LLAR WMP submitted on June 12, 2015, I have determined that the LLAR Group's WMP satisfies all of the conditions identified in my April 28, 2015 approval letter. The WMP dated June 12, 2015 hereby constitutes the final approved WMP for the LLAR Group.

The Los Angeles Water Board appreciates the participation and cooperation of the LLAR Group in the implementation of the LA County MS4 Permit and the Long Beach MS4 Permit. If you have any questions, please contact Ivar Ridgeway, Storm Water Permitting, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer



Los Angeles Regional Water Quality Control Board

August 5, 2015

Dr. Shahram Kharaghani
City of Los Angeles
Department of Public Works, Bureau of
Sanitation
Watershed Protection Division
1149 South Broadway, 10th Floor
Los Angeles, CA 90015

Ms. Gail Farber, Chief Engineer
Los Angeles County Flood Control District
Department of Public Works
Watershed Management Division, 11th Floor
900 South Fremont Avenue
Alhambra, CA 91803

FINAL APPROVED WATERSHED MANAGEMENT PROGRAM (WMP) FOR THE CITY OF LOS ANGELES AREA IN SANTA MONICA BAY JURISDICTIONAL GROUP 7 SUBWATERSHED, PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Dr. Kharaghani and Ms. Farber:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4* (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program.

On April 28, 2015, on behalf of the Los Angeles Water Board, I approved, with conditions, the WMP for the City of Los Angeles Area in Santa Monica Bay Jurisdictional Group 7 Subwatershed. My approval letter directed the City of Los Angeles and Los Angeles County

CHARLES STINEBAUGH, CHAIR | SAMUEL LUBBER, EXECUTIVE OFFICER

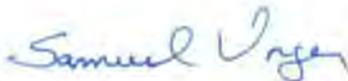
3811 WAASHILL ST. SUITE 200, LOS ANGELES, CA 90015 | www.waterboards.ca.gov/laawqcb

Flood Control District (LACFCD) to submit a final WMP that satisfies all the conditions listed in the letter no later than May 28, 2015. On May 28, 2015 the City of Los Angeles and LACFCD submitted a final WMP, as directed.

After review of the final WMP submitted by the City of Los Angeles and LACFCD on May 28, 2015, I have determined that the WMP satisfies all of the conditions identified in my April 28, 2015 approval letter. The WMP dated May 28, 2015 constitutes the final approved WMP for the City of Los Angeles Area in Santa Monica Bay Jurisdictional Group 7 Subwatershed.

The Los Angeles Water Board appreciates the participation and cooperation of the City and LACFCD in the implementation of the LA County MS4 Permit. If you have any questions, please contact Rebecca Christmann at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. Alternatively, you may also contact Ivar Ridgeway, Chief Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

cc: Donna Chen, City of Los Angeles
Hubertus Cox, City of Los Angeles
Hamid Tadayon, City of Los Angeles
Angela George, Los Angeles County Flood Control District
Paul Alva, Los Angeles County Flood Control District

Los Angeles Regional Water Quality Control Board

August 11, 2015

Ms. Gail Farber, Director
County of Los Angeles
Department of Public Works
Watershed Management Division, 11th Floor
900 South Fremont Avenue
Alhambra, CA 91803

Ms. Gail Farber, Chief Engineer
Los Angeles County Flood Control District
Department of Public Works
Watershed Management Division, 11th Floor
900 South Fremont Avenue
Alhambra, CA 91803

FINAL APPROVED WATERSHED MANAGEMENT PROGRAM (WMP) FOR THE ALAMITOS BAY/LOS CERRITOS CHANNEL WATERSHED MANAGEMENT AREA, PURSUANT TO THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175)

Dear Ms. Farber:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4* (hereafter, LA County MS4 Permit). The LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program.

On April 28, 2015, on behalf of the Los Angeles Water Board, I approved, with conditions, the WMP for the Alamitos Bay/Los Cerritos Channel Watershed Management Area (WMA). My approval letter directed the County of Los Angeles (County) and Los Angeles County Flood Control District (LACFCD) to submit a final WMP that satisfies all the conditions listed in the letter no later than May 28, 2015. On May 28, 2015 the County and LACFCD submitted a final WMP, as directed.

After review of the final WMP submitted by the County and LACFCD on May 28, 2015, I have determined that the WMP satisfies all of the conditions identified in my April 28, 2015 approval letter. The WMP dated May 28, 2015 constitutes the final approved WMP for the Alamitos Bay/Los Cerritos Channel Watershed Management Area.

The Los Angeles Water Board appreciates the participation and cooperation of the County and LACFCD in the implementation of the LA County MS4 Permit. If you have any questions, please contact Rebecca Christmann at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. Alternatively, you may also contact Ivar Ridgeway, Chief Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

cc: Angela George, Los Angeles County Flood Control District
Jolene Guerrero, County of Los Angeles, Department of Public Works
William Johnson, County of Los Angeles, Department of Public Works

Los Angeles Regional Water Quality Control Board

April 7, 2016

Permittees of the Upper Santa Clara Watershed Management Group¹
(See Distribution List)

APPROVAL OF THE UPPER SANTA CLARA WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Upper Santa Clara Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Upper Santa Clara Watershed Management Group (Group) submitted a draft EWMP on June 25, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members

¹ Permittees of the Upper Santa Clara River Group EWMP include the City of Santa Clarita, County of Los Angeles, and Los Angeles County Flood Control District.

within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; no comments specific to the Upper Santa Clara River EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs; however, no comments specific to the Upper Santa Clara River EWMP were raised.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, the Los Angeles Water Board staff had a meeting on September 15, 2015, telephone exchanges, and email exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP. On October 5, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMPs.

The Group submitted a revised EWMP on January 4, 2016 for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Board staff had several telephone and email exchanges with the Group's representatives and consultants to discuss the Board's remaining comments and necessary modifications to the January 4, 2016 revised EWMP. On February 23, 2016, the Group submitted a second revised EWMP for Los Angeles Water Board review and approval.

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's second revised EWMP as submitted on February 23, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Upper Santa Clara River Watershed Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table 3-4 Example Regional EWMP Project Sites
- Table 3-5 Summary of Green Street Steps to be Taken by Jurisdictions
- Figure ES-2 Scheduling of EWMP Implementation Plan to Achieve EWMP Milestones
- Section 5.2.4 Green Streets Program
- Section 7 EWMP Implementation Plan and Milestones
- Section 7.2 Control Measures to be Implemented by 2035 for Final Compliance
- Figure 7-1 USCR EWMP Implementation Plan for Final Compliance by 2035
- Figure 7.2 EWMP Implementation Plan for each Watershed / Assessment Area in the USCR
- Section 7.2.2 Non-Stormwater Control Measures
- Section 7.3 Scheduling of Control Measures and EWMP Milestones
- Section 7.3.1 Scheduling of Control Measure Implementation
- Table 7-2 Interim Milestones within the Current Permit Term (includes already completed items)
- Section 7.3.2 EWMP Interim and Final Milestones
- Table 7-6 Details on Control Measure Capacities by Milestones to be Achieved by USCR EWMP
- Table 7-7 Details and Implementation Schedule for Tier A Regional BMPs to be Implemented to Achieve BMP-based EWMP Milestones
- Figure 7-5 Scheduling of EWMP Implementation Plan to Achieve EWMP Milestones
- Section 7-4 Non-Stormwater Control Measures Schedule
- Figure 7-6 Schedule for Eliminating Non-Stormwater Discharges in USCR
- Appendix C2, Figure C2-4 Schedule for Non-Stormwater Reductions via Implementation of EWMP Structural BMPs

- Appendix C2, Figure C2-5 Schedule for Remaining Non-Stormwater Volume after Implementation of EWMP Structural BMPs

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4)(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment L of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in its approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits

their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 9, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment L of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

As part of the adaptive management process, the Permittees shall also re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive

April 7, 2016

Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 9, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Upper Santa Clara River Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: Upper Santa Clara Watershed Management Group Distribution List

Upper Santa Clara River EWMP Group

Name	City/ Consultant	Email Address
Heather Merenda	Santa Clarita	HMERENDA@santa-clarita.com
Travis Lange	Santa Clarita	TLANGE@santa-clarita.com
Oliver Cramer	Santa Clarita	ocramer@santa-clarita.com
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Giles Coon	Los Angeles County	gcoon@dpw.lacounty.gov
Armando D'Angelo	Los Angeles County	ADANGELO@dpw.lacounty.gov
Angela George	Los Angeles County	AGEORGE@dpw.lacounty.gov
Paul Alva	Los Angeles County	PALVA@dpw.lacounty.gov
Ashli Desai	Larry Walker Associates	AshliD@lwa.com
Amy Storm	Larry Walker Associates	AmyS@lwa.com
Dustin Bambic	Paradigm Environmental	dustin.bambic@paradigmh2o.com

Los Angeles Regional Water Quality Control Board

April 20, 2016

Permittees of the Upper Los Angeles River Watershed Management Group¹
(See Distribution List)

APPROVAL OF THE UPPER LOS ANGELES RIVER WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Upper Los Angeles River Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Upper Los Angeles River Watershed Management Group (Group) submitted a draft EWMP on June 25, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

¹ Permittees of the Upper Los Angeles River Watershed Management Group include the Los Angeles County Flood Control District; the County of Los Angeles; and the cities of Alhambra, Burbank, Calabasas, Glendale, Hidden Hills, La Cañada Flintridge, Los Angeles, Montebello, Monterey Park, Pasadena, Rosemead, San Fernando, San Gabriel, San Marino, South El Monte, South Pasadena, and Temple City.

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; including comments specific to the Upper Los Angeles River EWMP. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs. Ms. Dillard's letter included comments specific to the Upper Los Angeles River EWMP.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, Los Angeles Water Board staff had a meeting on October 15, 2015 and telephone exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP. On October 21, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMP.

The Group submitted a revised EWMP on January 20, 2016 for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Board staff had a meeting on March 8, 2016 with the Group's representatives and non-Permittee stakeholders to discuss public comments and concerns on the EWMP. On March 29, 2016, following additional email and telephone exchanges with Board staff, the Group submitted modifications to Table 7-4 of their revised EWMP.

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's revised EWMP as submitted on March 29, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Upper Los Angeles River Management Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table 4-1 Signature Regional Projects in the ULAR EWMP
- Section 7 Detailed EWMP Implementation Strategy and Compliance Schedule
- Table 7-1 Bacteria TMDL Schedule for LRS Submittal to Regional Board by ULAR EWMP Group
- Table 7-2 Control Measures identified by Load Reduction Strategy for Segment B of the LA River
- Table 7-4 Additional Institutional Control Measures to be Implemented by Select ULAR Agencies
- Table 8-1 EWMP Control Measures to be Assessed for Compliance Determination with ULAR EWMP if RWLs and WQBELs are not Attained per the Timelines Prescribed in the Permit and EWMP
- Appendix 7.A Detailed Recipe for Final EWMP Compliance (Compliance Targets and EWMP Implementation Strategy)
- Appendix 7.C Scheduling of Control Measures for TMDL and EWMP Milestones

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4).(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment O of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in its approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For green streets implementation, Permittees shall report on progress toward a structured approach to identifying a sufficient number of green street projects to meet compliance milestones (e.g., a green streets master plan). For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 20, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment O of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

Per Part VI.C.8.a.iv, Permittees shall also report the following information to the Los Angeles Water Board as part of the reporting for the adaptive management process:

- On-the-ground structural control measures completed;
- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;
- Comparison of the effectiveness of the control measures to the results projected by the RAA;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed Management Program or EWMP;
- Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures; and
- Status of funding and implementation for control measures proposed to be completed in the next two years.

Finally, as part of the adaptive management process, the Permittees shall re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and

April 20, 2016

- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 20, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Upper Los Angeles River Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Mr. Chris Lopez of the Storm Water Permitting Unit at Chris.Lopez@waterboards.ca.gov or by phone at (213) 576-6674. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: Upper Los Angeles River Watershed Management Group Distribution List

Upper Los Angeles River EWMP Group Distribution List

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Los Angeles Regional Water Quality Control Board

April 21, 2016

Permittees of the Rio Hondo/San Gabriel River Watershed Management Group¹
(See Distribution List)

APPROVAL OF THE RIO HONDO/SAN GABRIEL RIVER WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Rio Hondo/San Gabriel River Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Rio Hondo/San Gabriel River Watershed Management Group (Group) submitted a draft EWMP on June 29, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of

¹ Permittees of the Rio Hondo/San Gabriel River Watershed Management Group include the Cities of Arcadia, Azusa, Bradbury, Duarte, Monrovia, and Sierra Madre, the County of Los Angeles, and the Los Angeles County Flood Control District (LACFCD).

availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; no comments specific to the Rio Hondo/San Gabriel River EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs; however, no comments specific to the Rio Hondo/San Gabriel River EWMP were raised.

On July 9, 2015, the Los Angeles Water Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Los Angeles Water Board held a second public workshop on the draft EWMPs. The Los Angeles Water Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. On October 29, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMP. On December 16, 2015, the Group's representatives and consultants held a meeting with Board staff to discuss the Board staff's comments on the Draft EWMP before their resubmittal.

The Group submitted a revised EWMP on January 29, 2016 for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Los Angeles Water Board staff had several telephone and email exchanges with the Group's representatives and consultants to discuss the Board's remaining comments and necessary modifications to the January 29, 2016 revised EWMP. On April 1, 2016, the Group submitted a second revised EWMP for Los Angeles Water Board review and approval. There were a small number of minor changes requested by Los Angeles Water Board staff to the April 1, 2016 version of the EWMP. The final version was submitted on April 14, 2016.

² These four EWMPs were the North Santa Monica Bay EWMP; Upper San Gabriel River EWMP; Upper Los Angeles River EWMP, and Beach Cities EWMP.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's revised EWMP as submitted on April 14, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Rio Hondo/San Gabriel River Watershed Management Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table 3-23 Regional Project Sites
- Table 3-24 Regional Project Site Volume Reduction
- Table 3-25 Green Street Implementation Summary by Jurisdiction
- Figure 4-1 LAR Watershed Dry-Weather Flow Reduction due to Wet-Weather Controls
- Figure 4-2 SGR Watershed Dry-Weather Flow Reduction due to Wet-Weather Controls
- Table 4-23 Zinc Load Reduction Based on Control Measure Implementation in the LAR Watershed
- Table 4-24 Lead Load Reduction Based on Control Measure Implementation in the SGR Watershed
- Section 5
- Table 5-1 Proposed Regional Project Timeline
- Table 5-2 Proposed Green Street Implementation Timeline
- Figure 5-2 Pollutant Load Reduction from Implementation and TMDL Milestones

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4)(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment O and P of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in their approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees of the Rio Hondo/San Gabriel River Watershed Management Group shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For green streets implementation, Permittees shall report on progress towards finalizing the Permittees' approach to identifying a sufficient number of green street projects to meet compliance milestones. For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a Permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 23, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment O and P of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

Per Part VI.C.8.a.iv, Permittees shall also report the following information to the Los Angeles Water Board as part of the reporting for the adaptive management process:

- On-the-ground structural control measures completed;
- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;
- Comparison of the effectiveness of the control measures to the results projected by the RAA;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed Management Program or EWMP;
- Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures; and
- Status of funding and implementation for control measures proposed to be completed in the next two years.

Finally, as part of the adaptive management process, the Permittees shall re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and

- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 23, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Rio Hondo/San Gabriel River Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Ms. Deborah Brandes of the Storm Water Permitting Unit at Deborah.Brandes@waterboards.ca.gov or by phone at (213) 576-6688. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: Rio Hondo/San Gabriel River Watershed Management Group Distribution List

Los Angeles Regional Water Quality Control Board

April 27, 2016

Mr. Harry Schwarz, Mayor
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Agoura Hills, CA 91301

Mr. Anthony M. Coroalles, City Manager
City of Calabasas
100 Civic Center Way
Calabasas, CA 91302

Mr. Jim Cohen, Mayor
City of Hidden Hills
6165 Spring Valley Road
Hidden Hills, CA 91302

Mr. Raymond B. Taylor; City Manger
City of Westlake Village
31200 Oak Crest Drive
Westlake Village, CA 91361

Ms. Gail Farber, Director
County of Los Angeles
Department of Public Works
Watershed Management Division, 11th Floor
900 South Fremont Avenue
Alhambra, CA 91803

Ms. Gail Farber, Chief Engineer
Los Angeles County Flood Control District
Department of Public Works
Watershed Management Division, 11th Floor
900 South Fremont Avenue
Alhambra, CA 91803

APPROVAL OF THE MALIBU CREEK WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Malibu Creek Watershed Management Group¹:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A

¹ Permittees of the Malibu Creek Watershed Management Group include the cities of Agoura Hills, Calabasas, Hidden Hills, and Westlake Village, the County of Los Angeles, and the Los Angeles County Flood Control District.

(Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Malibu Creek Watershed Management Group (Group) submitted a draft EWMP on June 29, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; no comments specific to the Malibu Creek Watershed Management Group EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs; however, no comments specific to the Malibu Creek EWMP were raised.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, the Los Angeles Water Board staff had telephone and email exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP. On October 27, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMP.

The Group submitted a revised EWMP on January 27, 2016, for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Board staff emailed the Group's representatives and consultants to discuss the Board's remaining comments and necessary modifications to the January 27, 2016 revised EWMP. On April 25, 2016, the Group submitted a second revised EWMP, dated April 22, 2016, for Los Angeles Water Board review and approval. After review of the second revised EWMP, Board staff had telephone and email exchanges with the Group's representatives and consultant to discuss modifications to the April 22, 2016 revised EWMP. On April 27, 2016, the Group submitted a third revised EWMP for Los Angeles Water Board review and approval.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's third revised EWMP as submitted on April 27, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Malibu Creek Watershed Management Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Section 3.1.5 Malibu Creek Trash TMDL
- Table 8: Trash Compliance Requirement Deadlines
- Table 9: Malibu Creek Trash TMDL interim & Final Water Quality Based Effluent Limits
- Section 3.1.6 TMDL for Debris in the Near and Offshore Santa Monica Bay
- Table 10: Santa Monica Bay Nearshore an Offshore Debris TMDL
- Section 5.1 Existing Control Measures
- Table 16: Public Information and Participation Program
- Table 18: industrial/Commercial Facilities Program
- Table 19: Planning and Land Development Program
- Table 20: Development Construction Program

- Table 21: Public Agency Activities Program
- Table 22: Illicit Connections and Illicit Discharges Elimination Program
- Section 5.3.2 Institutional and Source Control BMPs
- Section 5.3.3 Regional Structural BMPs
- Table 31: List of Regional BMPs
- Figure 16: Location of Proposed Regional BMP Projects
- Section 5.3.4 Distributed BMPs on Public Parcels – Green Streets
- Table 33: Total Urbanized Land and Area Planned for Treatment by Regional Structural BMP Projects
- Figure 19: Map of the Total Urbanized Area and Area Planned for Treatment by Regional Structural BMP Projects
- Figure 20: MCW Green Street Opportunity Locations
- Section 7.2 Stormwater Control Measures to be Implemented by 2032 for Final Compliance
- Figure 33: MCW EWMP Implementation Plan for Final Compliance by 2032
- Section 7.2.1 Institutional and Source Controls
- Table 42: MCW EWMP Institutional and Source Controls
- Section 7.3 Scheduling of Stormwater Control Measures to Achieve EWMP Milestones
- Figure 36: EWMP Implementation Plan for Agoura Hills within each Assessment Area
- Figure 37: EWMP Implementation Plan for Calabasas within each Assessment Area
- Figure 38: EWMP Implementation Plan for Unincorporated County within each Assessment Area
- Figure 39: EWMP Implementation Plan for Westlake Village within each Assessment Area
- Figure 40: EWMP Implementation Plan for Hidden Hills within its Assessment Area
- Section 7.4 Non-Stormwater Control Measures
- Section 7.6 Implementation Schedule
- Table 43: Proposed MCW EWMP Compliance Schedule
- Appendix A: Proposed Regional Projects Detail Maps
- Appendix 7C: Scheduling of Control Measures for TMDL and EWMP Milestones

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4)(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment M of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in their approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4)(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For green streets implementation, Permittees shall report on progress toward a structured approach to identifying a sufficient number of green street projects to meet compliance milestones (e.g., a green streets master plan). For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a Permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 27, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment M of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

Per Part VI.C.8.a.iv, Permittees shall also report the following information to the Los Angeles Water Board as part of the reporting for the adaptive management process:

- On-the-ground structural control measures completed;
- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;
- Comparison of the effectiveness of the control measures to the results projected by the RAA;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed Management Program or EWMP;
- Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures; and
- Status of funding and implementation for control measures proposed to be completed in the next two years.

Finally, as part of the adaptive management process, the Permittees shall re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;

- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 27, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Malibu Creek Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Ms. Rebecca Christmann of the Storm Water Permitting Unit at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

cc: Alex Farassati, City of Calabasas
Kelly Fisher, City of Agoura Hills
Giles Coon, County of Los Angeles, Department of Public Works
Armando D'Angelo, County of Los Angeles, Department of Public Works
Daniel Apt, Michael Baker International
Joe Bellomo, Willdan
Kelsey Erisman, Willdan



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

April 11, 2016

Permittees of the Upper San Gabriel River EWMP Group¹
(See Distribution List)

APPROVAL OF THE UPPER SAN GABRIEL RIVER EWMP GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Upper San Gabriel River EWMP Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Upper San Gabriel River EWMP Group (Group) submitted a draft EWMP on June 25, 2015 and the Addendum on August 31, 2015, to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of

¹ Permittees of the Upper San Gabriel River Group EWMP include the County of Los Angeles, and Los Angeles County Flood Control District, and the Cities of Baldwin Park, Covina, Glendora, Industry, La Puente, and West Covina.

availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; comments specific to the Upper San Gabriel River EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs; however, no comments specific to the Upper San Gabriel River EWMP were raised.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On September 3, 2015, the Board provided public notice and a 32-day period to allow for public review and written comment on the revisions to the Upper San Gabriel River draft EWMP pertaining to the addition of the jurisdictional area of the City of West Covina (mainly Appendix E). The Board received one joint letter from the Environmental Groups.

On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP. Los Angeles Water Board staff also discussed the draft and revised EWMP with the Environmental Groups.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, the Los Angeles Water Board staff had a meeting on October 6, 2015, telephone exchanges, and email exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP. On October 16, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that public's comments were addressed appropriately in the revised EWMPs. The Group submitted a revised EWMP on January 14, 2016 for Los Angeles Water Board review and approval.

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's revised EWMP as submitted on January 14, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Upper San Gabriel River Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table 3-4 Example Regional EWMP Project Sites
- Table 3-5 Summary of Green Street Steps to be Taken by Jurisdictions
- Table 3-7 Summary of Institutional MCMs by Jurisdiction
- Table 3-9 Summary of EWMP Control Measure Opportunities included in RAA
- Section 5 EWMP Implementation Plan
- Figure 5-1 USGR EWMP Implementation Plan for Final Compliance by 2036
- Figure 5-2 EWMP Implementation Plan for each Watershed/Assessment Area in the USGR
- Figure 5-5 Additional Control Measures in EWMP Implementation Plan to Address E.coli
- Section 5.3 Scheduling of Stormwater Control Measures to Achieve EWMP and TMDL Milestones
- Table 5-1 Summary of BMP Capacity by BMP Type and Jurisdiction
- Figure 5-6 Scheduling of EWMP Implementation Plan to Achieve EWMP/TMDL Milestones
- Section 5-4 Non-Stormwater Control Measures
- Figure 5-7 Schedule for Eliminating Non-Stormwater Discharges in USGR
- Appendix D-1: Detailed RAA Output and EWMP Implementation Plan for Final Compliance
- Appendix D-3: Compliance Targets and Implementation Plan for EWMP Milestones
- Appendix E Table E-1 Summary of Control Measures Selected by West Covina for EWMP Development
- Appendix E Section 3.1.1 Signature (Tier 1) Regional EWMP Project
- Appendix E Section 3.4 Institutional BMPs
- Appendix E Section 5 EWMP Implementation Plan

- Appendix E Figure E-21 USGR EWMP Implementation Plan for Final Compliance by 2036 including West Covina
- Appendix E Table E-7 Summary of BMP Capacity by BMP Type
- Appendix E Figure E-22 EWMP Implementation Plan for West Covina for Each Watershed / Assessment Area
- Appendix E Figure E-23 BMP Distribution in West Covina's EWMP Implementation Plan by Watershed/Assessment Area
- Appendix E Figure E-26 Additional Control Measures in EWMP Implementation Plan to Address E.coli
- Appendix E Table E-8 West Covina, Puente Creek: RAA Output and EWMP Implementation Plan for Final Compliance
- Appendix E Table E-9 West Covina, San Gabriel River: RAA Output and EWMP Implementation Plan for Final Compliance
- Appendix E Table E-10 West Covina, San Jose Creek: RAA Output and EWMP Implementation Plan for Final Compliance
- Appendix E Table E-11 West Covina, Walnut Creek: RAA Output and EWMP Implementation Plan for Final Compliance
- Appendix E Section 5.3 Scheduling of Stormwater Control Measures to Achieve EWMP and TMDL Milestones
- Appendix E Figure E-27 Scheduling of EWMP Implementation Plan for West Covina to Achieve EWMP/TMDL Milestones
- Appendix E Table E-12 West Covina: RAA Output and EWMP for Interim and Final Compliance
- Appendix E Section 5.4 Non-Stormwater Control Measures
- Appendix E Figure E-28 Schedule for Eliminating Non-Stormwater Discharges in West Covina

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4).(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment P of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in its approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's' Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 9, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment P of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

As part of the adaptive management process, the Permittees shall also re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new

water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 11, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Upper San Gabriel River EWMP Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: Upper San Gabriel River EWMP Group Distribution List

Upper San Gabriel River EWMP Group

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Los Angeles Regional Water Quality Control Board

April 27, 2016

Ms. Gail Farber, Director
County of Los Angeles
Department of Public Works
Watershed Management Division, 11th Floor
900 South Fremont Avenue
Alhambra, CA 91803

Ms. Gail Farber, Chief Engineer
Los Angeles County Flood Control District
Department of Public Works
Watershed Management Division, 11th Floor
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Dr. Shahram Kharaghani
City of Los Angeles
Department of Public Works
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Watershed Protection Division
1149 South Broadway, 10th Floor
Los Angeles, CA 90015

Mr. Charles D. Herbertson
Public Works Director and City Engineer
City of Culver City
9770 Culver Blvd., 2nd Floor
Culver City, CA 90232

APPROVAL OF THE MARINA DEL REY WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM, PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Marina del Rey Watershed Management Group¹:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily

¹ Permittees of the Marina del Rey Enhanced Watershed Management Group include the cities of Los Angeles and Culver City, the County of Los Angeles, and the Los Angeles County Flood Control District.

Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Marina del Rey Watershed Management Group (Group) submitted a draft EWMP on June 29, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; no comments specific to the Marina del Rey Watershed Management Group EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts (Sanitation Districts) and Ms. Joyce Dillard, contained specific comments on various EWMPs. Some of the comments from Ms. Dillard were specific to the Marina del Rey Watershed Management Group EWMP; however, no comments specific to the Marina del Rey Watershed Management Group EWMP were raised by the Sanitation Districts.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, the Los Angeles Water Board staff had telephone and email exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP. On October 27, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMP.

The Group submitted a revised EWMP on January 27, 2016, for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Board staff had telephone and email exchanges with the Group's representatives and consultants to discuss the Board's remaining comments and necessary modifications to the January 27, 2016 revised EWMP. On April 21, 2016, the Group submitted a second revised EWMP, dated April 22, 2016, for Los Angeles Water Board review and approval. After review of the second revised EWMP, Board staff had telephone and email exchanges with the Group's representatives and consultant to discuss minor modifications to the April 22, 2016 revised EWMP. On April 26, 2016, the Group submitted a third revised EWMP for Los Angeles Water Board review and approval.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's third revised EWMP as submitted on April 26, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Marina del Rey Watershed Management Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Figure ES-3: Proposed Regional BMPs
- Section ES.5 Implementation Plan and Schedule
- Figure ES-4: RAA Load Reduction Schedule
- 3.2 Existing TMDLs Summary
- Table 3-2: TMDL Compliance Schedules
- Section 5.2 EWMP Structural BMPs
- Section 5.2.2 Regional BMP Selection
- Table 5-3: Ranking of Potential Regional BMPs within the MdR WMA

- Figure 5.2: Proposed Structural Control Measures and Regional Projects in MdR Watershed
- Section 5.2.3 Regional Priority Projects
- Section 5.2.4 Future Potential Projects
- Table 5-5: BMPs for Green Streets
- Figure 5-11: Project Design Areas and Example BMPs
- Figure 5-12: Park Project Locations
- Section 5.3 Development and Redevelopment
- Table 5-8: Potential Development and Redevelopment Projects Areas within the City of Los Angeles
- Figure 5-17: Subwatershed 1 Potential Redevelopment Parcels
- Table 5-9: Subwatershed 1 and 2 Potential Development and Redevelopment Projects within the County of Los Angeles Jurisdiction
- Section 5.5 EWMP Non-Structural BMPs
- Table 5-11: Non-Structural BMPs within the MdR WMA
- Section 7.0 MdR EWMP Implementation Plan and Schedule
- Table 7-1: Summary of Marina del Rey Subwatershed RAA-Required Zinc Load Reductions
- Section 7.1 Load Reduction Schedule
- Section 7.2 Structural BMP Schedule
- Table 7-2: RAA Load Reduction Schedule for MdR Watershed Back Basins and Front Basins BMPs
- Table 7-3: RAA Volume (acre-feet) Reduction Schedule for MdR Watershed Back Basins and Front Basins BMPs
- Section 7.3 Non-Structural BMP Implementation
- Table 7-4: Implementation Schedule for Non-Structural BMPs within the MdR WMA
- Appendix A, Figure 1. Potential Regional BMP Locations within the MdR WMA Watershed

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4)(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment M of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in their approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA

County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4)(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For green streets implementation, Permittees shall report on progress toward a structured approach to identifying a sufficient number of green street projects to meet compliance milestones (e.g., a green streets master plan). For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a Permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 27, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment M of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;

- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

Per Part VI.C.8.a.iv, Permittees shall also report the following information to the Los Angeles Water Board as part of the reporting for the adaptive management process:

- On-the-ground structural control measures completed;
- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;
- Comparison of the effectiveness of the control measures to the results projected by the RAA;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed Management Program or EWMP;
- Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures; and
- Status of funding and implementation for control measures proposed to be completed in the next two years.

Finally, as part of the adaptive management process, the Permittees shall re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

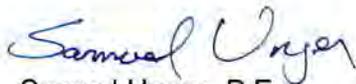
The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 27, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Marina del Rey Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Ms. Rebecca Christmann of the Storm Water Permitting Unit at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

cc: Angela George, County of Los Angeles, Department of Public Works
Paul Alva, County of Los Angeles, Department of Public Works
Bruce Hamamoto, County of Los Angeles, Department of Public Works
TJ Moon, County of Los Angeles, Department of Public Works
Hubertus Cox, City of Los Angeles
Wendy Dinh, City of Los Angeles
Kaden Young, City of Culver City
Andrea Crumpacker, Weston Solutions, Inc.
Michelle Mattson, Weston Solutions, Inc.

Los Angeles Regional Water Quality Control Board

April 20, 2016

Permittees of the Ballona Creek Watershed Management Group¹
(See Distribution List)

APPROVAL OF THE BALLONA CREEK WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Ballona Creek Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Ballona Creek Watershed Management Group (Group) submitted a draft EWMP on June 29, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of

¹ Permittees of the Ballona Creek Watershed Management Group include the Los Angeles County Flood Control District; the County of Los Angeles; and the cities of Los Angeles, Beverly Hills, Culver City, Inglewood, Santa Monica, and West Hollywood.

availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; no comments specific to the Ballona Creek EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs. Ms. Dillard's letter included comments specific to the Ballona Creek EWMP.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, Los Angeles Water Board staff had a meeting on October 15, 2015 and telephone exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP. On October 21, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMPs.

The Group submitted a revised EWMP on January 20, 2016 for Los Angeles Water Board review and approval. On February 2, 2016, the Group submitted a second revised EWMP, which corrected typographical errors.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's revised EWMP as submitted on February 2, 2016.

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Ballona Creek Watershed Management Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table 4-1 Summary of Regional Projects
- Table 6-6 Limiting BC Pollutant Reductions for Interim and Final Compliance
- Section 7 Detailed EWMP Implementation Strategy and Compliance Schedule
- Table 8-1 WMP Control Measures to be Assessed for Compliance Determination with BCWMP EWMP if RWLs and WQBELs are not Attained per the Timelines Prescribed in the Permit and EWMP
- Appendix 7.A Detailed Recipe for Final EWMP Compliance (Compliance Targets and EWMP Implementation Strategy)
- Appendix 7.C Scheduling of Control Measures for EWMP and TMDL Milestones

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4).(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment M of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in its approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For green streets implementation, Permittees shall report on progress toward a structured approach to identifying a sufficient number of green street projects to meet compliance milestones (e.g., a green streets master plan). For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement each of the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 20, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment M of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

Per Part VI.C.8.a.iv, Permittees shall also report the following information to the Los Angeles Water Board as part of the reporting for the adaptive management process:

- On-the-ground structural control measures completed;

- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;
- Comparison of the effectiveness of the control measures to the results projected by the RAA;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed Management Program or EWMP;
- Management Program or EWMP;
- Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures; and
- Status of funding and implementation for control measures proposed to be completed in the next two years.

Finally, as part of the adaptive management process, the Permittees shall re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management

process is scheduled for April 20, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Ballona Creek Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Mr. Chris Lopez of the Storm Water Permitting Unit at Chris.Lopez@waterboards.ca.gov or by phone at (213) 576-6674. Alternatively, you may also contact Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: Ballona Creek Watershed Management Group Distribution List

Ballona Creek Watershed Management Group Distribution List

Name	City/Agency	Email Address
George Chavez	City of Beverly Hills	gchavez@beverlyhills.org
Charles D. Herbertson	City of Culver City	charles.herbertson@culvercity.org
Lauren Amimoto	City of Inglewood	lamimoto@cityofinglewood.org
Shahram Kharaghani	City of Los Angeles	Shahram.Kharaghani@lacity.org
Hubertus Cox	City of Los Angeles	hubertus.cox@lacity.org
Neal Shapiro	City of Santa Monica	neal.shapiro@smgov.net
Sharon Perlstein	City of West Hollywood	Perlstein@weho.org
Gary Hildebrand	County of Los Angeles DPW / LACFCD	GHILDEB@dpw.lacounty.gov

Los Angeles Regional Water Quality Control Board

April 21, 2016

Permittees of the Dominguez Channel Watershed Management Area Group¹
(See Distribution List)

APPROVAL OF THE DOMINGUEZ CHANNEL WATERSHED MANAGEMENT AREA GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Dominguez Channel Watershed Management Area Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Dominguez Channel Watershed Management Area Group (Group) submitted a draft EWMP on June 25, 2015, to the Los Angeles Water Board for review.

Additionally, following the submittal of the Group's draft EWMP, the cities of Carson and Lawndale joined the Dominguez Channel Watershed Management Area Group. Since these cities were not included in the June 25, 2015 draft EWMP, the cities of Carson and Lawndale submitted addenda to the Dominguez Channel Watershed Management Area Group draft

¹ Permittees of the Dominguez Channel Watershed Management Area Group include the Los Angeles County Flood Control District; the County of Los Angeles; and the cities of Carson, El Segundo, Hawthorne, Inglewood, Lawndale, Lomita, and Los Angeles.

EWMP (EWMP Addenda) that includes Reasonable Assurance Analysis sections, watershed control measure information, and other required analyses for their jurisdictional areas. The EWMP Addenda were submitted on December 11, 2015 (City of Lawndale) and December 16, 2015 (City of Carson).

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; no comments specific to the Dominguez Channel EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs. Ms. Dillard's letter included comments specific to the Dominguez Channel EWMP.

On December 22, 2015, the Los Angeles Water Board provided public notice and a 34-day period to allow for public review and written comment on the EWMP Addenda. No comments were received during this public review and comment period.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, Los Angeles Water Board staff had a meeting on October 15, 2015 and telephone exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP. On October 23, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMP. Additionally, on February 5, 2016, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the EWMP Addenda and identifying additional revisions that needed to be addressed prior to the Board's approval of the EWMP.

On February 26, 2016, the Group submitted a revised EWMP for Los Angeles Water Board review and approval.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's EWMP as submitted on February 26, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Dominguez Channel Watershed Management Area Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table 4.2: DC WMA Members to Implement Additional MCMs associated with 2012 MS4 Permit (beyond those in the 2001 MS4 Permit)
- Table 4.3: Additional Institutional BMP Implementation Timeline per DC WMA Jurisdiction for Areas in the Machado Lake Watershed Only
- Table 4.4: Additional Institutional BMP Implementation Timeline for non-Machado Lake Areas per DC WMA Jurisdiction
- Section 5: EWMP Implementation Plan
- Table 5.1: Regional Project Timeline
- Figure 5-1: Control Measure Capacities to be Implemented by the DC WMA by 2040
- Table 5.2: Dominguez Channel Watershed – Summary of volume managed and BMP capacity by jurisdiction for final compliance
- Attachment Z: Addendum to EWMP: Incorporation of City of Carson
- Attachment AA: Addendum to EWMP: Incorporation of City of Lawndale
- Attachment AB: BMP Capacities by Milestone

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4).(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachments N and O of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in its approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For green streets implementation, Permittees shall report on progress toward a structured approach to identifying a sufficient number of green street projects to meet compliance milestones (e.g., a green streets master plan). For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement each of the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the

Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 23, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachments N and O of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

Per Part VI.C.8.a.iv, Permittees shall also report the following information to the Los Angeles Water Board as part of the reporting for the adaptive management process:

- On-the-ground structural control measures completed;
- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;
- Comparison of the effectiveness of the control measures to the results projected by the RAA;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed Management Program or EWMP;
- Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures; and
- Status of funding and implementation for control measures proposed to be completed in the next two years.

Finally, as part of the adaptive management process, the Permittees shall re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring

data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 23, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Dominguez Channel Watershed Management Area Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Mr. Chris Lopez of the Storm Water Permitting Unit at Chris.Lopez@waterboards.ca.gov or by phone at (213) 576-6674. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: Dominguez Channel Watershed Management Area Group Distribution List

Dominguez Channel Watershed Management Area Group Distribution List

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Los Angeles Regional Water Quality Control Board

April 21, 2016

Permittees of the Santa Monica Bay J2/J3 Watershed Management Group¹
(See Distribution List)

APPROVAL OF THE SANTA MONICA BAY J2/J3 WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Santa Monica Bay J2/J3 Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Santa Monica Bay J2/J3 Watershed Management Group (Group) submitted a draft EWMP on June 29, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members

¹ Permittees of the Santa Monica Bay J2/J3 Watershed Management Group include the County of Los Angeles, City of Santa Monica, City of El Segundo, and the Los Angeles County Flood Control District (LACFCD).

within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; no comments specific to the Santa Monica Bay J2/J3 EWMP were raised. A letter from the Los Angeles County Sanitation Districts contained specific comments on various EWMPs; however, no comments specific to the Santa Monica Bay J2/J3 EWMP were raised. A comment letter from Ms. Joyce Dillard commented on various EWMPs, including the SMB J2/J3 EWMP.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. On October 26, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMP.

The Group submitted a revised EWMP on January 26, 2016 for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Board staff had several telephone and email exchanges with the Group's representatives and consultants to discuss the Board's remaining comments and necessary modifications to the January 26, 2016 revised EWMP. On April 7, 2016, the Group submitted a second revised EWMP for Los Angeles Water Board review and approval. Some minor modifications were made and a third revised EWMP was submitted on April 13, 2016.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's third revised EWMP as submitted on April 13, 2016.

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Santa Monica Bay J2/J3 Watershed Management Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Section 4 Watershed Control Measures
- Table 4-4 Summary of Total Regional BMP Runoff Retained over Critical Year by Permittee
- Table 4-5 Summary of Distributed BMP Runoff Retained over Critical Year by Permittee
- Table 4-6 Summary of Regional and Centralized BMPs Required for Compliance
- Table 4-8 Summary Proposed of Regional EWMP Projects
- 4.3. Non-Storm Water Discharge Control Measures
- Section 5 EWMP Implementation Schedule
- 5.1. Compliance Schedule of Stormwater Control Measures
- Table 5-1 Summary of Regional and Centralized BMPs Required Compliance in 2018
- Figure 5-1 BMP Runoff Retained over Critical Year by Permittee by 2018
- Figure 5-2 BMP Runoff Retained over Critical Year by Permittee by 2021
- Table 5-2 Summary of Regional and Centralized BMPs Required Compliance in 2021
- Table 5-3 Regional BMP Capacity Required for Compliance (Acre-feet)
- Table 5-4 Green Street BMP Capacity Required for Compliance (Acre-feet)
- 5.4.3. Non-stormwater Control Measures
- 5.5.1. Compliance with Debris TMDL
- 5.5.2. SMB TMDL for DDTs and PCBs
- 5.6. Summary of Permittee Actions
- Section 6 Assessment and Adaptive Management Framework

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4)(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment M of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in its approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the

LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For green streets implementation, Permittees shall report on progress toward a structured approach to identifying a sufficient number of green street projects to meet compliance milestones (e.g., a green streets master plan). For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 23, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of

the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment M of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

Per Part VI.C.8.a.iv, Permittees shall also report the following information to the Los Angeles Water Board as part of the reporting for the adaptive management process:

- On-the-ground structural control measures completed;
- Non-structural control measures completed;
- Monitoring data that evaluates the effectiveness of implemented control measures in improving water quality;
- Comparison of the effectiveness of the control measures to the results projected by the RAA;
- Comparison of control measures completed to date with control measures projected to be completed to date pursuant to the Watershed
- Management Program or EWMP;
- Control measures proposed to be completed in the next two years pursuant to the Watershed Management Program or EWMP and the schedule for completion of those control measures;
- Status of funding and implementation for control measures proposed to be completed in the next two years.

Finally, as part of the adaptive management process, the Permittees shall re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;

- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 23, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Santa Monica Bay J2/J3 Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Mrs. Deborah Brandes of the Storm Water Permitting Unit at Deborah.Brandes@waterboards.ca.gov or by phone at (213) 576-6688. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: Santa Monica Bay J2/J3 Watershed Management Group Distribution List

Los Angeles Regional Water Quality Control Board

April 19, 2016

Permittees of the North Santa Monica Bay Watershed Management Group¹
(See Distribution List)

APPROVAL OF THE NORTH SANTA MONICA BAY WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the North Santa Monica Bay Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the North Santa Monica Bay Watershed Management Group (Group) submitted a draft EWMP on June 29, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members

¹ Permittees of the North Santa Monica Bay Watershed Management Group include the City of Malibu, County of Los Angeles, and Los Angeles County Flood Control District.

within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; comments specific to the North Santa Monica Bay EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs; however, no comments specific to the North Santa Monica Bay EWMP were raised.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, the Los Angeles Water Board staff corresponded with the consultants for this EWMP Group on August 6, 2015, in order to obtain some modeling files. On October 21, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMP.

The Group submitted a revised EWMP on January 19, 2016 for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Board staff had several telephone and email exchanges with the Group's representatives and consultants to discuss the Board's remaining comments and necessary modifications to the January 19, 2016 revised EWMP. On April 1, 2016, the Group submitted a second revised EWMP for Los Angeles Water Board review and approval. There were a small number of minor changes requested by Regional Boards staff to the April 1, 2016 version of the EWMP. The final version was submitted on April 7, 2016.

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's revised EWMP as submitted on April 7, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the North Santa Monica Bay Watershed Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table 5. Final RWLs and WQBELs for NSMBCW TMDLs
- Table 6. Single Sample Allowable Exceedance Days for NSMBCW Bacteria Monitoring Stations
- Figure 2. Compliance Monitoring Locations
- Table 7. General Timeline for FCS Installation
- Table 10. Dry Weather Permit Limits (Final Compliance Limits)
- Table 11. Non-Stormwater Outfall Screening and Monitoring Program Summary
- Section 5 Santa Monica Bay Watershed Demonstration of Compliance
 - Wet Weather Target Load Reductions
 - Best Management Practices
- Table 22. Allowable Discharge Days for each Modeled Analysis Region
- Table 23. Target Load Reductions for the Santa Monica Bay Watershed
- Table 24. TMDL Effective Dates and Final Compliance Dates
- Table 25. Common MCM Modifications/Enhancements for City and County
- Table 28. Proposed Distributed BMPs in the NSMBCW EWMP Area
- Figure 24. BMP Locations in Santa Monica Bay Watershed
- Section 6 Santa Monica Bay Watershed Demonstration of Compliance
 - Wet Weather Target Load Reductions
 - Best Management Practices
- Table 33. TMDL Effective Dates and Final Compliance Dates
- Section 7: EWMP Compliance Schedule
- Table 35. TMDL Compliance Dates and Load Reduction Requirements for WBPCs Within the NSMBCW EWMP Area
- Table 37. Proposed Implementation Schedule for NSMBCW EWMP BMPs

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4)(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachment M of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, The Permittees' full compliance with all requirements and dates for their achievement in its approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a Permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 19, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachment M of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Water quality objectives applicable to receiving waters within ASBS 24, as set forth in the California Ocean Plan;
- Improved water quality in MS4 discharges and receiving waters;
- Diversion of non-storm water discharges that would otherwise discharge to receiving waters within ASBS 24 to a sanitary sewer, where capacity and infrastructure exists;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

As part of the adaptive management process, the Permittees shall also re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) as well as any additional data collected from receiving waters within ASBS 24, and discharges from MS4 outfalls to ASBS 24, as required by the California Ocean Plan. When re-evaluating water quality priorities within ASBS 24, Permittees shall also consider attainment of applicable water quality objectives in the California Ocean Plan as well as any undesirable alteration in natural water quality. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;
- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and

April 19, 2016

- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 19, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the North Santa Monica Bay Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Mrs. Deborah Brandes of the Storm Water Permitting Unit at Deborah.Brandes@waterboards.ca.gov or by phone at (213) 576-6688. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures: North Santa Monica Bay Watershed Management Group Distribution List

North Santa Monica Bay Coastal Watershed EWMP Group

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Los Angeles Regional Water Quality Control Board

April 19, 2016

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Rancho Palos Verdes, CA 90275

Mr. Anton Dahlerbruch, City Manager
City of Palos Verdes Estates
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Palos Verdes Estates, CA 90274

Mr. Raymond R. Cruz, City Manager
City of Rolling Hills
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Rolling Hills, CA 90274

Mr. Douglas R. Prichard, City Manager
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Ms. Gail Farber, Chief Engineer
Los Angeles County Flood Control District
Department of Public Works
Watershed Management Division, 11th Floor
900 South Fremont Avenue
Alhambra, CA 91803

APPROVAL OF THE PALOS VERDES PENINSULA WATERSHED MANAGEMENT GROUP'S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Palos Verdes Peninsula Watershed Management Group¹:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to

¹ Permittees of the Palos Verdes Peninsula Watershed Management Group include the cities of Rancho Palos Verdes, Palos Verdes Estates and Rolling Hills Estates, the County of Los Angeles, and the Los Angeles County Flood Control District.

address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Palos Verdes Peninsula Watershed Management Group (Group) submitted a draft EWMP on June 26, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; no comments specific to the Palos Verdes Peninsula Watershed Management Group EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts (Sanitation Districts) and Ms. Joyce Dillard, contained specific comments on various EWMPs. The comments from the Sanitation Districts were specific to the Palos Verdes Peninsula Watershed Management Group EWMP; however, no comments specific to the Palos Verdes Peninsula Watershed Management Group EWMP were raised by Ms. Dillard.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, the Los Angeles Water Board staff had telephone and email exchanges with the Group's representatives and consultants to discuss the Board staff's questions, tentative comments, and potential revisions to the draft EWMP. On October 26,

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMPs.

The Group submitted a revised EWMP on January 25, 2016, for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Board staff had several telephone and email exchanges with the Group's representatives and consultants to discuss the Board's remaining comments and necessary modifications to the January 25, 2016 revised EWMP. On March 25, 2016, the Group submitted a second revised EWMP for Los Angeles Water Board review and approval. After review of the second revised EWMP, Board staff sent an email to the Group, which discussed minor necessary modifications to the March 25, 2016 revised EWMP. On April 13, 2016, the Group submitted a third revised EWMP, dated April 12, 2016, for Los Angeles Water Board review and approval.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's third revised EWMP dated April 12, 2016.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Palos Verdes Peninsula Watershed Management Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table 2-3: TMDL Compliance Dates Applicable to the Peninsula EWMP
- Section 3.1.3.2. Nonstructural Controls
- Table 3-1: New and Enhanced Fourth Term MS4 Permit Nonstructural MCMs (Participating Agencies, Excluding LACFCD)
- Section 3.1.3.3. Nonstormwater Discharge Measures
- Table 3-2: New and Enhanced Nonstormwater Discharge MCMs (Participating Agencies, Excluding LACFCD)
- Section 3.2.2. Nonstructural Targeted Control Measures

- Table 3-3: Nonstructural Targeted Control Measures (TCMs)
- Section 3.2.4.2. Regional BMPs
- Figure 3-5: Existing, Planned and Proposed Regional BMPs
- Table 3-5: Summary of Existing and Planned Regional BMPs
- Section 5.2. Schedules
- Table 5-2: TMDL and 303(d) WBPC Interim, Final, and Action Compliance Milestones
- Section 5.2.2. Structural Best Management Practice Schedule
- Table 5-4: Structural TCM Implementation Schedule
- Appendix 5 Potential Regional BMP Locations Technical Memorandum
- Appendix 5, Figure 1: Existing & Planned Regional BMPs
- Appendix 5, Table 2: Potential EWMP Regional Project Site List
- Appendix 5, Figure 10: Areas potentially available for Right-of-way BMPs
- Appendix 5, Table 4: Potential Locations for Right-of-way BMPs

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4)(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachments M and N of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in their approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Group's Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4)(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction schedule, start-up, and effectiveness evaluation (once operational), where applicable. For all stormwater retention projects, including LID BMPs implemented in compliance with

new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a Permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 19, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachments M and N of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

As part of the adaptive management process, the Permittees shall also re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;

- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures, why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 19, 2018, the Group's Report of Waste Discharge (ROWD) is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Palos Verdes Peninsula Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Ms. Rebecca Christmann of the Storm Water Permitting Unit at Rebecca.Christmann@waterboards.ca.gov or by phone at (213) 576-5734. Alternatively, you may also contact Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

cc: Andy Winje, City of Rancho Palos Verdes
Sheri Repp Loadsman, City of Palos Verdes Estates
Yolanta Schwartz, City of Rolling Hills
Greg Grammer, City of Rolling Hills Estates
Jolene Guerrero, County of Los Angeles, Department of Public Works
William Johnson, County of Los Angeles, Department of Public Works
John Hunter, John L. Hunter and Associates
Michelle Kim, John L. Hunter and Associates



Los Angeles Regional Water Quality Control Board

April 18, 2016

Permittees of the Beach Cities Watershed Management Group¹
(See Distribution List)

APPROVAL OF THE BEACH CITIES WATERSHED MANAGEMENT GROUP’S ENHANCED WATERSHED MANAGEMENT PROGRAM (EWMP), PURSUANT TO PART VI.C OF THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT (NPDES PERMIT NO. CAS004001; ORDER NO. R4-2012-0175 AS AMENDED BY STATE WATER BOARD ORDER WQ 2015-0075)

Dear Permittees of the Beach Cities Watershed Management Group:

On November 8, 2012, the California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board or Board) adopted Order No. R4-2012-0175, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach* (hereafter, LA County MS4 Permit). Part VI.C of the LA County MS4 Permit allows Permittees the option to develop either a Watershed Management Program (WMP) or an Enhanced Watershed Management Program (EWMP) to implement permit requirements on a watershed scale through customized strategies, control measures, and best management practices (BMPs). Development of a WMP or EWMP is voluntary and allows a Permittee to address the highest watershed priorities, including complying with the requirements of Part V.A (Receiving Water Limitations), Part VI.E and Attachments L through R (Total Maximum Daily Load Provisions), and by customizing the control measures in Parts III.A (Prohibitions – Non-Storm Water Discharges) and VI.D (Minimum Control Measures), except the Planning and Land Development Program. Pursuant to Part VI.C.4.c.iv of the LA County MS4 Permit, the Beach Cities Watershed Management Group (Group) submitted a draft EWMP on June 26, 2015 to the Los Angeles Water Board for review.

Public Review and Comment

On July 1, 2015, the Los Angeles Water Board provided public notice and a 61-day period to allow for public review and written comment on the draft EWMPs. A separate notice of availability regarding the draft EWMPs was directed to State Senators and Assembly Members

¹ Permittees of the Beach Cities Watershed Management Group EWMP include the Cities of Redondo Beach, Hermosa Beach, Manhattan Beach, Torrance, and the Los Angeles County Flood Control District.

within the Coastal Watersheds of Los Angeles County. The Board received four written comment letters in total. The comment letter submitted by the Construction Industry Coalition on Water Quality (CICWQ) had comments on the twelve EWMPs generally. The comment letter submitted jointly by the Natural Resources Defense Council (NRDC), Heal the Bay, and Los Angeles Waterkeeper (Environmental Groups) contained specific comments on four of the twelve EWMPs²; comments specific to the Beach Cities Watershed Management Group EWMP were raised. The two remaining letters, from the Los Angeles County Sanitation Districts and Ms. Joyce Dillard, contained specific comments on various EWMPs; however, no comments specific to the Beach Cities EWMP were raised.

On July 9, 2015, the Board held a public workshop at its regularly scheduled Board meeting on the draft EWMPs. On November 5, 2015, again during its regularly scheduled Board meeting, the Board held a second public workshop on the draft EWMPs. The Board held a third public workshop on March 3, 2016 for Permittees and interested persons to comment on and discuss the revised EWMPs with the Executive Officer, Board members, and staff. During our initial review of the draft EWMP and our review of the revised EWMP, the Los Angeles Water Board considered written comments and comments made at these workshops that were applicable to the Group's EWMP.

Los Angeles Water Board Review

Concurrent with the public review, the Los Angeles Water Board reviewed the draft EWMP. As part of the review process, the Los Angeles Water Board staff had a meeting on October 15, 2015, teleconferences on December 9, 2015 and December 15, 2015, and other telephone and email exchanges with the Group's representatives and consultants to discuss Board staff's questions, tentative comments, and potential revisions to the EWMP. On October 22, 2015, the Los Angeles Water Board sent a letter to the Group detailing the Board's comments on the draft EWMP and identifying the revisions that needed to be addressed prior to the Board's approval of the EWMP. Where appropriate, the public's comments were incorporated into the Board's review letter on the draft EWMP to ensure that the public's comments were addressed appropriately in the revised EWMPs.

In response to some of those comments, the City of Torrance opted to revise its Machado Lake Nutrient and Toxics Total Maximum Daily Load (TMDL) BMP Implementation Plan, initially submitted as Appendix D of the Groups' draft EWMP, to separately fulfill the elements and analyses required of an EWMP for the Machado Lake subwatershed. Accordingly, the Machado Lake subwatershed is being addressed separately by the City of Torrance in a supplement to the Beach Cities EWMP. The Los Angeles Water Board will make a final determination regarding the Machado Lake subwatershed supplement through separate correspondence to the City of Torrance.

² These four EWMPs were the North Santa Monica Bay EWMP, Upper San Gabriel River EWMP, Upper Los Angeles River EWMP, and Beach Cities EWMP.

The Group submitted a revised EWMP on January 20, 2016 for Los Angeles Water Board review and approval. After the Group's submittal of the revised EWMP, Board staff had a meeting on January 21, 2016 with the Group's representatives and consultants, as well as several follow up telephone and email exchanges, to discuss the Board's remaining comments and necessary modifications to the January 20, 2016 revised EWMP. The Group submitted a second revised EWMP on February 9, 2016 for Los Angeles Water Board review and approval. Los Angeles Water Board staff also discussed the revised and second revised Beach Cities EWMP with the Environmental Groups.

Approval of EWMP

The Los Angeles Water Board hereby approves the Group's second revised EWMP as submitted on February 9, 2016, which covers all waterbody-pollutant combinations (WBPCs) addressed in the Beach Cities EWMP except for the Machado Lake subwatershed within the City of Torrance's jurisdiction. As stated above, the Los Angeles Water Board will make a determination regarding the City of Torrance's supplement for the Machado Lake subwatershed (aka the Revised Machado Lake Nutrient and Toxics TMDL BMP Implementation Plan) through separate correspondence to the City of Torrance.

Determination of Compliance with EWMP

Pursuant to Part VI.C.6 of the LA County MS4 Permit, the Permittees of the Beach Cities Watershed Management Group shall begin implementation of the approved EWMP immediately. To continue to be afforded the opportunity to implement permit provisions within the framework of the EWMP, Permittees must fully and timely implement all actions per associated schedules set forth in the approved EWMP regardless of any contingencies indicated in the approved EWMP (e.g., funding) unless a modification to the approved EWMP, including any extension of deadlines where allowed, is approved by the Los Angeles Water Board pursuant to Part VI.C.6.a or Part VI.C.8.a.ii-iii of the LA County MS4 Permit. The Los Angeles Water Board will determine the Permittees' compliance with the EWMP on the basis of the compliance actions and milestones included in the EWMP including, but not limited to, the following:

- Table ES-5. Proposed Structural BMPs in the Santa Monica Bay Watershed
- Figure ES-3. Proposed Project Sequencing in the Santa Monica Bay Watershed
- Figure ES-5. Project Sequencing in the Dominguez Channel Watershed
- Table ES-10. Proposed Structural BMPs in the Dominguez Channel Watershed
- Table ES-12. Compliance Schedule for the Santa Monica Bay and Dominguez Channel Watersheds
- Section 2.3.3 Incorporated Provisions
- Figure 2-4. Non-Stormwater Outfall Screening Program
- Table 2-8. MCM Modifications and Agency-Specific Enhancements for Beach Cities EWMP Area
- Figure 2-13. Existing and Proposed Regional BMPs within EWMP Area

- Figure 2-14. Existing and Proposed Distributed BMP Locations within the EWMP Area
- Figure 2-15. Proposed Regional Projects, Analysis Region SMB-5-02
- Figure 2-16. Proposed Regional Projects, Analysis Region SMB-6-01
- Table 2-15. Existing and Proposed BMPs
- Appendix L
- Section 3.3.3 Incorporated Provisions
- Figure 3-9. Proposed Distributed BMPs within the Dominguez Channel Watershed
- Figure 3-10. Proposed Regional BMPs within the Dominguez Channel Watershed
- Figure 3-11. Proposed Regional BMPs, DC-RB/MB Analysis Region
- Section 4.1.1. Implementation Schedule – Santa Monica Bay Watershed
- Table 4-1. Compliance Deadlines associated with Santa Monica Bay Watershed WBPCs
- Section 4.1.2. Implementation Schedule – Dominguez Channel Watershed
- Table 4-2. Implementation Actions and Dates associated with Dominguez Channel Watershed WBPCs
- Figure 4-1. Proposed Project Sequencing

Pursuant to Parts VI.C.3 and VI.E.2.d.i.(4).(a) of the LA County MS4 Permit, the Permittees' full and timely compliance with all actions and dates for their achievement in their approved EWMP shall constitute compliance with permit provisions pertaining to applicable water quality-based effluent limitations (WQBELs)/wasteload allocations (WLAs) in Part VI.E and Attachments M and N of the LA County MS4 Permit. Further, per Part VI.C.2.b of the LA County MS4 Permit, the Permittees' full compliance with all requirements and dates for their achievement in its approved EWMP constitutes compliance with the receiving water limitations provisions of Part V.A of the LA County MS4 Permit for the specific waterbody-pollutant combinations addressed by the approved EWMP.

If the Permittees fail to meet any requirement or date for its achievement in the approved EWMP, which will be demonstrated through the Groups' Annual Reports and program audits (when conducted), the Permittees shall be subject to the baseline requirements of the LA County MS4 Permit, including but not limited to demonstrating compliance with applicable receiving water limitations and TMDL-based WQBELs/WLAs through outfall and receiving water monitoring. See Parts VI.C.2.c and VI.E.2.d.i.(4).(c) of the LA County MS4 Permit.

Annual Reporting

The Permittees shall report, as a group, on achievement of actions and milestones within the reporting year, as well as progress towards future milestones related to multi-year projects, through their Annual Report per Attachment E, Part XVIII of the LA County MS4 Permit. For multi-year efforts, the Permittees shall include the status of the project, which includes the status with regard to standard project implementation steps. These steps include, but are not limited to, adopted or potential future changes to municipal ordinances to implement the project, site selection, environmental review and permitting, project design, acquisition of grant or loan funding and/or municipal approval of project funding, contractor selection, construction

schedule, start-up, and effectiveness evaluation (once operational), where applicable. For all stormwater retention projects, including LID BMPs implemented in compliance with new/redevelopment provisions, green streets provisions, and regional BMPs, the Permittees shall report annually on the volume of stormwater retained in each subwatershed area.

The Permittees shall also include in their Annual Report the source(s) of funds used during the reporting year, and those funds proposed for the coming year, to meet necessary expenditures related to implementation of the actions identified in their EWMP per Part VI.A.3 of the LA County MS4 Permit. Further, as part of the annual certification concerning a Permittee's legal authority required by Part VI.A.2.b of the LA County MS4 Permit, each Permittee shall also certify in the Annual Report that they have the necessary legal authority to implement the actions and milestones in the approved EWMP as required by Part VI.C.5.b.iv.(6). If a Permittee does not have legal authority to implement an action or milestone at the time the Group submits their Annual Report, the Permittee(s) shall propose a schedule to establish and maintain such legal authority.

Adaptive Management

The Permittees, as a group, shall conduct a comprehensive evaluation of their EWMP no later than two years after the date of this approval (i.e., by April 18, 2018), and subsequently, every two years thereafter pursuant to the adaptive management process set forth in Part VI.C.8 of the LA County MS4 Permit. As part of this process, the Permittees must evaluate progress toward achieving:

- Applicable WQBELs/WLAs in Attachments M and N of the LA County MS4 Permit according to the milestones set forth in their EWMP;
- Improved water quality in MS4 discharges and receiving waters;
- Stormwater retention milestones; and
- Multi-year efforts that were not completed in the current year and will continue into the subsequent year(s), among other requirements.

As part of the adaptive management process, the Permittees shall also re-evaluate their Category 2 and Category 3 water quality priorities based on data collected through their Coordinated Integrated Monitoring Program (CIMP) for the Permittees' discharges. Where new water quality priorities are identified, the Permittees shall conduct a RAA for the pollutants and identify and incorporate into their EWMP appropriate watershed control measures to address them.

The Permittees' evaluation of the above shall be based on both progress implementing actions in the EWMP and an evaluation of outfall-based monitoring data and receiving water monitoring data. Per Attachment E, Part XVIII.6 of the LA County MS4 Permit, the Permittees shall implement adaptive management strategies, including but not limited to:

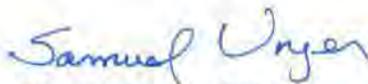
- Refinement and recalibration of the Reasonable Assurance Analysis (RAA) based on data specific to the Group's EWMP area that are collected through the Group's CIMP and other data, as appropriate;

- Identifying the most effective control measures, why they are the most effective, and how other control measures can be optimized based on this understanding;
- Identify the least effective control measures (i.e. catch basin inserts), why they are ineffective, and how the control measures can be modified or replaced to be more effective;
- Identify significant changes to control measures during the prior year(s) and the rationale for the changes; and
- Describe all significant changes to control measures anticipated to be made in the next year(s) and the rationale for each change.

As part of the adaptive management process, any modifications to the EWMP, including any requests for extension of deadlines not associated with TMDL provisions, must be submitted to the Los Angeles Water Board for review and approval. The Permittees must implement any modifications to the EWMP upon approval by the Los Angeles Water Board or its Executive Officer, or within 60 days of submittal of modifications if the Los Angeles Water Board or its Executive Officer expresses no objections. Note that while the first adaptive management process is scheduled for April 18, 2018, the Group's ROWD is due no later than July 1, 2017. The Group should conduct a preliminary evaluation of its EWMP in the spring of 2017 and present the results of the evaluation and any proposed modifications to the EWMP in the Group's ROWD.

The Los Angeles Water Board appreciates the participation and cooperation of the Permittees in the Beach Cities Watershed Management Group in the implementation of the LA County MS4 Permit. If you have any questions, please contact Ms. Erum Razzak of the Storm Water Permitting Unit at Erum.Razzak@waterboards.ca.gov or by phone at (213) 620-2095. Alternatively, you may also contact Mr. Ivar Ridgeway, Chief of the Storm Water Permitting Unit, at Ivar.Ridgeway@waterboards.ca.gov or by phone at (213) 620-2150.

Sincerely,



Samuel Unger, P.E.
Executive Officer

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ATTACHMENT H-4

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN,
EXCEPT THE CITY OF LONG BEACH

December 13, 2001

(Amended on September 14, 2006 by Order R4-2006-0074; August 9, 2007 by Order R4-2007-0042; December 10, 2009 by Order R4-2009-0130; and October 19, 2010 and April 14, 2011 pursuant to the peremptory writ of mandate in L.A. Superior Court Case No. BS122724)

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STATE OF CALIFORNIA
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The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. Existing Permit

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. Nature of Discharges and Sources of Pollutant

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District Integrated Receiving Water Impacts Report (1994-2000) are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.
2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited

jurisdiction over. Examples of such pollutants and their respective sources are: PAHs which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.
4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (ii) audit of MS4 Permittee programs; and (iii) clarifying enforcement responsibilities between the State and local governments.
5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. See, e.g., [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight*, Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation: Technical Review* (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight*, Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001)].
6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification

process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, *Effects of Water Development and Management on Aquatic Ecosystems* (1995), ASCE, New York; Leopold, L. B., (1973), *River Channel Change with Time: An Example*, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., (1972), *Stream Channel Enlargement Due to Urbanization: Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., (1991), *Urbanization and the Natural Drainage System--Impacts, Solutions and Prognoses: The Northwest Environmental Journal*, v. 7, p. 93-118; Klein, R. D., (1979), *Urbanization and Stream Quality Impairment: Water Resources Bulletin*, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., (1997), *Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion: Watershed Protection Techniques*, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic Geometry, Stream Equilibrium and Urbanization* In Rhodes, D. P. and Williams, G. P. *Adjustments to the Fluvial System* p.333-350. (1979); Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness: Watershed Protection Techniques*, 1(3), Schueler, T. (1994).)
8. The County of Los Angeles has identified as the seven highest priority industrial and commercial critical source types, (i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/parking; (iii) fabricated

metal products; (iv) motor freight; (v) chemical and allied products; (vi) automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report*, Los Angeles County Department of Public Works -Sept 1996). Monitoring conducted by Los Angeles County and the Regional Board demonstrates that the priority industrial sectors and auto repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works -July 2000; *Compliance Assessment of the Auto Dismantling Industry; Evaluation of the California General Industrial Storm Water Permit*, H. Chang, (2001), 70 pp., California Regional Water Quality Control Board, Los Angeles Region).

9. The discharge of washwaters and contaminated storm water from industries and businesses specified in this Order for inspection by Permittees is an environmental threat and can also adversely impact public health and safety. For example, a review of industrial waste/pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board - 1987 Huron River Pollution Abatement Program).
10. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In *Innovative Urban Wet-Weather Flow Management Systems* (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]
11. Retail Gasoline Outlets (RGOs) are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. [*The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban MD*, Schueler T. and

Shepp D. (1992), and *Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Landuse*, Ranabal, F.I., and T.J. Gizzard (1995), In Proceedings of the Fourth Biennial Stormwater Research Conference, Florida, pp-42-52]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria, as well in other U.S. States.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) Adequate Legal Authority, (ii) Fiscal Resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) Monitoring and Reporting Program.
2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed SQMP and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

Public Information and Participation
 Development Planning
 Development Construction
 Public Agency Activities
 Illicit Connection/Illicit Discharge Elimination Program

These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water Monitoring Program. The Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP, incorporating the additional and/or revised provisions contained in this Order would meet the minimum requirements of federal regulations.
5. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing*, Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles.
2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.
3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and then to Santa Monica Bay,

About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and then to Santa Monica Bay, and

About 86 square miles of area in Orange County, which drain into Coyote Creek and then into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U.S. subject to the Permittees' jurisdiction.
5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C. § 1251-1387). This section requires the USEPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.
 - The USEPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed. Reg.* 47990).
 - The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed. Reg.* 68722).
2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contain certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.
4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].
5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).
6. Section 402 (p) of the CWA (33 U.S.C. § 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).
7. The CWA authorizes the USEPA to permit a state to serve as the NPDES permitting authority in lieu of the USEPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Board, through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. The State Board entered into a MOA with the USEPA, on

September 22, 1989, to administer the NPDES Program governing discharges to waters of the U.S.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, still meet applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and requires amending the SQMP after pollutants loads have been allocated and approved.
9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. § 1451-1465) amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.
10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR)) 65 *Fed. Reg.* 31682 (40 CFR 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000*, on March 2, 2000, for implementation of the CTR (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy.
11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives which apply to all discharges to the coastal waters of California.
12. The State Board in *In Re: California Department of Transportation* (State Board Order WQ 2001-08), determined that the discharge of storm water to ASBS is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, '*Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.
14. The Regional Board on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River Watershed (Resolution No. R01-013) and Ballona Creek Watershed (Resolution No. R01-014). The amendments were subsequently approved by the State Board, the Office of Administrative Law, and the United States Environmental Protection Agency. Twenty-two cities¹ ("Cities") sued the Regional Board and State Board to set aside the Los Angeles River Trash TMDL. The trial court entered an order deciding some claims in favor of the Water Boards and some in favor of the Cities. Both sides appealed, and on January 26, 2006, the Court of Appeal decided every one of the Cities' claims in favor of the Water Boards, except with respect to California Environmental Quality Act (CEQA) compliance (*City of Arcadia et al. v. Los Angeles Regional Water Quality Control Board et al.* (2006) 135 Cal.App.4th 1392). The Court therefore declared the Los Angeles River Trash TMDL void, and issued a writ of mandate that ordered the Water Boards to set aside and not implement the TMDL, until it had been brought into compliance with CEQA. As a result of the appellate court's decision, in 2006, the Regional Board set aside its 2001 action incorporating the TMDL into the Basin Plan (Resolution R06-013) (*City of Arcadia et al. v. Los Angeles Regional Water Quality Control Board et al.* (2006) 135 Cal.App.4th 1392). After conducting the required CEQA analysis, the Regional Board readopted the Los Angeles River Watershed Trash TMDL on August 9, 2007 (Resolution No. R07-012). This TMDL was subsequently approved by the State Board (Resolution No. 2008-0024), the Office of Administrative Law (File No. 2008-0519-02 S), and the United States Environmental Protection Agency, and became effective on September 23, 2008. The Water Boards filed their final return to the writ of mandate on August 6, 2008, and on August 26, 2008, the superior court entered an order discharging the writ, and dismissing the case, thus concluding the legal challenges to the Trash TMDL.
15. The Regional Board on April 13, 1998, approved BMPs for sidewalk rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.

¹ The cities include Arcadia, Baldwin Park, Bellflower, Cerritos, Commerce, Diamond Bar, Downey, Irwindale, Lawndale, Monrovia, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, Sierra Madre, Signal Hill, South Pasadena, Vernon, West Covina, and Whittier.

16. The Regional Board on April 13, 1998, approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08).
17. The Regional Board on April 22, 1999, approved a list of BMPs for use in development planning and development construction (Resolution No. 99-03)
18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.
 - The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water quality design criteria for RGOs.
 - The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.
19. 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. Authorizing the construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.
20. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other

stakeholders in the watershed to achieve the greatest environmental improvements with available resources.

21. To promote a watershed management approach, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

Malibu Creek and Rural Santa Monica Bay WMA
Ballona Creek and Urban Santa Monica Bay WMA
Los Angeles River WMA
San Gabriel River WMA
Dominguez Channel/Los Angeles Harbor WMA, and
Santa Clara River WMA

Attachment A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

22. To facilitate compliance with federal regulations, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

The Regional Board is the enforcement authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, which established an anti-degradation policy for the State and Regional Boards. This policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.
24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy,

and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)

25. California Water Code (CWC) § 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; and provisions of CWC § 13241. The Regional Board has considered the requirements of § 13263 and § 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.
26. CWC § 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the federal CWA and its amendments.
27. On March 12, 2001, the U.S. Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District*, 243 F.3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

The Marina Del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL

28. [Intentionally left blank]
29. The Regional Board adopted the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (hereinafter "MDR Bacteria TMDL") on August 7, 2003. The TMDL was subsequently approved by the SWRCB, the OAL, and the USEPA and became effective on March 18, 2004.
30. Tables 7-5.1, 7-5.2, and 7-5.3 of the Basin Plan set forth the pertinent provisions of the MDR Bacteria TMDL.
31. [Intentionally left blank]
32. [Intentionally left blank]

33. On March 14, 2007, Marina del Rey watershed responsible agencies submitted to the Regional Board the results of a non-point source study conducted over a one year period between July 2005 and July 2006, which was required under the terms of the MDR TMDL. The study was designed to determine the relative bacterial loading to the harbor from sources including but not limited to storm drains, boats, birds, and other non-point sources. The study has not yet been peer reviewed, and is currently under review by Regional Board staff.
34. On January 8, 2007, as required by the MDR Bacterial TMDL, Marina del Rey watershed responsible agencies submitted to the Regional Board an implementation plan describing the strategy by which they intend to comply with the MDR Bacterial TMDL. This implementation plan was developed through a process that included both Regional Board staff and representatives from Heal the Bay and Santa Monica Baykeeper.
35. The Regional Board acknowledges the County's timely submittals of reports required by the TMDL and implementation measures initiated thus far towards meeting water quality standards for bacteria in Marina del Rey. As a result of the adoption of the MDR Bacterial TMDL in 2003, the County has funded or received grants to initiate the following activities:
- Marina Beach Water Quality Improvement Project, Phase I and Phase II through a CBI grant;
 - Mothers' Beach and Back Basins Bacterial TMDL Non-point Source Study;
 - Marina del Rey Harbor Mothers Beach and Back Basins Report of Small Drain Identification;
 - Marina del Rey Vessel Discharge Report;
 - Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan; and
 - Three low-flow diversion projects, which were partially funded by a grant, two of which have been completed.

In addition to participation in the above studies, the County and other Marina del Rey watershed responsible agencies continue to implement BMPs proposed in the January 8, 2007, Implementation Plan.

36. [Intentionally left blank]²
37. [Intentionally left blank]
- a) [Intentionally left blank]

² [Intentionally left blank]

- b) [Intentionally left blank]
 - c) [Intentionally left blank]
 - d) [Intentionally left blank]
38. [Intentionally left blank]
39. [Intentionally left blank]

Findings Related to the Incorporation of the Los Angeles River Watershed Trash TMDL

40. The Regional Board adopted the Los Angeles River Trash Total Maximum Daily Load (TMDL) on August 9, 2007 as an amendment to the region's Water Quality Control Plan (Basin Plan) to address water quality impairments due to trash in the Los Angeles River Watershed that were identified in 1998 on the State's Clean Water Act Section 303(d) List. This TMDL was subsequently approved by the State Board, the Office of Administrative Law (OAL), and the USEPA, and it became effective on September 23, 2008.
41. By its adoption of the Trash TMDL, the Regional Board determined that trash discharged to the Los Angeles River and its tributaries discourages recreational activity, degrades aquatic habitat, threatens wildlife through ingestion and entanglement, and also poses risks to human health. Existing beneficial uses impaired by trash in the Los Angeles River are contact recreation (REC-1) and non-contact recreation (REC-2); warm fresh water habitat (WARM); wildlife habitat (WILD); estuarine habitat (EST) and marine habitat (MAR); rare, threatened or endangered species (RARE); migration of aquatic organisms (MIGR) and spawning, reproduction and early development of fish (SPWN); commercial and sport fishing (COMM); wetland habitat (WET); and cold freshwater habitat (COLD).
42. The Los Angeles River Watershed Trash TMDL identifies discharges from the municipal separate storm sewer system as the principal source of trash to the Los Angeles River and its tributaries. As such, WLAs were assigned to MS4 Permittees that discharge to the MS4 in the watershed. The WLAs are expressed as progressively decreasing allowable amounts of trash discharges from jurisdictional areas within the watershed. The Trash TMDL requires MS4 Permittees to make annual reductions of their discharges of trash to the Los Angeles River Watershed over a 9-year period, until the numeric target of zero trash discharged from the MS4 is achieved for the 2013-2014 storm year. The Basin Plan assigns MS4 Permittees within the Los Angeles River Watershed baseline Waste Load Allocations from which annual reductions are to be made. (See Basin Plan, Table 7-2.2.) The Basin Plan also specifies interim and final Waste Load Allocations as decreasing percentages of the Table 7-2.2 baseline

WLAs, and specifies the corresponding “Compliance Points”. (See Basin Plan, Table 7-2.3.)

43. The Los Angeles River Watershed Trash TMDL specifies that the WLAs shall be implemented through MS4 permits. Federal regulations require that NPDES permits be consistent with the assumptions and requirements of any available waste load allocation. (40 CFR 122.44(d)(1)(vii)(B).) State law requires both that the Regional Board implement its Basin Plan when adopting waste discharge requirements (WDRs) and that NPDES permits apply “any more stringent effluent standards or limitations necessary to implement water quality control plans...” (Wat. Code §§ 13263, 13377).
44. The Ninth Circuit Court of Appeals in *Defenders of Wildlife v. Browner* ruled that the Clean Water Act grants the permitting agency discretion either to require “strict compliance” with water quality standards through the imposition of numeric effluent limitations, or to employ an iterative approach toward compliance with water quality standards, by requiring improved BMPs over time (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159). In a precedential decision, the State Board acknowledged that the holding in *Browner* allows the issuance of MS4 permits that limit their provisions to BMPs that control pollutants to the MEP, and which do not require compliance with water quality standards. However, the Water Boards have declined to adopt that approach in light of the impacts of discharges from MS4s on waters throughout the State and Los Angeles region (see Order WQ 2001-15 and Part 2 of the LA County MS4 Permit). The State Board concluded and the Regional Board agrees that “where urban runoff is causing or contributing to exceedances of water quality standards, it is appropriate to require improvements to BMPs that address those exceedances” (Order WQ 2001-15, p. 8).
45. In a recent decision, the State Board also concluded that incorporation of the provisions of TMDLs into MS4 permits requires extra consideration. Specifically, the State Board held: “TMDLs, which take significant resources to develop and finalize, are devised with specific implementation plans and compliance dates designed to bring impaired waters into compliance with water quality standards. It is our intent that federally mandated TMDLs be given substantive effect. Doing so can improve the efficacy of California’s NPDES storm water permits.” The State Board stated that TMDLs should not be an “academic exercise”, and indicated that in some instances when implementing TMDLs, numeric effluent limitations may be an appropriate means of controlling pollutants in storm water, provided the Regional Board’s determination is adequately supported in the permit findings (Order WQ 2009-0008). The following paragraphs support the Regional Board’s determination to implement the Trash TMDL with numeric effluent limitations.
46. The Trash TMDL specified a specific formula for calculating and allocating annual reductions in trash discharges from each jurisdiction.

The formula results in specified annual amounts of trash that may be discharged from each jurisdiction into the receiving waters. Translation of the compliance points described in the TMDL into jurisdiction-specific load reductions from the baseline levels, as specified in the TMDL, logically results in the articulation of an annual limit on the amount of a pollutant that may be discharged. The specification of allowable annual trash discharge amounts meets the definition of an “effluent limitation”, as that term is defined in subdivision (c) of section 13385.1 of the California Water Code. Specifically, the trash discharge limitations constitute a “numeric restriction ... on the quantity [or] discharge rate ... of a pollutant or pollutants that may be discharged from an authorized location.” While there may be other ways to incorporate the compliance points from the TMDL into permit conditions, the Regional Board is not aware of any other mechanisms that would result in actual compliance with the requirements of the TMDL as it was intended.

47. The process to establish the Trash TMDL was exceedingly lengthy, heavily litigated and scrutinized, and contained extensive analysis. The essence of this TMDL has been twice adopted by the Regional Board, and approved by the State Board, OAL, and the US EPA, and has been subject to considerable judicial review. Therefore, the assumptions underlying this TMDL have been thoroughly vetted by staff, stakeholders, other agencies, and the courts over a significant period of time.
48. In its resolution establishing the Trash TMDL, the Regional Board already determined that the implementation schedule was reasonable and feasible, and noted that the MS4 Permittees had notice of the trash impairment since at least 1998 (with its listing on the 1998 303(d) list) and had been required to attain water quality standards for trash in the receiving waters since this order was first adopted in December of 2001. (See e.g., Resolution R07-012, finding 14.) The Court of Appeal affirmed the Regional Board’s determination that the final waste load allocations were attainable and not inordinately expensive. (*Cities of Arcadia*, 135 Cal.App.4th at 1413 and 1427-1430.) Full capture systems, partial capture devices, and institutional controls are presently available to feasibly and practicably attain the interim and final effluent limitations, and it is anticipated that this order will precipitate additional innovations in control strategies and technologies, just as the adoption of the Trash TMDL resulted in the proffering and certification of seven full capture systems.
49. The Trash TMDL and this order include provisions that allow Permittees to be deemed in compliance with their effluent limitations through the installation of certain best management practices (certified full capture systems). Any Permittee that is deemed in compliance through the use of certified full capture systems would not be in violation of the effluent limitations even if some trash is discharged in excess of the annual limitations.
50. The Trash TMDL includes provisions requiring its reconsideration after a trash reduction of 50% has been achieved and sustained in the

watershed, which provides an opportunity to reexamine some of the assumptions of the TMDL after tangible and meaningful progress has been made in the watershed. (See Basin Plan, Table 7-2.3, fn. 2.) Should this reconsideration result in a modification to the final waste load allocations, the permit will be reopened pursuant to Part 6., paragraph I.1.b, to ensure the effluent limitations contained in Tables 1a and 1b of Appendix 7-1 are consistent with the assumptions and requirements of any revised waste load allocations. (40 CFR § 122.44(d)(1)(vii)(B).)

51. Depending upon the compliance strategy selected by each Permittee, compliance with the effluent limitations set forth in Appendix 7-1 may require a demonstration that the Permittee is in strict compliance with water quality standards. It remains the Permittee's choice, however, to comply via certified full capture systems (which do not require a demonstration of strict compliance with water quality standards), or partial capture devices and/or institutional controls.
52. Section 402(p)(3)(B)(iii) of the Clean Water Act, requires MS4 Permittees to reduce the pollutants in their storm water discharges to the "maximum extent practicable" (MEP). As set forth herein, "practicable" options presently exist to achieve compliance with the effluent limitations. Since the effluent limitations can be practicably achieved, their imposition is within the federally mandated MEP standard, and no analysis contemplated by *City of Burbank v. SWRCB* (2005) 35 Cal.4th 613 pursuant to Water Code section 13241 is necessary to support these effluent limitations.
53. In its discretion, the Regional Board may administratively impose civil liability of up to \$10,000 for "each day in which the violation [of waste discharge requirements] occurs." (Wat. C. § 13385, subd (c).) Not every storm event may result in trash discharges. The Los Angeles River Trash TMDL adopted by the Regional Board states that improperly deposited trash is mobilized during storm events of greater than 0.25 inches of precipitation. Therefore, violations of the effluent limitations are limited to the days of a storm event of greater than 0.25 inches. Once a Permittee has violated the annual effluent limitation, any subsequent discharges of trash during any day of a storm event of greater than 0.25 inches during the same storm year constitutes an additional "day in which the violation [of the effluent limitation] occurs".
54. Unlike subdivision (c) of Water Code section 13385 where violations of effluent limitations are assessed on a per day basis, the mandatory minimum penalties subdivisions (Wat. Code § 13385, subd. (h) and (i)) require the Regional Board to assess mandatory minimum penalties for "each violation" of an effluent limitation. The effluent limitations in Appendix 7-1 are expressed as annual limitations. Therefore, there can be no more than one violation of each interim or final effluent limitation per year. Trash is considered a Group I pollutant, as specified in Appendix A to section 123.45 of Title 40 of the Code of Federal Regulations. Therefore, each annual violation of an effluent limitation in

Appendix 7-1 by forty percent or more would be considered a “serious violation” under subdivision (h). With respect to the final effluent limitation of zero trash, any detectable discharge of trash necessarily is a serious violation, in accordance with the State Board’s Enforcement Policy. Violations of the effluent limitations in Appendix 7-1 would not constitute “chronic” violations that would give rise to mandatory liability under subdivision (i) because four or more violations of the effluent limitations subject to a mandatory penalty cannot occur in a period of six consecutive months.

55. Therefore, the modifications to the Order include effluent limitations in a manner consistent with the assumptions and requirements of the WLAs from which they are derived as well as an allowance to comply with these effluent limitations [*i.e.* WLAs] through proper installation and maintenance of certified full capture systems.
56. Modifications consistent with the assumptions and requirements of the TMDL are therefore included in Parts 4 (Special Provisions) and 5 (Definitions) of this Order. Part 7 (Total Maximum Daily Load Provisions) is added to this Order and incorporates provisions to assure that Los Angeles County MS4 Permittees achieve the Waste Load Allocations (WLAs) and comply with other requirements of Total Maximum Daily Loads (TMDLs) covering impaired waters impacted by the Permittees’ discharges. These modifications are made pursuant to 40 CFR sections 122.41(f), 122.44.(d)(1)(vii)(B), and 122.62, and Part 6.1.1 of this Order. Tables 7-2.1, 7-2.2, and 7-2.3 of the Basin Plan set forth the pertinent provisions of the Los Angeles River Watershed Trash TMDL. The interim and final effluent limitations consistent with the assumptions and requirements of the waste load allocations, and related provisions required of Permittees within the watershed are provided in Part 7 of this Order.
57. Permittees identified as responsible agencies in the Trash TMDL may achieve compliance with interim and final effluent limitations through progressive installation of BMPs meeting the definition of “full capture” throughout their jurisdictions’ drainage areas. Alternatively, Permittees may install “partial capture” devices and/or implement institutional controls to meet their respective interim and final effluent limitations. Where partial capture devices are utilized as the sole trash control measure, the degree of compliance may be demonstrated based upon performance data specific to the jurisdictional area. However, compliance with the final effluent limitation cannot be achieved through the exclusive use of partial capture devices. Where a combination of partial capture devices and institutional controls are used, compliance shall be determined based on the approximation of jurisdiction-specific trash discharges.
58. The Executive Officer will develop a standard reporting form, consistent with these provisions, which shall be used by Permittees to report compliance with the effluent limitations on an annual basis.

60. Pursuant to federal regulations at 40 CFR sections 124.8 and 125.56, a Fact Sheet was prepared to provide the basis for incorporating the Los Angeles River Watershed Trash TMDL into this Order. This Fact Sheet is hereby incorporated by reference into these findings.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.
2. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.
3. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.
4. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then Structural and Treatment Control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation

and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.

5. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.
6. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the SIP. The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interference. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.
7. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.
8. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the MEP from new development and redevelopment activities. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and its requirements are not intended to restrict or control local land use decision-making authority.
9. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain Treatment Control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.
2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.
3. The Regional Board has conducted public workshops to discuss drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.
4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is responsible only for a discharge for which it is the operator.
5. This Order shall serve as a NPDES Permit, pursuant to CWA § 402, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.
6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal. Pub. Resources Code § 21100 *et seq.*), in accordance with CWC § 13389.
7. Pursuant to CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to: State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.
8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the NPDES program, and the CWC for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell,

Amended by Orders R4-2006-0074, R4-2007-0042, and R4-2009-0130, and further amended pursuant to L.A. Superior Court Case No. BS122724

Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

- Part 1. A. The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges:
1. Are covered by a separate individual or general NPDES permit for non-storm water discharges; or
 2. Fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:
 - a) Category A - Natural flow:
 - (1) Natural springs and rising ground water;
 - (2) Flows from riparian habitats or wetlands;
 - (3) Stream diversions, permitted by the State Board; and
 - (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].
 - b) Category B - Flows from emergency fire fighting activity.
 - c) Category C - Flows incidental to urban activities:
 - (1) Reclaimed and potable landscape irrigation runoff;
 - (2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination and suspended solids reduction practices);
 - (3) Drains for foundations, footings, and crawl spaces;
 - (4) Air conditioning condensate;

- (5) Dechlorinated/debrominated swimming pool discharges;
- (6) Dewatering of lakes and decorative fountains;
- (7) Non-commercial car washing by residents or by non-profit organizations; and
- (8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of antidegradation policies and TMDLs.

Part 1. B. [Intentionally left blank]^{3,4}

Part 2. RECEIVING WATER LIMITATIONS

1. Discharges from the MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives are prohibited.
2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.
3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of Water Quality Objectives or Water Quality Standards (collectively, Water Quality Standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:
 - a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report (as

³ [Intentionally left blank]

⁴ [Intentionally left blank]

described in the Program Reporting Requirements, Section I of the Monitoring and Reporting Program) to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of Water Quality Standards. This RWL Compliance Report may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The RWL Compliance Report shall include an implementation schedule. The Regional Board may require modifications to the RWL Compliance Report.

- b) Submit any modifications to the RWL Compliance Report required by the Regional Board within 30 days of notification.
 - c) Within 30 days following the approval of the RWL Compliance Report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, an implementation schedule, and any additional monitoring required.
 - d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.
4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.
 5. [Intentionally left blank]⁵
 6. During Summer Dry Weather there shall be no discharges of bacteria from MS4s into Marina del Rey Harbor Basins D, E, or F, including Mothers' Beach that cause or contribute to exceedances of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.⁶

⁵ [Intentionally left blank]

⁶ Samples collected for determining compliance with the receiving water limitations of Part 2.6 shall be processed in accordance with the sampling procedures and analytical methodology set forth in the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Shoreline Monitoring Plan* dated April 13, 2007 and the Monitoring and Reporting Program CI 6948.

Part 3. STORM WATER QUALITY MANAGEMENT PROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order. The SQMP shall be implemented no later than February 1, 2002, unless a later date has been specified for a particular provision in this Order.
2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the MEP.
3. Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in storm water to the MEP.
4. Permittees that modify the countywide SQMP (i.e., implement additional controls, implement different controls than described in the countywide SQMP, or determine that certain BMPs in the countywide SQMP are not applicable in the area under its jurisdiction), shall develop a local SQMP, no later than August 1, 2002. The local SQMP shall be customized to reflect the conditions in the area under the Permittee's jurisdiction and shall specify activities being implemented under the appropriate elements described in the countywide SQMP.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution control. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the MEP.

C. Revision of the Storm Water Quality Management Program

The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments so as to comply with regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;

2. Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;
3. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components;
4. Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;
5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;
6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;
7. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and
8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings D.1, D.2. and D.3.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;
2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;
3. Designate a technically knowledgeable representative to the appropriate WMC;
4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SQMP.
5. Prepare an annual Budget Summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:
 - a) Program management
 - Administrative costs
 - b) Program Implementation

Where information is available, provide an estimated percent breakdown of expenditures for the categories below:

- Illicit connection/illicit discharge
 - Development planning
 - Development construction
 - Construction inspection activities
 - Industrial/Commercial inspection activities
 - Public Agency Activities
 - Maintenance of Structural BMPs and Treatment Control BMPs
 - Municipal Street Sweeping
 - Catch basin clean-up
 - Trash collection
 - Capital costs
- c) Public Information and Participation
- d) Monitoring Program
- e) Miscellaneous Expenditures
6. Each Permittee, in addition to the Budget Summary, shall report any supplemental dedicated budgets for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the WMA.
2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.
3. Each WMC shall:
 - a) Facilitate cooperation and exchange of information among Permittees;
 - b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;
 - c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;
 - d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;
 - e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;

- f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and
- g) Meet four times per year and, as necessary.

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges to the storm drain system, including, but not limited to:
 - a) Illicit discharges and illicit connections and require removal of illicit connections;
 - b) The discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;
 - c) The discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;
 - d) The discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;
 - e) The discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;
 - f) The discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;
 - g) The discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;
 - h) Washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;
 - i) The discharge of concrete or cement laden wash water from concrete trucks, pumps, tools, and equipment to the MS4; and
 - j) Dumping or disposal of materials into the MS4 other than storm water, such as:
 - (1) Litter, landscape debris and construction debris;
 - (2) Any state or federally banned or unregistered pesticides;
 - (3) Food and food processing wastes; and
 - (4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:
 - a) Require persons within their jurisdiction to comply with conditions in Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);
 - b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;
 - c) Control pollutants, including potential contribution, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to Source Control, and Treatment Control BMPs;
 - d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4;
 - e) Require the use of BMPs to prevent or reduce the discharge of pollutants to MS4s to MEP; and
 - f) Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.
3. Each Permittee shall, no later than November 1, 2002, amend and adopt (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.
4. Each Permittee shall submit no later than December 2, 2002, a new or updated statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s), if the Permittee can document that:

- a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or
- b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,
- c) The proposed alternative BMP or program will be implemented within a similar period of time.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements.

The objectives of the PIPP are as follows:

- To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;
- To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions; and
- To involve and engage socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution.

The Principal Permittee shall convene an advisory committee to provide input and assistance in meeting the goals and objectives of the public education campaign. The advisory committee shall be consulted during the process of developing the PIPP campaign, and shall provide comments and advice during the process of preparing a Request For Proposals for a storm water public education contractor. The committee may participate as a part of a working group that evaluates contractor proposals and other tasks as appropriate. The committee shall be comprised of representatives of the environmental community, Permittee cities, Regional Board staff, and experts in the fields of public education and marketing. The Principal Permittee shall ensure that the committee meets at least once a year.

1. Residential Program

a) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than February 2, 2004. Signage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

b) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed or published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts no later than March 1, 2002. Permittees are responsible for providing current, updated information to the Principal Permittee.

c) Outreach and Education

(1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year PIPP:

- (i) Advertising;
- (ii) Media relations;
- (iii) Public service announcements;
- (iv) "How To" instructional material distributed in a targeted and activity-related manner;
- (v) Corporate, community association, environmental organization and entertainment industry tie-ins; and
- (vi) Events targeted to specific activities and population subgroups.

(2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than February 3, 2003.

- (3) The Principal Permittee shall enhance the existing outreach efforts to residents and businesses related to the proper disposal of cigarette butts.
- (4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.
- (5) The Principal Permittee shall organize Public Outreach Strategy meetings for Permittees on a quarterly basis, beginning no later than May 1, 2002. The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other interested parties in the outreach strategy to strengthen and coordinate educational efforts.
- (6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.
- (7) The Principal Permittee, in cooperation with the Permittees, shall provide schools within each School District in the County with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.
- (8) Permittees shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee no later than April 1, 2002, and changes to contact information no later than 30 days after a change occurs.
- (9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than May 1, 2002. It shall be implemented upon approval.
- (10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than May 1, 2002. The strategy shall be developed based on sociological data and studies (such

as the County Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants listed in Table 1 no later than February 3, 2003. Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. distribute education materials on appropriate BMPs for metal waste management to facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts.

Table 1.	
Watershed	Target Pollutants for Outreach
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

2. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations. The program shall target RGOs and restaurant chains. At a minimum, this program shall include:

- (1) Conferring with corporate management to explain storm water regulations;
- (2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide

managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all RGOs and restaurant chain corporations shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than February 3, 2003.

b) **Business Assistance Program**

The Principal Permittee and Permittees may implement a Business Assistance Program to provide technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. Programs may include:

- (1) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and
- (2) Making available, distributing, and discussing of applicable BMP and educational materials.

C. Industrial/Commercial Facilities Control Program

Each Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of reducing pollutants in storm water runoff. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Structural and Source Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Facilities Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance at industrial and commercial facilities that are critical sources of pollutants in storm water.

1. Track Critical Sources

- a) Each Permittee shall maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of storm water pollution. Critical sources to be tracked are summarized below, and also specified in Attachment B:
 - (1) Commercial Facilities
 - restaurants;
 - automotive service facilities; and
 - RGOs and automotive dealerships.
 - (2) USEPA Phase I Facilities (Tier 1 and 2)
 - (3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]

- municipal landfills;
 - hazardous waste treatment, disposal, and recovery facilities; and
 - facilities subject to SARA Title III (also known as EPCRA).
- b) Each Permittee shall include the following minimum fields of information for each industrial and commercial facility:
- name of facility and name of owner/operator;
 - address;
 - coverage under the GIASP or other individual or general NPDES permits; and
 - a narrative description including SIC codes that best reflects the industrial activities at and principal products of each facility.

The Regional Board encourages Permittees to add other fields of information, such as material usage and/or industrial output, and discrepancies between SIC Code designations (as reported by facility operators) and the actual type of industrial activity has the potential to pollute storm water. In addition, the Regional Board recommends use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system; however, this is not required.

- c) Each Permittee shall update its inventory of critical sources at least annually. The update may be accomplished through collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits).

2. Inspect Critical Sources

Each Permittee shall inspect all facilities in the categories and at a level and frequency as specified in the following subsections.

a) **Commercial Facilities**

(1) **Restaurants**

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee, in cooperation with its appropriate department (such as health or public works), shall inspect all restaurants within its jurisdiction to confirm that storm water BMPs are being effectively

implemented in compliance with State law, County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each restaurant, inspectors shall verify that the restaurant operator:

- has received educational materials on storm water pollution prevention practices;
- does not pour oil and grease or oil and grease residue onto a parking lot, street or adjacent catch basin;
- keeps the trash bin area clean and trash bin lids closed, and does not fill trash bins with washout water or any other liquid;
- does not allow illicit discharges, such as discharge of washwater from floormats, floors, porches, parking lots, alleys, sidewalks and street areas (in the immediate vicinity of the establishment), filters or garbage/trash containers;
- removes food waste, rubbish or other materials from parking lot areas in a sanitary manner that does not create a nuisance or discharge to the storm drain.

(2) Automotive Service Facilities

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee shall inspect all automotive service facilities within its jurisdiction to confirm that storm water BMPs are effectively implemented in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each automotive service facility, inspectors shall verify that each operator:

- maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- implements housekeeping BMPs to prevent spills and leaks;
- properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- is aware of the prohibition on discharge of non-storm water to the storm drain;
- properly manages raw and waste materials including proper disposal of hazardous waste;

- protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;
- labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property; and
- trains employees to implement storm water pollution prevention practices.

(3) Retail Gasoline Outlets and Automotive Dealerships

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each RGO and automotive dealership within its jurisdiction, in compliance with the SQMP, Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs. At each RGO and automotive dealership, inspectors shall verify that each operator:

- routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;
- is aware that washdown of facility area to the storm drain is prohibited;
- is aware of design flaws (such as grading that doesn't prevent run-on, or inadequate roof covers and berms), and that equivalent BMPs are implemented;
- inspects and cleans storm drain inlets and catch basins within each facility's boundaries no later than October 1st of each year;
- posts signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;
- routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed; and
- trains employees to properly manage hazardous materials and wastes as well as to implement other storm water pollution prevention practices.

b) Phase I Facilities

Permittees need not inspect facilities that have been inspected by the Regional Board within the past 24 months. For the remaining Phase I facilities that the Regional Board has not inspected, each Permittee shall conduct compliance inspections as specified below.

Frequency of Inspection

Facilities in Tier 1 Categories: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Facilities in Tier 2 Categories: Twice during the 5-year term of the permit, provided that the first inspection occurs no later than August 1, 2004. Permittees need not perform additional inspections at those facilities determined to have no risk of exposure of industrial activity to storm water. For those facilities that do have exposure of industrial activities to storm water, a Permittee may reduce the frequency of additional compliance inspections to once every 5 years, provided that the Permittee inspects at least 20% of the facilities in Tier 2 each year.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Other Federally-mandated Facilities

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

3. Ensure Compliance of Critical Sources

- a) **BMP Implementation:** In the event that a Permittee determines that a BMP specified by the SQMP or Regional Board Resolution 98-08 is infeasible at any site, that Permittee shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve water quality objectives, Permittees may require additional site-specific controls, such as Treatment Control BMPs.
- b) **Environmentally Sensitive Areas and Impaired Waters:** For critical sources that are in ESAs or that are tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to the exceedences of Water Quality Objectives.
- c) **Progressive Enforcement:** Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with all storm water requirements within a reasonable time period as specified below.
- (1) In the event that a Permittee determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement action which, at a minimum, shall include a follow-up inspection within 4 weeks from the date of the initial inspection.
 - (2) In the event that a Permittee determines that an operator has failed to adequately implement BMPs after a follow-up inspection, that Permittee shall take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.
 - (3) Each Permittee shall maintain records, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.

- d) Interagency Coordination
- (1) **Referral of Violations of the SQMP, Regional Board Resolution 98-08, and Municipal Storm Water Ordinances:** A Permittee may refer a violation(s) to the Regional Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:
 - Two follow-up inspections, and
 - Two warning letters or notices of violation.

 - (2) **Referral of Violations of the GIASP, including Requirements to File a Notice of Intent:** For those facilities in violation of the GIASP, Permittees may escalate referral of such violations to the Regional Board after one inspection and one written notice to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:
 - Name of the facility;
 - Operator of the facility;
 - Owner of the facility;
 - Industrial activity being conducted at the facility that is subject to the GIASP; and
 - Records of communication with the facility operator regarding the violation, which shall include at least an inspection report and one written notice of the violation.

Permittees shall, at a minimum, make such referrals on a quarterly basis.

 - (3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Board Staff:** Each Permittee shall initiate, within one business day, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm the complaint to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances, and to oversee corrective action.

 - (4) **Support of Regional Board Enforcement Actions:** As directed by the Regional Board Executive Officer, Permittees shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board

inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

- (5) **Participation in a Task Force:** The Permittees, Regional Board, and other stakeholders may form a Storm Water Task Force, the purpose of which is to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

D. Development Planning Program

The Permittees shall implement a development-planning program that will require all Planning Priority development and Redevelopment projects to:

- Minimize impacts from storm water and urban runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC § 13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;
- Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground;
- Minimize the quantity of storm water directed to impervious surfaces and the MS4;
- Minimize pollution emanating from parking lots through the use of appropriate Treatment Control BMPs and good housekeeping practices;
- Properly design and maintain Treatment Control BMPs in a manner that does not promote the breeding of vectors; and
- Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

1. Peak Flow Control

The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in Natural Drainage Systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. Natural Drainage Systems are located in the following areas:

- a) Malibu Creek;
- b) Topanga Canyon Creek;
- c) Upper Los Angeles River;
- d) Upper San Gabriel River;

- e) Santa Clara River; and
- f) Los Angeles County Coastal streams (see Basin Plan Table 2-1).

The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section II.I).

Each Permittee shall, no later than February 1, 2005, implement numerical criteria for peak flow control.

A Permittee or group of Permittees may substitute for the countywide peak flow control criteria with a Hydromodification Control Plan (HCP), on approval by the Regional Board, in the following circumstances:

- (1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or
- (2) A watershed-wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

2. Standard Urban Storm Water Mitigation Plans (SUSMPs)

- a) Each Permittee shall amend codes and ordinances not later than August 1, 2002 to give legal effect to SUSMP changes contained in this Order. Changes to SUSMP requirements shall take effect not later than September 2, 2002.
- b) Each Permittee shall require that a single-family hillside home:
 - (1) Conserve natural areas;
 - (2) Protect slopes and channels;
 - (3) Provide storm drain system stenciling and signage;
 - (4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability; and
 - (5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.
- c) Each Permittee shall require that a SUSMP as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments:
 - (1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments);
 - (2) A 100,000 or more square feet of impervious surface area industrial/ commercial development;

- (3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539);
 - (4) Retail gasoline outlets;
 - (5) Restaurants (SIC 5812);
 - (6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces; and
 - (7) Redevelopment projects in subject categories that meet Redevelopment thresholds.
- d) Each Permittee shall submit an ESA Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than June 3, 2002, for approval by the Regional Board Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.
- e) Each Permittee shall require the implementation of SUSMP provisions no later than September 2, 2002, for all projects located in or directly adjacent to or discharging directly to an ESA, where the development will:
- (1) Discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and
 - (2) Create 2,500 square feet or more of impervious surface area.
3. Numerical Design Criteria

The Permittees shall require that post-construction Treatment Control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:

- a) Volumetric Treatment Control BMP
- (1) The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*; or
 - (2) The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (1993)*; or

- (3) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system; or
 - (4) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.
- b) Flow Based Treatment Control BMP
- (1) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or
 - (2) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or
 - (3) The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

4. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of Planning Priority Projects to design and implement post-construction treatment controls to mitigate storm water pollution:

- a) Single-family hillside residential developments of one acre or more of surface area;
- b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units or more;
- c) A 100,000 square feet or more impervious surface area industrial/commercial development;
- d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area];
- e) Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]. Subsurface Treatment Control BMPs which may endanger public safety (i.e., create an explosive environment) are considered not appropriate;
- f) Restaurants (SIC 5812) [5,000 square feet or more of surface area];
- g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces;

- h) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 2.e; and
 - i) Redevelopment projects in subject categories that meet Redevelopment thresholds.
5. Not later than March 10, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial development category to projects that disturb one acre or more of surface area.
6. Site Specific Mitigation

Each Permittee shall, no later than September 2, 2002, require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

- a) Vehicle or equipment fueling areas;
 - b) Vehicle or equipment maintenance areas, including washing and repair;
 - c) Commercial or industrial waste handling or storage;
 - d) Outdoor handling or storage of hazardous materials;
 - e) Outdoor manufacturing areas;
 - f) Outdoor food handling or processing;
 - g) Outdoor animal care, confinement, or slaughter; or
 - h) Outdoor horticulture activities.
7. Redevelopment Projects

The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all Planning Priority Projects that undergo significant Redevelopment in their respective categories.

- a) Significant Redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site.

Where Redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where Redevelopment results in an alteration to less than fifty percent of impervious surfaces of

a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the alteration must be mitigated, and not the entire development.

- b) Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.
- c) Existing single family structures are exempt from the Redevelopment requirements.

8. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for Structural and Treatment Control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

- a) The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either
- b) A signed statement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance and that it meets all local agency design standards; or
- c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or
- d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural and Treatment Control BMPs; or
- e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

9. Regional Storm Water Mitigation Program

A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements. Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will:

- a) Result in equivalent or improved storm water quality;

- b) Protect stream habitat;
- c) Promote cooperative problem solving by diverse interests;
- d) Be fiscally sustainable and has secure funding; and
- e) Be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

10. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where any of the following situations occur:

- a) A waiver for impracticability is granted;
- b) Legislative funds become available;
- c) Off-site mitigation is required because of loss of environmental habitat; or
- d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation.

11. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

- a) Potential impact of project construction on storm water runoff;
- b) Potential impact of project post-construction activity on storm water runoff;
- c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
- d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
- e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;

- f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and
- g) Potential for significant increases in erosion of the project site or surrounding areas.

12. General Plan Update

- a) Each Permittee shall amend, revise or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space.
- b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq.*

13. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the development planning requirements on an annual basis beginning no later than August 1, 2002, and more frequently if necessary. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003.

14. Developer Technical Guidance and Information

- a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.
- b) The Principal Permittee in partnership with Permittees shall issue no later than February 2, 2004, a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:
 - (1) Treatment Control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency;
 - (2) Peak Flow Control criteria to control peak discharge rates, velocities and duration;
 - (3) Expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;

- (4) Maintenance considerations; and
- (5) Cost considerations.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:
 - a) Sediments generated on the project site shall be retained using adequate Treatment Control or Structural BMPs;
 - b) Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;
 - c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and
 - d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.
2. For construction sites one acre and greater, each Permittee shall comply with all conditions in section E.1. above and shall:
 - a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects.

The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

“As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project’s construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity.”

The landowner or the landowner's agent shall sign a statement to the effect:

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

- b) Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.
- c) Require, no later than March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a

SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

3. For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1. and E.2. and shall:
 - a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.
 - b) Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.
 - c) Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.
4. GCASP Violation Referrals
 - a) Referral of Violations of the SQMP, Regional Board Resolution 98-08, and municipal storm water ordinances:

A Permittee may refer a violation(s) to the Regional Board provided that the Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:

 - Two follow-up inspections within 3 months, and
 - Two warning letters or notices of violation.
 - b) Referral of Violations of GCASP Filing Requirements:

For those projects subject to the GCASP, Permittees shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within 15 days of making a determination. In making such referrals, Permittees shall include, at a minimum, the following documentation:

 - Project location;
 - Developer;
 - Estimated project size; and
 - Records of communication with the developer regarding filing requirements.
5. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than August 1, 2002, and annually

thereafter. For Permittees with a population of 250,000 or more (2000 U.S. Census), initial training shall be completed no later than February 3, 2003. Each Permittee shall maintain a list of trained employees.

F. Public Agency Activities Program

Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

- Sewage Systems Maintenance, Overflow, and Spill Prevention
 - Public Construction Activities Management
 - Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
 - Landscape and Recreational Facilities Management
 - Storm Drain Operation and Management
 - Streets and Roads Maintenance
 - Parking Facilities Management
 - Public Industrial Activities Management
 - Emergency Procedures
 - Treatment Feasibility Study
1. Sewage System Maintenance, Overflow, and Spill Prevention
 - a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction, which shall consist at a minimum of the following:
 - (1) Investigation of any complaints received;
 - (2) Upon notification, immediate response to overflows for containment; and
 - (3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.
 - b) In addition to 1.a.1, 1.a.2, and 1.a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:
 - (1) Procedures to prevent sewage spills or leaks from sewage facilities from entering the MS4; and
 - (2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

2. Public Construction Activities Management
 - a) Each Permittee shall implement the Development Planning Program requirements (Permit Part 4.D) at public construction projects.
 - b) Each Permittee shall implement the Development Construction Program requirements (Permit Part 4.E) at Permittee owned construction sites.
 - c) Each Permittee shall obtain coverage under the GCASP for public construction sites 5 acres or greater (or part of a larger area of development) except that a municipality under 100,000 in population (1990 U.S. Census) need not obtain coverage under a separate permit until March 10, 2003.
 - d) Each Permittee, no later than March 10, 2003, shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.
3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
 - a) Each Permittee, consistent with the SQMP, shall implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.
 - b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:
 - (1) Good housekeeping practices;
 - (2) Material storage control;
 - (3) Vehicle leaks and spill control; and
 - (4) Illicit discharge control.
 - c) Each Permittee shall implement the following measures to prevent the discharge of pollutants to the MS4:
 - (1) For existing facilities, that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall either be:
 - (i) Self-contained;
 - (ii) Equipped with a clarifier;
 - (iii) Equipped with an alternative pre-treatment device; or

- (iv) Plumbed to the sanitary sewer.
 - (2) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency.
- 4. Landscape and Recreational Facilities Management
 - Each Permittee shall implement the following requirements:
 - a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;
 - b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ);
 - c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;
 - d) Ensure that no banned or unregistered pesticides are stored or applied;
 - e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;
 - f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;
 - g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;
 - h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and
 - i) Regularly inspect storage areas.
- 5. Storm Drain Operation and Management
 - a) Each Permittee shall designate catch basin inlets within its jurisdiction as one of the following:
 - Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris.
 - Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.

Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.

- b) Permittees subject to a trash TMDL (Ballona Creek WMA) shall continue to implement the requirements listed below until trash TMDL implementation measures are adopted. Thereafter, the subject Permittees shall implement programs in conformance with the TMDL implementation schedule, which shall include an effective combination of measures such as street sweeping, catch basin cleaning, installation of treatment devices and trash receptacles, or other BMPs. Default requirements include:
- (1) Inspection and cleaning of catch basins between May 1 and September 30 of each year;
 - (2) Additional cleaning of any catch basin that is at least 40% full of trash and/or debris;
 - (3) Record keeping of catch basins cleaned; and
 - (4) Recording of the overall quantity of catch basin waste collected.

If the implementation phase for the Los Angeles River and Ballona Creek Trash TMDLs has not begun by October 2003, subject Permittees shall implement the requirements described below in subsection 5(c), until such time programs in conformance with the subject Trash TMDLs are being implemented.

Permittees subject to the Los Angeles River Watershed Trash TMDL shall implement the requirements set forth in Part 7. Total Maximum Daily Load Provisions, subsection 1 "TMDL for Trash in the Los Angeles River Watershed".

- c) Permittees not subject to a trash TMDL shall:
- (1) Clean catch basins according to the following schedule:
 - Priority A: A minimum of three times during the wet season and once during the dry season every year.
 - Priority B: A minimum of once during the wet season and once during the dry season every year.
 - Priority C: A minimum of once per year.
- In addition to the schedule above, between February 1, 2002 and July 1, 2003, Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After July 1, 2003, Permittees shall

ensure that any catch basin that is at least 25% full of trash and debris shall be cleaned out.

- (2) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the municipality who issues the permit for the special event shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.
 - (3) Place trash receptacles at all transit stops within its jurisdiction that have shelters no later than August 1, 2002, and at all other transit stops within its jurisdiction no later than February 3, 2003. All trash receptacles shall be maintained as necessary.
- d) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.
 - e) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:
 - (1) A program to visually monitor Permittee-owned open channels and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;
 - (2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;
 - (3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;
 - (4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and
 - (5) Proper disposal of material removed.

6. Streets and Roads Maintenance

- a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:
 - Priority A: Streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or debris.

- Priority B: Streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or debris.
- Priority C: Streets and/or street segments that are designated as generating low volumes of trash and/or debris.
- b) Each Permittee shall perform street sweeping of curbed streets according to the following schedule:
- Priority A: These streets and/or street segments shall be swept at least two times per month.
- Priority B: Each Permittee shall ensure that each street and/or street segments is swept at least once per month.
- Priority C: These streets and/or street segments shall be swept as necessary but in no case less than once per year.
- c) Each Permittee shall require that:
- (1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain;
 - (2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and
 - (3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.
- d) Each Permittee shall, no later than August 1, 2002, train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
- (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and
 - (2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more (2000 U.S. Census) training shall be completed no later than February 1, 2003.

7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if

cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity, obtain separate coverage under the GIASP except that a municipality under 100,000 in population (1990 U.S. Census) need not file the Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

9. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

10. Treatment Feasibility Study

The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from their jurisdiction which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1, 2003.

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

1. General

- a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.

- b) Tracking: All Permittees shall, no later than February 3, 2003, develop and maintain a listing of all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee. No later than February 3, 2003, the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.
- c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000 (2000 U.S. Census), training shall be completed no later than August 1, 2002. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

2. Illicit Connections

a) Screening for Illicit Connections

- (1) Field Screening: All Permittees shall field Screen the storm drain system for illicit connections in accordance with the following schedule:

- (i) Open channels: No later than February 3, 2003;
- (ii) Underground pipes in priority areas: No later than February 1, 2005; and
- (iii) Underground pipes with a diameter of 36 inches or greater: No later than December 12, 2006.

Permittees shall report, to the Principal Permittee, on the location and length of open channels or underground pipes that have been Screened *vis a vis* the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

- (2) Permit Screening: No later than December 12, 2006, Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

- b) Response to Illicit Connections
 - (1) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.
 - (2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.
- 3. Illicit Discharges
 - a) Abatement and Cleanup: Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.
 - b) Investigation: Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"Areas of Special Biological Significance (ASBS)" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence

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due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to storm water.

"Baseline Waste Load Allocation" means the Waste Load Allocation assigned to a Permittee before reductions are required. The progressive reductions in the Waste Load Allocations are based on a percentage of the Baseline Waste Load Allocation. The Baseline Waste Load Allocation for each jurisdiction was calculated based on the annual average amount of trash discharged to the storm drain system from a representative sampling of land use areas, as determined during the Baseline Monitoring Program. The Baseline Waste Load Allocations are incorporated into the Basin Plan at Table 7-2.2.

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

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“Daily Generation Rate (DGR)” means the estimated amount of trash deposited within a representative drainage area during a 24-hour period, derived from the amount of trash collected from streets and catch basins in the area over a 30-day period.

“Dechlorinated/Debrominated Swimming Pool Discharge” means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

“Development” means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

“Directly Adjacent” means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

“Director” means the Director of a municipality and Person(s) designated by and under the Director’s instruction and supervision.

“Discharge” means when used without qualification the “discharge of a pollutant.”

“Discharging Directly” means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

“Discharge of a Pollutant” means: any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source” or, any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

“Disturbed Area” means an area that is altered as a result of clearing, grading, and/or excavation.

“Environmentally Sensitive Areas (ESAs)” means an area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area

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by the California Department of Fish and Game's Significant Natural Areas Program, provided that area has been field verified by the Department of Fish and Game; an area listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" beneficial use; and an area identified by a Permittee as environmentally sensitive.

"Full Capture System" means any single device or series of devices, certified by the Executive Officer, that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour storm in the sub-drainage area. The Rational Equation is used to compute the peak flow rate:

$$Q = C \times I \times A,$$

Where:

Q = design flow rate (cubic feet per second, cfs);

C = runoff coefficient (dimensionless);

I = design rainfall intensity (inches per hour, as determined per the Los Angeles County rainfall isohyetal maps relevant to the Los Angeles River watershed),⁷ and

A = sub-drainage area (acres).

"General Construction Activities Storm Water Permit (GCASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

"General Industrial Activities Storm Water Permit (GIASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

"Illicit Connection" means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

⁷ The isohyetal map may be updated annually by the Los Angeles County hydrologist to reflect additional rain data gathered during the previous year. Annual updates published by the Los Angeles County Department of Public Works are prospectively incorporated by reference into this Order.

"Industrial/Commercial Facility" means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

1. Pre-inspection documentation research.;
2. Request for entry;
3. Interview of facility personnel;
4. Facility walk-through.
5. Visual observation of the condition of facility premises;
6. Examination and copying of records as required;
7. Sample collection (if necessary or required);
8. Exit conference (to discuss preliminary evaluation); and,
9. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such "curbside" inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order, Regional Board Resolution 98-08, County and municipal ordinances, and the SQMP.

"Institutional Controls" means programmatic trash control measures that do not require construction or structural modifications to the MS4. Examples include street sweeping, public education, and clean out of catch basins that discharge to storm drains.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census) as defined in 40 CFR 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population count of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. See also State Board Order WQ 2000-11 at page 20.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

"Partial Capture Device" means any structural trash control device that has not been certified by the Executive Officer as meeting the "full capture" performance requirements.

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills,

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Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

“Planning Priority Projects” means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

1. Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)
2. A 100,000 or more square feet of impervious surface area industrial/commercial development (1 ac starting March 2003)
3. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)
4. Retail gasoline outlets
5. Restaurants (SIC 5812)
6. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces
7. Redevelopment projects in subject categories that meet Redevelopment thresholds
8. Projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and
9. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:
 - a) Vehicle or equipment fueling areas;
 - b) Vehicle or equipment maintenance areas, including washing and repair;
 - c) Commercial or industrial waste handling or storage;
 - d) Outdoor handling or storage of hazardous materials;
 - e) Outdoor manufacturing areas;
 - f) Outdoor food handling or processing;
 - g) Outdoor animal care, confinement, or slaughter; or
 - h) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §502(6) (33.U.S.C. §1362(6)), and incorporated by reference into California Water Code §13373.

"Potable Water Distribution Systems Releases" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as well construction, well development (i.e., aquifer pumping tests, well purging, etc.), or major well maintenance.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that supports habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA or the authorized representative of the Regional Administrator.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

"Retail Gasoline Outlet" means any facility engaged in selling gasoline and lubricating oils.

"Runoff" means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

"Screening" means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing

maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

“Sidewalk Rinsing” means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

“Significant Ecological Area (SEA)” means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.⁸

Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.
7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.⁹

“Significant Natural Area (SNA)” means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at

<ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/>. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

⁸ The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

⁹ These criteria from the 1976 study have been modified in the *Update Study 2000*.

“**Site**” means the land or water area where any “facility or activity” is physically located or conducted, including adjacent land used in connection with the facility or activity.

“**Source Control BMP**” means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

“**SQMP**” means the Los Angeles Countywide Stormwater Quality Management Program.

“**State Storm Water Pollution Prevention Plan (State SWPPP)**” means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

“**Storm Water**” means storm water runoff, snow melt runoff, and surface runoff and drainage.

“**Storm Water Discharge Associated with Industrial Activity**” means industrial discharge as defined in 40 CFR 122.26(b)(14)

“**Stormwater Quality Management Program**” means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

“**Structural BMP**” means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

“**SUSMP**” means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

“**Total Maximum Daily Load (TMDL)**” means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

“**Toxicity Identification Evaluation (TIE)**” means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

“**Toxicity Reduction Evaluation (TRE)**” means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

“**Treatment**” means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

“Treatment Control BMP” means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

“USEPA Phase I Facilities” means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

- i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
- ii. manufacturing facilities
- iii. oil and gas/mining facilities
- iv. hazardous waste treatment, storage, or disposal facilities
- v. landfills, land application sites, and open dumps
- vi. recycling facilities
- vii. steam electric power generating facilities
- viii. transportation facilities
- ix. sewage of wastewater treatment works
- x. light manufacturing facilities

“Vehicle Maintenance/Material Storage Facilities/Corporation Yards” means any Permittee owned or operated facility or portion thereof that:

- i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities;
- ii. Performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;
- iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
- iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

“Water Quality Standards and Water Quality Objectives” means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

“Waters of the State” means any surface water or groundwater, including saline waters, within boundaries of the state.

“Waters of the United States” or “Waters of the U.S.” means:

- a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- b. All interstate waters, including interstate “wetlands”;
- c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands,” sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

Amended by Orders R4-2006-0074, R4-2007-0042, and R4-2009-0130, and further amended pursuant to L.A. Superior Court Case No. BS122724

1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
 2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 3. Which are used or could be used for industrial purposes by industries in interstate commerce;
- d. All impoundments of waters otherwise defined as waters of the United States under this definition;
- e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
- f. The territorial sea; and
- g. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA.

"Wet Season" means the calendar period beginning October 1 through April 15.

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. Each Permittee shall comply with all provisions and requirements of this permit.
2. Should a Permittee discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.
3. Each Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.
4. This Order includes the attached Monitoring and Reporting Program, and SUSMP (Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. A Permittee(s) or a member of the public may request such review upon petition within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. § 552 (as amended) and the Public Records Act (Cal. Government Code § 6250 *et seq.*).
2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a combination thereof [40 CFR 122.41(a), CWC § 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].
2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.
3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC § 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;
2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;
3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,

4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA and the CWC.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC § 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of Public Works, City Engineer, or authorized designee and certified as set forth in 40 CFR 122.22.

I. Reopener and Modification [40 CFR 122.41(f) & 122.62]

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the CWC and CCR Title 23 for the issuance of waste discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:
 - a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;
 - b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;
 - c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,
 - d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.
2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - a) Violation of any term or condition contained in this Order;
 - b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,
 - c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

3. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
4. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR 122.63, if processed as a minor modification. Minor modifications may only:
 - a) Correct typographical errors, or
 - b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)]¹⁰

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)]¹¹

¹⁰ This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);
2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;
3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,
4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)]¹²

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a) An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - b) The permitted facility was being properly operated by the time of the upset;

¹¹ This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

¹² *Supra*. See footnote number 3.

- c) The Permittee submitted notice of the upset as required; and,
 - d) The Permittee complied with any remedial measures required.
2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.
 3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The CWA provides the following:
 - a) Criminal Penalties for:
 - (1) Negligent Violations:

The CWA provides that any person who negligently violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than \$2,500 nor more than \$25,000 per day for each violation, or by imprisonment for not more than 1 year, or both.
 - (2) Knowing Violations:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both.
 - (3) Knowing Endangerment:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 307, 308, 318, or 405 and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than \$250,000, or by imprisonment for not more than 15 years, or both.
 - (4) False Statement:

The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See CWA § 309(c)(4))

b) **Civil Penalties**

The CWA provides that any person who violates a permit condition implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a civil penalty not to exceed \$27,500 per day for each violation.

2. The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation or combination of violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on December 12, 2006. The Permittees must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than June 12, 2006.

Part 7. TOTAL MAXIMUM DAILY LOAD PROVISIONS

The provisions of this Part implement and are consistent with the assumptions and requirements of Waste Load Allocations from TMDLs for which some or all of the Permittees in this Order are responsible.

1. TMDL for Trash in the Los Angeles River Watershed

- A. **Waste Load Allocations:** Each Permittee identified in Appendix 7-1 shall comply with the interim and final effluent limitations set forth in Appendix 7-1 hereto.¹³
- B. **Compliance:**
- (1) Permittees may comply with the effluent limitations using any lawful means. Such compliance options are broadly classified as *full capture*, *partial capture*, or *institutional controls*, as described below, and any combination of these may be employed to achieve compliance:
- (a) **Full Capture Systems:**
- 1) The Basin Plan authorizes the Executive Officer to certify *full capture systems*, which are systems that meet the operating and performance requirements as described in this Order, and the procedures identified in "Procedures and Requirements for Certification of a Best Management Practice for Trash Control as a Full Capture System." (See Appendix 7-2.)¹⁴
 - 2) Permittees are authorized to comply with their effluent limitations through certified *full capture systems* provided the requirements of paragraph 3), immediately below, and any conditions in the certification, continue to be met.
 - 3) Permittees may comply with their effluent limitations through progressive installation of *full capture systems* throughout their jurisdiction until all areas draining to the Los Angeles River system are addressed. For purposes of this Permit, attainment of the effluent limitations shall be conclusively presumed for any drainage area to the Los Angeles River (or its tributaries)¹⁵ where certified *full capture systems* treat all drainage from the area, provided that the *full capture systems* are adequately sized and maintained, and that maintenance records are up-to-date and available for inspection by the Regional Board.
 - i. A Permittee relying entirely on *full capture systems* shall be deemed in compliance with its final effluent limitation if it demonstrates that all drainage areas

¹³ The interim and final effluent limitations set forth in Appendix 7-1 are equivalent to the Compliance Points identified in Table 7-2.3 of the Basin Plan.

¹⁴ The Regional Board currently recognizes eight *full capture systems*. These are: Vortex Separation Systems (VSS) and seven other Executive Officer certified *full capture systems*, including specific types or designs of trash nets; two gross solids removal devices (GSRDs); catch basin brush inserts and mesh screens; vertical and horizontal trash capture screen inserts; and a connector pipe screen device.

¹⁵ Tributaries to the Los Angeles River include, but are not limited to, Pacoima Wash, Tujunga Wash, Burbank Western Channel, Verdugo Wash, Arroyo Seco, Rio Hondo, and Compton Creek.

under its jurisdiction are serviced by appropriate certified *full capture systems* as described in paragraph (a)(3).

- ii. A Permittee relying entirely on *full capture systems* shall be deemed in compliance with its interim effluent limitations:
 1. By demonstrating that *full capture systems* treat the percentage of drainage areas in the watershed that corresponds to the required trash abatement.
 2. Alternatively, a Permittee may propose a schedule for jurisdiction-wide installation of *full capture systems*, targeting first the areas of greatest trash generation (based upon the information on drainage area and litter generation rates by land use provided in Appendices I and III of the Los Angeles River Trash TMDL Staff Report) for the Executive Officer's approval. The Executive Officer shall not approve any such schedule that does not result in timely compliance with the final effluent limitations. A Permittee shall be deemed in compliance with its interim effluent limitations provided it is fully in compliance with any such approved schedule.

(b) Partial Capture Devices and Institutional Controls: Permittees may comply with their interim and final effluent limitations through the installation of *partial capture devices* and the application of *institutional controls*.¹⁶

- 1) Trash discharges from areas serviced solely by *partial capture devices* may be estimated based on demonstrated performance of the device(s) in the jurisdictional area.¹⁷ That is, trash reduction is equivalent to the *partial capture devices'* trash removal efficiency multiplied by the percentage of drainage area serviced by the devices.
- 2) Except as provided in subdivision 3), below, trash discharges from areas addressed by *institutional controls* and/or *partial capture devices* (where site-specific performance data is not available) shall be calculated using a mass balance approach, based on the daily generation rate (DGR) for a representative area.¹⁸ The DGR shall be determined from direct measurement of

¹⁶ While interim effluent limitations may be complied with using partial capture devices, compliance with final effluent limitations cannot be achieved with the exclusive use of partial capture devices.

¹⁷ Performance shall be demonstrated under different conditions (e.g. low to high trash loading).

¹⁸ The area should be representative of the land uses within the jurisdiction and shall be approved by the Executive Officer prior to the 30-day collection period.

trash deposited in the drainage area during any thirty-day period between June 22nd and September 22nd exclusive of rain events¹⁹, and shall be re-calculated every year thereafter. The DGR shall be calculated as the total amount of trash collected during this period divided by 30 (the length of the collection period).

DGR = (Amount of trash collected during a 30-day collection period²⁰) / (30 days)

The DGR for the applicable area of the jurisdiction shall be extrapolated from that of the representative drainage area. A mass balance equation shall be used to estimate the amount of trash discharged during a storm event.²¹ The *Storm Event Trash Discharge* for a given rain event in a Permittee's drainage area shall be calculated by multiplying the number of days since the last street sweeping by the DGR and subtracting the amount of any trash recovered in the catch basins.²² For each day of a storm event that generates precipitation greater than 0.25 inches, the Permittee shall calculate a *Storm Event Trash Discharge*.

Storm Event Trash Discharge = [(Days since last street sweeping*DGR)] – [Amount of trash recovered from catch basins]²³

The sum of the *Storm Event Trash Discharges* for the storm year shall be the Permittee's calculated annual trash discharge.

Total Storm Year Trash Discharge = ∑ Storm Event Trash Discharges from Drainage Area

- 3) The Executive Officer may approve alternative compliance monitoring approaches for calculating total storm year trash discharge, upon finding that the program will provide a scientifically-based estimate of the amount of trash discharged from the MS4.

(c) Combined Compliance Approaches:

¹⁹ Provided no special events are scheduled that may affect the representative nature of that collection period.

²⁰ Between June 22nd and September 22nd

²¹ Amount of trash shall refer to the uncompressed volume (in gallons) or drip-dry weight (in pounds) of trash collected.

²² Any negative values shall be considered to represent a zero discharge.

²³ When more than one storm event occurs prior to the next street sweeping the discharge shall be calculated from the date of the last assessment.

Permittees may comply with their interim and final effluent limitations through a combination of *full capture systems*, *partial capture devices*, and *institutional controls*. Permittees relying on a combination of approaches shall demonstrate compliance with the interim and final effluent limitations as specified in (a)(3) in areas where *full capture systems* are installed and as specified in (b)(2) in areas where *partial capture devices* and *institutional controls* are applied.

- (2) Permittees that are not in compliance with the applicable interim and/or final effluent limitations as identified in Appendix 7-1 shall be in violation of this permit.
 - (a) Permittees relying on *partial capture devices* and/or *institutional controls* that have violated their interim or final effluent limitations as identified in Appendix 7-1 shall be presumed to have violated the applicable limitation for each day of each storm event that generated precipitation greater than 0.25 inches during the applicable storm year, except those storm days on which they establish that their cumulative Storm Event Trash Discharges have not exceeded the applicable effluent limitation.
 - (b) For Permittees relying on full capture systems who have failed to demonstrate that the *full capture systems* for any drainage area are adequately sized and maintained, and that maintenance records are up-to-date and available for inspection by the Regional Board, and that they are in compliance with any conditions of their certification, shall be presumed to have discharged trash in an amount that corresponds to the percentage of the baseline waste load allocation represented by the drainage area in question.
 - 1) A Permittee may overcome this presumption by demonstrating (using any of the methods authorized in this Part 7.1.B(1)(b)) that the actual or calculated discharge for that drainage area is in compliance with the applicable interim or final effluent limitations as specified in Appendix 7-1.
- (3) Each Permittee shall be held liable for violations of the Effluent Limitations assigned to its jurisdiction in Appendix 7-1. Any Permittee whose compliance strategy includes full or partial capture devices and who chooses to install a full or partial capture device in the MS4 physical infrastructure of another public entity is responsible for obtaining all necessary permits to do so. If a Permittee believes it is unable to obtain the permits needed to install a full capture or partial capture device within another Permittee's MS4 physical infrastructure, either Permittee may request the Executive Officer to hold a conference with the Permittees. Nothing in this Order shall affect the right of that public entity or a Permittee to seek indemnity or other recourse from the other as they deem appropriate. Nothing in this subsection shall be construed as relieving a Permittee of any liability that the Permittee would otherwise have under this Order.

C. Monitoring and Reporting Requirements (pursuant to Water Code section 13383)

- (1) Within 60 days of adoption of Part 7, Section 1 (Los Angeles River Trash TMDL) and on October 31, 2010 and every year thereafter, each Permittee identified in Appendix 7-1 shall submit a TMDL Compliance Report detailing compliance with the interim and final effluent limitations. Reporting shall include the information specified below. The report shall be submitted on a reporting form to be specified by the Executive Officer. The report shall be signed under penalty of perjury by the Director of Public Works or other agency head (or their delegee) that is responsible for ensuring compliance with this permit. Permittees shall be charged with and shall demonstrate compliance with the relevant effluent limitations beginning with their October 31, 2010 TMDL Compliance Report.
 - (a) Reporting Compliance based on Full Capture Systems:
Permittees identified in Appendix 7-1 shall provide information on the number and location of full capture installations, the sizing of each full capture installation, the drainage areas addressed by these installations, and compliance with the applicable interim or final effluent limitation, in their TMDL Compliance Report. The Regional Board will periodically audit sizing, performance, and other data to validate that a system satisfies the criteria established for a *full capture system* and any conditions established by the Executive Officer in the certification.
 - (b) Reporting Compliance based on Partial Capture Systems and/or Institutional Controls:
 - (1) Using Performance Data Specific to the Jurisdictional Area:
Permittees identified in Appendix 7-1 shall provide (i) site-specific performance data for the applicable device(s), (ii) information on the number and location of such installations, and the drainage areas addressed by these installations, and (iii) calculated compliance with the applicable effluent limitations, in their TMDL Compliance Report.
 - (2) Using Direct Measurement of Trash Discharge: Permittees identified in Appendix 7-1 shall provide an accounting of DGR and trash removal via street sweeping, catch basin clean outs, etc., in a database to facilitate the calculation of discharge for each rain event. The database shall be maintained and provided to the Regional Board for inspection upon request. Permittees identified in Appendix 7-1 shall provide the annual DGR, calculated storm year discharge, and compliance with the applicable effluent limitation, in their TMDL Compliance Report.
 - (c) Reporting Compliance based on Combined Compliance Approaches:
Permittees identified in Appendix 7-1 shall provide the information specified in subsection (a) for areas where full capture systems are installed and that specified in subsection (b)(1) or (b)(2), as appropriate, for areas where partial capture devices and institutional controls are applied. Permittees shall also provide information on compliance with the applicable effluent limitation based on the combined compliance approaches, in their TMDL Compliance Report

(2) Violation of the reporting requirements of this Part shall be punishable pursuant to inter alia Water Code subdivision (a)(1) of section 13385.1 and/or subdivision (a)(3) of section 13385.

I, Samuel Unger, Regional Board Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of the Order amended by the California Regional Water Quality Control Board, Los Angeles Region, pursuant to the peremptory writ of mandate in L.A. Superior Court Case No. BS122724, and that such action occurred on April 14, 2011.



Samuel Unger, P.E.
Executive Officer

Appendix 7-1

**Interim and Final Effluent Limitations for Trash for Permittees Identified as Responsible
Jurisdictions in the Los Angeles River Watershed Trash TMDL**

Table 1a: Los Angeles River Watershed Trash Effluent Limitations¹ per Storm Year²
(gallons of uncompressed trash)

Permittees	2010 (50%)	2011 (40%)	2012 (30%)	2013 (20%)	2014 (10%)	2015 (3.3%)	2016³ (0%)
Alhambra	19952	15961	11971	7981	3990	1317	0
Arcadia	25054	20043	15032	10022	5011	1654	0
Bell	8013	6410	4808	3205	1603	529	0
Bell Gardens	6750	5400	4050	2700	1350	446	0
Bradbury	2139	1711	1283	855	428	141	0
Burbank	46295	37036	27777	18518	9259	3055	0
Calabasas	11253	9002	6752	4501	2251	743	0
Carson	3416	2733	2050	1366	683	225	0
Commerce	29367	23493	17620	11747	5873	1938	0
Compton	26596	21276	15957	10638	5319	1755	0
Cudahy	2968	2374	1781	1187	594	196	0
Downey	19532	15625	11719	7813	3906	1289	0
Duarte	6105	4884	3663	2442	1221	403	0
El Monte	21104	16883	12662	8442	4221	1393	0
Glendale	70157	56126	42094	28063	14031	4630	0
Hidden Hills	1832	1465	1099	733	366	121	0
Huntington Park	9580	7664	5748	3832	1916	632	0
Irwindale	6176	4941	3706	2470	1235	408	0
La Cañada Flintridge	16748	13398	10049	6699	3350	1105	0
Los Angeles	687423	549938	412454	274969	137485	45370	0
Los Angeles County	155112	124089	93067	62045	31022	10237	0
Lynwood	14101	11280	8460	5640	2820	931	0
Maywood	3065	2452	1839	1226	613	202	0
Monrovia	23344	18675	14006	9337	4669	1541	0
Montebello	25185	20148	15111	10074	5037	1662	0
Monterey Park	19450	15560	11670	7780	3890	1284	0
Paramount	13726	10981	8236	5490	2745	906	0
Pasadena	55999	44799	33599	22400	11200	3696	0
Pico Rivera	6977	5581	4186	2791	1395	460	0
Rosemead	13653	10922	8192	5461	2731	901	0
San Fernando	6974	5579	4184	2789	1395	460	0
San Gabriel	10172	8137	6103	4069	2034	671	0
San Marino	7196	5756	4317	2878	1439	475	0
Santa Clarita	451	360	270	180	90	30	0
Sierra Madre	5806	4644	3483	2322	1161	383	0
Signal Hill	4717	3774	2830	1887	943	311	0
Simi Valley	69	55	41	27	14	5	0
South El Monte	8000	6400	4800	3200	1600	528	0
South Gate	21952	17562	13171	8781	4390	1449	0
South Pasadena	7454	5963	4472	2981	1491	492	0
Temple City	8786	7029	5272	3514	1757	580	0
Vernon	23602	18881	14161	9441	4720	1558	0

¹ Effluent limitations are expressed as allowable trash discharge relative to baseline Waste Load Allocations specified in Table 7-2.2 of the Basin Plan.

² Storm year is defined as October 1 to September 30 herein.

³ Permittees shall achieve their final effluent limitation of zero trash discharge for the 2015-2016 storm year and every year thereafter.

**Table 1b: Los Angeles River Watershed Trash Effluent Limitations⁴ per Storm Year⁵
(pounds of drip-dry trash)**

Permittees	2010 (50%)	2011 (40%)	2012 (30%)	2013 (20%)	2014 (10%)	2015 (3.3%)	2016⁶ (0%)
Alhambra	34381	27504	20628	13752	6876	2269	0
Arcadia	46518	37214	27911	18607	9304	3070	0
Bell	12669	10135	7601	5067	2534	836	0
Bell Gardens	11686	9348	7011	4674	2337	771	0
Bradbury	6080	4864	3648	2432	1216	401	0
Burbank	85195	68156	51117	34078	17039	5623	0
Calabasas	26115	20892	15669	10446	5223	1724	0
Carson	5104	4083	3062	2042	1021	337	0
Commerce	42741	34192	25644	17096	8548	2821	0
Compton	43178	34542	25907	17271	8636	2850	0
Cudahy	5031	4024	3018	2012	1006	332	0
Downey	34254	27403	20552	13701	6851	2261	0
Duarte	11844	9475	7106	4737	2369	782	0
El Monte	34134	27307	20480	13653	6827	2253	0
Glendale	146749	117399	88049	58700	29350	9685	0
Hidden Hills	5411	4328	3246	2164	1082	357	0
Huntington Park	15465	12372	9279	6186	3093	1021	0
Irwindale	8956	7164	5373	3582	1791	591	0
La Cañada Flintridge	36874	29499	22124	14749	7375	2434	0
Los Angeles	1286250	1029000	771750	514500	257250	84893	0
Los Angeles County	325903	260722	195542	130361	65181	21510	0
Lynwood	23234	18587	13940	9293	4647	1533	0
Maywood	5275	4220	3165	2110	1055	348	0
Monrovia	50494	40395	30296	20198	10099	3333	0
Montebello	41854	33483	25112	16741	8371	2762	0
Monterey Park	35228	28182	21137	14091	7046	2325	0
Paramount	22245	17796	13347	8898	4449	1468	0
Pasadena	103757	83006	62254	41503	20751	6848	0
Pico Rivera	11275	9020	6765	4510	2255	744	0
Rosemead	23689	18951	14213	9476	4738	1563	0
San Fernando	11539	9231	6923	4615	2308	762	0
San Gabriel	18219	14575	10931	7287	3644	1202	0
San Marino	14574	11659	8744	5829	2915	962	0
Santa Clarita	1163	930	698	465	233	77	0
Sierra Madre	12596	10077	7558	5038	2519	831	0
Signal Hill	7110	5688	4266	2844	1422	469	0
Simi Valley	172	138	103	69	34	11	0
South El Monte	12160	9728	7296	4864	2432	803	0
South Gate	36167	28933	21700	14467	7233	2387	0
South Pasadena	14179	11343	8507	5671	2836	936	0
Temple City	15910	12728	9546	6364	3182	1050	0
Vernon	33407	26726	20044	13363	6681	2205	0

⁴ Effluent limitations are expressed as allowable trash discharge relative to baseline Waste Load Allocations specified in Table 7-2.2 of the Basin Plan.

⁵ Storm year is defined as October 1 to September 30 herein.

⁶ Permittees shall achieve their final effluent limitation of zero trash discharge for the 2015-2016 storm year and every year thereafter.

Appendix 7-2

Procedures and Requirements for Certification of a Best Management Practice for Trash Control as a Full Capture System



California Regional Water Quality Control Board

Los Angeles Region



Terry Tamminen
Secretary for
Environmental
Protection

Over 51 Years Serving Coastal Los Angeles and Ventura Counties
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Arnold Schwarzenegger
Governor

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.swrcb.ca.gov/rwqcb4>

TO: Jonathan Bishop
Interim Executive Officer

FROM: Michael Yang, P.E.
LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

DATE: August 3, 2004

SUBJECT: PROCEDURES AND REQUIREMENTS FOR CERTIFICATION OF A BEST MANAGEMENT PRACTICE FOR TRASH CONTROL AS A FULL CAPTURE SYSTEM

This memorandum describes Regional Board procedures and information required in order to perform a technical evaluation to certify a best management practices (BMP) as a "full capture system" for the control of trash.

Background

The Los Angeles Regional Water Quality Control Board adopted the definition of "full capture system" for the Ballona Creek Trash TMDL per Resolution No. 04-023 on March 4, 2004. This definition will be considered applicable for all receiving waters in the Los Angeles Region identified as being impaired for Trash. The Regional Board staff will analyze all future proposed BMPs for certification as a "full capture system" based on the Ballona Creek Trash TMDL definition.

The definition of a "full capture system" as defined in the Resolution No. 04-023 is as follows:

" A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the subdrainage area. Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map), and A = subdrainage area (acres)."

Essential Technical Information

In order to perform a technical analysis and consider for certification approval, the Regional Board staff requests the following information from dischargers for evaluation of their BMPs as a "full capture system" for trash:

California Environmental Protection Agency



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Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations

1. Subdrainage area, A that only drains into the pipe containing BMP.
2. Hydraulic capacity of the pipe containing BMP at cubic feet per second.
3. Average runoff coefficient , C where

$$C = (A1*C1 + A2*C2 + A3*C3 +An*Cn) / (A1 + A2 + A3 +An)$$

A1 through An represents subareas for each land use, and
C1 through Cn represents runoff coefficients for each land use

4. The reported BMP treatment capacity at cubic feet per second.

Los Angeles County Department of Public Works (LACDPW) has already provided an isohyetal map for one-year, one- hour rainfall intensity per definition of a full capture system. For certification, BMP must trap all particles retained by a 5-mm mesh screen, and have a treatment capacity exceeding peak flow rate resulting from a one-year, one-hour, storm in the subdrainage area. In addition, the following requirements must be met:

- End-of-Pipe Configuration: Certain BMPs, which can create a pressure drop, must have an end-of-pipe configuration and not rely on diversion weirs.
- Adequate Pipe Sizing: The pipes carrying the flows from the subdrainage area should be able to handle peak flows.
- Regular Inspections and Maintenance: The full capture system must be regularly inspected and serviced to continually maintain adequate flow through capacity.

Conditional Transferability

The determination and certification that the BMP satisfies the “full capture system” definition of the trash TMDL will allow the system to be used elsewhere in the region. Dischargers will have an on-going obligation to demonstrate that the installation of a particular system is appropriately sized. Likewise, dischargers will be responsible for on-going maintenance to ensure the systems perform to design specifications. The Regional Board will review and consider performance data on continuing basis. In the event data demonstrate that the systems are not performing to the full capture design standard established by the trash TMDL, then the Regional Board reserves the ability to rescind the certification for subsequent installations.

Process for Submittal

A letter requesting “full capture system certification” along with supporting documentation must be submitted to the Regional Board Executive Officer to start the process. Within thirty (30) days of receipt of the letter and documentation, the Regional Board staff will contact the proponent, and schedule a time for a presentation to Regional Board staff and to perform a site survey if necessary. At the conclusion of the presentation, Regional Boards staff will



communicate orally to the proponent any supplemental documentation or information that needs to be submitted to complete the evaluation of the proposed BMP as a "full capture system". A letter acknowledging the receipt of the certification request and identifying any supplemental documentation to be submitted will be sent within 15 days of the completion of the presentation. Regional Board staff will make a written determination on the certification of the proposed BMP as a full capture system within ninety (90) days after the receipt of all requested documentation.



ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural

Agoura Hills

*Calabasas

Los Angeles County Flood Control

Los Angeles County

Malibu

Westlake Village

Ballona Creek and Other Urban

Beverly Hills

Culver City

El Segundo

Hermosa Beach

Los Angeles (City of)

Los Angeles County Flood Control

Los Angeles (County of)

Manhattan Beach

Palos Verdes Estates

Rancho Palos Verdes

Redondo Beach

Rolling Hills

Rolling Hills Estates

*Santa Monica

West Hollywood

Dominguez Channel/

Los Angeles Harbor Drainage

Carson

Gardena

Hawthorne

Inglewood

Lawndale

Lomita

Los Angeles (City of)

Los Angeles County Flood Control

Los Angeles (County of)

*Torrance

Los Angeles River

Alhambra

Arcadia

Bell

Bell Gardens

Burbank

Commerce

Compton

Cudahy

El Monte

*Glendale

Hidden Hills

Huntington Park

La Canada Flintridge

Los Angeles (City of)

Los Angeles County Flood Control

Los Angeles (County of)

Lynwood

Maywood

Monrovia

Montebello

Monterey Park

Paramount

Pasadena

Rosemead

San Fernando

San Gabriel

San Marino

Sierra Madre

Signal Hill

South El Monte

South Gate

South Pasadena

Temple City

Vernon

San Gabriel River

Artesia

Azusa

Baldwin Park

Bellflower

Bradbury

Cerritos

Claremont

Covina

Diamond Bar

Downey

Duarte

Glendora

Hawaiian Gardens

Industry

Irwindale

La Habra Heights

La Mirada

La Puente

La Verne

Lakewood

*Long Beach¹

Los Angeles County Flood Control

Los Angeles (County of)

Norwalk

Pomona

Pico Rivera

San Dimas

Santa Fe Springs

Walnut

West Covina

Whittier

Santa Clara River

*Santa Clarita

Los Angeles County Flood Control

Los Angeles (County of)

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than County of Los Angeles and the City of Los Angeles.*

¹ *The City of Long Beach is covered under order No. 99-060*

ATTACHMENT B
Critical Sources Categories¹

Tier 1 Categories

Municipal Landfills (SIC 4953)

Hazardous Waste Treatment, Disposal and Recovery Facilities²

Facilities Subject to SARA Title III (also known as EPCRA)²

Restaurants³

Wholesale trade (scrap, auto dismantling) (SIC 50)

Automotive service facilities³

Fabricated metal products (SIC 34)

Motor freight (SIC 42)

Chemical/allied products (SIC 28)

Automotive Dealers/Gas Stations (SIC 55)

Primary Metals Products (SIC 33)

Tier 2 Categories

Electric/Gas/Sanitary (SIC 49)

Air Transportation (SIC 45)

Rubbers/Miscellaneous Plastics (SIC 30)

Local/Suburban Transit (SIC 41)

Railroad Transportation (SIC 40)

Oil & Gas Extraction (SIC 13)

Lumber/Wood Products (SIC 24)

Machinery Manufacturing (SIC 35)

Transportation Equipment (SIC 37)

Stone, Clay, Glass, Concrete (SIC 32)

Leather/Leather Products (SIC 31)

Miscellaneous Manufacturing (SIC 39)

Food and kindred Products (SIC 20)

Mining of Nonmetallic Minerals (SIC 14)

Printing and Publishing (SIC 27)

Electric/Electronic (SIC 36)

¹ Italicized categories belong to Phase 1 facilities

² Various categories subject to these requirements

³ See Definition in Part 5. of the permit

Paper and Allied Products (SIC 26)

Furniture and Fixtures (SIC 25)

Laundries (SIC 72)

Instruments (SIC 38)

Textile Mills Products (SIC 22)

Apparel (SIC 23)

UNDERLINE/STRIKEOUT VERSION OF CHANGES TO SHORELINE MONITORING REQUIREMENTS
MADE ON JUNE 15, 2005

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
MONITORING AND REPORTING PROGRAM - CI 6948
FOR
ORDER No. 01-182
NPDES No. CAS004001
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE
COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES, EXCEPT THE CITY OF
LONG BEACH

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Monitoring and Reporting Program No. 6948

I. Program Reporting Requirements

The Principal Permittee shall submit, no later than October 15 of each year beginning in the year 2002, a Unified Annual Storm Water Report (Unified Annual Report) documenting the progress of Permittees' implementation of the SQMP and the requirements of this Order. The Unified Annual Report shall contain a section covering common activities conducted collectively by the Permittees, and an integrated summary of the Monitoring Program results. Each Permittee shall submit an Individual Annual Report to the Principal Permittee, by the date determined by the Principal Permittee, to be included in the Unified Annual Report. The Unified Annual Reports shall cover each fiscal year from July 1 through June 30. The first Unified Annual Report, to be submitted on October 15, 2002, shall report for the period from July 1, 2001 through June 30, 2002. Specific requirements that must be addressed in the Annual Reports are listed below.

A. Unified Annual Report

The Principal Permittee shall include the following in the Unified Annual Report:

1. A compilation of Permittee Individual Annual Reports.
2. Proposed changes to the SQMP, as recommended by the WMCs.
3. An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment shall be comprised of a compilation of watershed-wide assessments conducted by each WMC. Assessments shall be based upon the specific record-keeping information requirement in each section of the permit, monitoring data, summaries of program effectiveness from each Permittee, and any other information related to program effectiveness. The program assessment shall include summaries of the following:
 - a) Summary of common activities conducted by all Permittees;
 - b) WMA BMP implementation;
 - c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;
 - d) Permittee level of effort, as indicated in their Individual Annual Report self evaluations (Attachment U-4, section VI); and
 - e) Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the Monitoring Program.

4. Pursuant to Part 2 of this Order, after a determination by either a Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, a Receiving Water Limitations (RWL) Compliance Report shall be attached to the subsequent Unified Annual Report. A status RWL Compliance Report shall be submitted every alternate year following the submittal of the first Report. The RWL Compliance Report shall include the following:
 - a) A plan to comply with the RWL (Part 2 of this Order);
 - b) Changes to the SQMP to eliminate water quality exceedances;
 - c) Enhanced monitoring to demonstrate compliance; and
 - d) Results of implementation.

After all water quality exceedances have been abated, a RWL Compliance Report is not required.

B. Individual Annual Reports

Each Individual Annual Report shall document and describe all activities conducted by a Permittee to meet all requirements of this Order, during the completed annual reporting period. Individual Annual Reports shall use the attached form (Attachment U-4), or create another reporting format that includes all items on the attached form. Each Permittee shall complete the form in its entirety, except for those requirements applicable only to the Principal Permittee, as indicated on the form. Status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in this Order and in the SQMP shall be included for each program area.

C. Monitoring Program Management

The Principal Permittee shall submit a Storm Water Monitoring Report (Monitoring Report) on August 15, 2002, and annually on August 15, thereafter. The Monitoring Report to be submitted on August 15, 2002 shall include the results of monitoring from July 1, 2001 through June 30, 2002. Each Monitoring Report shall include:

1. Status of implementation of the Monitoring Program.
2. Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program.
3. An analysis of the findings of each Monitoring Program component. The analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future

monitoring and BMP implementation measures for identifying and addressing the sources. The analysis shall also include an evaluation of the effectiveness of existing control measures.

4. Identification and analysis of any long-term trends in storm water or receiving water quality.
5. An estimation of total pollutant loads due to storm water/urban runoff for each mass emission station.
6. A comparison to the applicable Water Quality Standards for each component of the Monitoring Program. The lowest applicable standard from the Basin Plan, the Ocean Plan, or the CTR shall be used for comparison. Constituents that exceed applicable Water Quality Standards shall be highlighted. When data indicate that discharges are causing or contributing to exceedances of applicable Water Quality Standards, a discussion of possible pollutant sources shall be included in the Monitoring Report and a RWL Compliance Report (Section I.A.4) shall be submitted with the subsequent Unified Annual Report.
7. For each monitoring component, maps of all monitoring station locations and descriptions of each location.
8. All Monitoring Reports shall be submitted in both electronic and paper formats.

D. Integrated Receiving Water Impacts Report

The Principal Permittee shall, not later than August 15, 2005, prepare and submit an Integrated Receiving Water Impacts Report, which may also serve as the fourth-year Monitoring Report. The Report shall include, but not be limited to, a comprehensive analysis of the results of the data from each component of the Monitoring Program, and other pertinent studies available, and feasible environmental indicators. It should also include a budget summary for each monitoring requirement and recommendations on future monitoring requirements. This report will be an integral part of the next ROWD.

E. Certification

All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to US EPA regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for

submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____, 20__.

at _____.

(Signature) _____ (Title) _____";

Permittee submittals to the Principal Permittee shall also be signed and certified pursuant to USEPA regulations 40 CFR 122.41 (k).

The Principal Permittee shall submit the original of each Unified Annual Report to:

INFORMATION TECHNOLOGY
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - LOS ANGELES REGION
320 W. 4TH STREET, SUITE 200
LOS ANGELES, CA 90013

A copy of the Unified Annual Report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to:

- Assessing compliance with this Order;
- Measuring and improving the effectiveness of the SQMPs;
- Assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
- Characterization of storm water discharges;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

Ultimately, the results of the monitoring requirements outlined below should be used to refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County.

The Principal Permittee and Permittees shall implement the Monitoring Program as follows:

CORE MONITORING

A. Mass Emissions

The Principal Permittee shall monitor mass emissions to accomplish the following objectives:

- Estimate the mass emissions from the MS4;
 - Assess trends in the mass emissions over time; and
 - Determine if the MS4 is contributing to exceedances of Water Quality Standards by comparing results to applicable standards in the Basin Plan, the Ocean Plan, or the CTR, and with emissions from other dischargers.
1. The Principal Permittee shall monitor mass emissions from the following seven mass emission stations: Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and the Santa Clara River. The Principal Permittee shall monitor the first storm event and a minimum of 2 additional storm events for each season. A minimum of two dry weather samples per year at each mass emission station shall also be analyzed. Sampling at all stations shall begin no later than February 1, 2002, except for sampling in the Santa Clara River, which will begin no later than October 15, 2002.
 2. All storms events, in addition to those required above, that result in at least 0.25 inches of rainfall shall be sampled and analyzed for TSS. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of mass emissions (pollutant correlation with TSS). This requirement does not apply to manual sampling stations.
 3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 96-054. Grab samples shall be taken for pathogen indicators and oil and grease. The samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall.

Samples taken at mass emission stations during the first storm event of the wet season shall be analyzed for all constituents listed in Attachment U-1.

4. Manual samples shall be collected from mass emission stations where it is not feasible to install an automatic sampler (Santa Clara River). Manual samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge¹, unless the Regional Board Executive Officer approves an alternate protocol.
5. Samples from mass emission stations shall be analyzed for all constituents listed in Attachment U-1. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment U-1 in more than 75 percent of the first 48 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.
6. The Principal Permittee shall perform an annual analysis, to be included in the Monitoring Report, of the correlation between pollutants of concern (including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the complete list of constituents.

B. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing for each station event. Specifically, *Ceriodaphnia dubia* (water flea) 7-day survival/reproduction and *Strongylocentrotus purpuratus* (sea urchin) fertilization tests shall be used. These tests should include a dilution series (0.5x steps) that ranges from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) to less than or equal to 6% sample.
2. Toxicity Identification Evaluations (TIE)

The Principal Permittee shall begin a Phase I TIE immediately on all samples that are substantially toxic (greater than or equal to 1 Toxic Unit)

¹ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

to either test species.² If a sample is substantially toxic to both species, a TIE shall be performed for both species. The Phase I TIE shall include the following treatments and corresponding blanks:

- a) Baseline toxicity;
- b) Particle removal by centrifugation;
- c) Solid phase extraction of the centrifuged sample using C18 media;
- d) Complexation of metals using ethylenediaminetetraacetic acid (EDTA) addition to the raw sample;
- e) Neutralization of oxidants/metals using sodium thiosulfate addition to the raw sample; and
- f) Inhibition of organo-phosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

3. Toxicity Reduction Evaluations (TRE)

- a) When the same pollutant or class of pollutants is identified through the TIE process as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:
 - (1) The potential sources of pollutant(s) causing toxicity;
 - (2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;
 - (3) Recommended BMPs to reduce the pollutant(s) causing toxicity;
 - (4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and
 - (5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

² Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. Toxic Units are calculated by dividing 100 by the calculated median test response value (e.g., LC50 or EC50). For example, a LC50 of 50% sample equals 2 Toxic Units. Ceriodaphnia TIEs require at least 50% mortality in undiluted sample (1 Toxic Unit) at any time during the 7-day duration of the initial chronic bioassay (SCCWRP).

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- b) Since the Phase I TIEs may only identify a broad category of toxicants (e.g., nonpolar organics), additional TIE analyses may be required in order to identify or confirm the identity of the pollutants causing toxicity before the TRE can be completed.
- c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.
- d) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.
- e) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (i.e. If a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).
- f) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

C. Tributary Monitoring

The Principal Permittee shall monitor tributaries to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of Water Quality Standards, and to prioritize drainage and sub-drainage areas that need management actions.

1. The Principal Permittee shall develop and implement a watershed-based tributary monitoring program, in which a minimum of six tributaries per year will be monitored, based on the schedule described below:
 - a) Monitoring station locations will be rotated so that a minimum total of six tributaries will be monitored per year. Each tributary shall be monitored for a minimum period of one year. If no exceedances of applicable water quality standards occur during one year of monitoring at a single tributary station, the Principal Permittee may move that monitoring station to another tributary, subject to the approval of the Regional Board Executive Officer. When an applicable water quality standard is exceeded in three out of four sampling events in a given monitoring year, the Permittees shall initiate a focused effort to identify sources of pollutants within that subwatershed.
 - b) Tributary monitoring shall begin in the Los Angeles River WMA, and shall be rotated to locations in other watersheds as monitoring at each station is complete, as approved by the Regional Board Executive Officer. The Principal Permittee shall include a

description and explanation of each proposed station location and a summary of the prior year's results of the tributary monitoring program in the annual Monitoring Report.

c) Monitoring shall begin at the following tributaries:

- (1) Aliso Creek;
- (2) Bull Creek;
- (3) Arroyo Seco Channel;
- (4) Rio Hondo Channel;
- (5) Burbank West; and
- (6) Verdugo Wash.

2. Tributary monitoring shall begin October 15, 2002.

3. The Principal Permittee shall monitor the first storm event and at least 3 additional storm events during each storm season. At least one dry weather flow per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge³, unless the Regional Board Executive Officer approves an alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstem. Constituents to be analyzed for each location shall include the following:

- a) pH, dissolved oxygen, temperature, conductivity, and total suspended solids;
- b) Indicator bacteria;
- c) All priority pollutants (Attachment U-1) for the first storm of the year;
- d) All constituents for which the water body is impaired downstream of the monitoring station;⁴
- e) All constituents that caused toxicity or exceeded any applicable water quality criteria at the associated mass emission station the previous year (these constituents shall be listed in each Monitoring Report); and
- f) Flow (flow may be estimated using EPA methods⁵ at sites where flow measurement devices are not in place).

³ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

⁴ The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303d98.pdf#reg4

⁵ NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992

D. Shoreline Monitoring

The City of Los Angeles shall monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. This component shall be integrated and coordinated with similar monitoring programs in the region.

1. The City of Los Angeles shall monitor eighteen water quality sampling stations and supplement the monitoring conducted by the County of Los Angeles Department of Health Services at two additional water quality stations along the shoreline of the Pacific Ocean within the Santa Monica Bay to determine compliance with the California's bathing water standards for public beaches and ocean water-contact sport areas⁶, and the related impacts of discharges from storm drains and piers. The shoreline monitoring program shall be implemented as follows:

- a) The eighteen established shoreline water quality stations listed in Attachment U-2 shall be monitored. Station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project Commission (SMBRPSMBRC) and approval from the Regional Board Executive Officer⁷;
- b) The City of Los Angeles shall supplement the weekly sampling done by the Los Angeles Department of Health Services at two additional shoreline monitoring locations, Manhattan Beach at 28th Street (DHS 113) and the Herondo storm drain (DHS 115), to increase sampling frequency at these sites to 5 times per week.
- c) The City of Los Angeles shall evaluate three additional sites, Temescal Canyon (DHS 102), Bel Air Bay Club (DHS 103), and Montana Avenue (DHS 104), for storm water impact and the necessity of increasing monitoring frequency to 5 times per week. The City of Los Angeles shall report its findings to the Regional Board no later than September 16, 2005. The Regional Board Executive Officer will make a final determination regarding sampling frequency at these sites on the basis of the report. If more frequent sampling is required at one or more of these sites by the Regional Board, the City of Los Angeles shall supplement, as necessary, the weekly sampling done by the Los Angeles County Department of Health Services to increase the sampling frequency to 5 times per week until this Order is re-adopted.
- b)d) Three indicator groups shall be tested for using either membrane filtration, multiple tube fermentation, or chromogenic substrate test kits. Monitoring shall include the following types and frequencies of sampling:

Parameter	Units	Sample Frequency
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⁶ California Department of Health Services, Health and Safety Code §115880 (Assembly Bill 411, Statutes of 1997, Chapter 765

⁷ Station locations were modified based on the recommendations of the SMBRC TAC at its November 23, 2004 meeting on insert date to align the shoreline monitoring program contained herein with that of the Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan, April 7, 2004, developed to assess compliance with the requirements of the Bacteria TMDLs for Santa Monica Bay Beaches.

Total coliforms	CFU or MPN/100 ml	6/week (Mon-Sat) ⁸
Fecal coliform ⁹	CFU or MPN/100 ml	6/week (Mon-Sat) ⁶
Enterococcus	CFU or MPN/100 ml	6/week (Mon-Sat) ⁶

- e) Sample frequency shall be either weekly or 5 times per week, depending upon historical shoreline monitoring data. Days not sampled shall be Sundays and Mondays or Tuesdays. Sampling shall be conducted 5 times per week at shoreline monitoring sites with historical water quality that is worse than the reference beach identified in the Santa Monica Bay Beaches Bacteria TMDLs (Resolutions 2002-004 and 2002-022). Systematic weekly sampling shall be conducted at shoreline monitoring sites with historical water quality that is as good as or better than the reference beach.¹⁰
- (1) Sampling shall be conducted 5 times per week at the following sites listed in Attachment U-2: S1, S2, S4, S5, S6, S7, S9, S10, and S16.
- (2) Sampling shall be conducted once per week at the following sites listed in Attachment U-2: S3, S8, S11, S12, S13, S14, S15, S17, and S18.
- e)f) Shoreline monitoring shall occur during daylight hours. Samples may be omitted in the event of hazardous weather;
- e)g) Shoreline monitoring frequencies at certain stations may be modified based on the use of the adjacent beaches and their proximity to storm drains, as recommended by the SMBRP's SMBRC's Technical Advisory Committee and the Los Angeles County Department of Health Services (LA County DHS).
- e)h) Data collected shall be transmitted daily to the LA County DHS. The City of Los Angeles will annually assess the data and submit it to the Principal Permittee for inclusion in the Monitoring Report;
- f)i) When exceedances of public health standards for bacteria occur, the LA County DHS shall take the appropriate action, as described in the Regulations for Public Beaches and Ocean Water-Contact Sports Areas.¹¹
- e)j) The City of Los Angeles will continue to conduct all monitoring, testing, and data transferring actions as part of the Santa Monica Bay Restoration Commission (SMBRPC) Regional Program for the Santa Monica Bay.

⁸ ~~Samples will be collected on Sundays preceding Monday holidays~~

⁹ *Escherichia Coli (E. Coli)* may be substituted for Fecal Coliform if chromogenic substrate test kits are used

¹⁰ As recommended by the SMBRC at its November 23, 2004 meeting, and approved by the Regional Board Executive Officer on insert date.

¹¹ Regulations for Public Beaches and Ocean Water-Contact Sports Areas, Title 17 CCR Group 10, developed in response to Health and Safety Code §115880

E. Trash Monitoring

To assess the quantities of trash in receiving waters after storm events and to identify areas impaired for trash, the Principal Permittee shall conduct visual observations of trash and take a minimum of one photograph at each mass emission station after the first storm event and 3 additional storm events per year.

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1. The Principal Permittee and Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Permit Attachment A) shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002. The monitoring program and schedule shall be consistent with and pursuant to CWC §13267 "Request for Trash Monitoring", issued by the Regional Board on December 21, 2001. For the first two years of monitoring, either of the following formats for monitoring plans may be used:
 - a) For each watershed, the group of Permittees in that watershed will capture and quantify trash from an area no less than 10% of the total land area over which they have jurisdiction. The monitoring areas shall represent 10% of every land use the group of Permittees has jurisdiction over. If storm drain configuration versus land use make the representation of 10% of a land use infeasible, the Permittees can choose areas that represent their land uses as accurately as possible, as long as the extent of the surface being monitored represents 10%. This monitoring shall use full capture devices. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.
 - b) For each watershed, the group of Permittees in that watershed will sample a minimum of ten representative sites for each land use monitored. For each sampling site, a minimum of five catch basins will be fitted with inserts, for a total of not less than 50 catch basin inserts per land use monitored. The existing litter removal practices that the cities implement will remain in place, so that monitoring will evaluate how much trash is washed into the system under current practices. A structural full capture device shall be installed downstream of at least one sampling site for each land use monitored. For this sampling site, all of the catch basins that are upstream of the full capture-monitoring device must be fitted with inserts. This configuration will provide information on the relative effectiveness of the catch basin inserts as opposed to the full capture systems in varying land uses and under varying weather conditions. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.
2. Permittees shall report data in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g. compacted volume based on a standardized compaction rate, or dry weight). Permittees may select the unit, but all Permittees must use the same unit of measure.
3. Following the first two years of data collection, Permittees shall conduct compliance monitoring, which involves calculating trash loading as a

running three-year average (estimated total load discharged from 2003-2006, divided by three).

4. All trash collected shall be disposed of in compliance with all applicable State, federal, and local regulations.

REGIONAL MONITORING

The Principal Permittee shall participate on regional monitoring committees to help establish on-going regional programs that address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Regional Monitoring participation shall include, but not necessarily be limited to, the efforts described below.

F. Estuary Sampling

The Southern California Coastal Waters Research Project (SCCWRP), in conjunction with the USEPA, the State Board, three Regional Boards, and participating dischargers, has organized an effort to implement a regional monitoring program for the southern California bight. Previous studies (in 1994 and 1998) included microbiology, water quality, sediment chemistry, sediment toxicity testing, benthic infauna, demersal fish, and bioaccumulation. A similar bight-wide monitoring effort is planned to be conducted in 2003. The Principal Permittee shall participate on the Steering Committee for this bight-wide monitoring project, and complete the estuary sampling requirement described below in parallel with this effort.

In addition to participation in the Bight-wide study, the goal of this requirement is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertebrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. A map of each estuary which depicts the impacted areas shall be produced. The maps shall provide the information necessary to conduct effective sediment monitoring to determine trends and accumulation, as a future permit requirement.

1. The Principal Permittee shall sample a maximum of 25 sites in each estuary/mouth (Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, and Dominguez Channel) once during the permit term. Sediment samples shall be taken at each station by means of a 0.1m² (1.1 ft²) modified Van Veen sediment grab sampler.
2. The Principal Permittee shall also sample a total of 25 sites outside of the direct outfalls to assess cumulative effects.
3. All samples shall be analyzed for the following:
 - a) Sediment Chemistry (priority pollutants)
 - b) Total Organic Carbon (TOC)
 - c) Grain size
 - d) Sediment Toxicity
 - (1) Amphipod survival bioassays shall be conducted on each sediment sample. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test.

- (2) Phase I TIEs of interstitial water, using the amphipod test species, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay.
- e) Benthic Macroinvertebrates
 - (1) All sediment samples shall be passed through a 1.0mm (0.039 in) screen to retrieve the benthic organisms. Benthic epifauna and infauna shall be analyzed to determine the structure of the benthic community.
 - (2) The Principal Permittee shall identify all organisms to lowest possible taxon.
 - (3) The Principal Permittee shall determine the Total Biomass of:
 - (i) Mollusks;
 - (ii) Echinoderms;
 - (iii) Annelids/polychaetes
 - (iv) Crustaceans; and
 - (v) All other macroinvertebrates.
 - (4) The Principal Permittee shall determine the community structure analysis, including wet weight of each taxonomic group (listed above), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species diversity, species evenness and dominance, similarity analysis, cluster analyses, or other appropriate multivariate statistical techniques approved by the Regional Board Executive Officer, and the Infaunal Index¹².
4. The Principal Permittee shall create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water. In the Integrated Monitoring Report, the Principal Permittee shall suggest appropriate locations for regular sediment monitoring, based on the results of this study.

G. Bioassessment

The Principal Permittee shall continue participation in the Stormwater Monitoring Coalition (SMC), as well as coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Board to complete the bioassessment requirement. The Regional Board anticipates that the SMC will organize an effort to evaluate the biological index approach for southern California and to design a research project for developing an Index of Biological Integrity (IBI) for this region. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of IBI development.

¹² Benthic Response Index for Assessing Infaunal Communities on the Mainland Shelf of Southern California, the SCCWRP

The purpose of the bioassessment requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI for southern California. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Principal Permittee shall coordinate with the SMC and SWAMP to identify the most appropriate locations for bioassessment stations within Los Angeles County.
2. Station selection shall be complete within one year from the date this Order is adopted, and sampling shall begin no later than October of 2003.
3. The Principal Permittee shall monitor a minimum of 20 bioassessment stations in October of each year, beginning in 2003. A minimum of three replicate samples shall be collected at each station during each sampling event.
4. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures. The Principal Permittee may collect samples when properly trained in CSBP methods. The Principal Permittee shall develop Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program that describes all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. There must also be specific information about the bioassessment program including: assessment program description, its organization and the responsibilities of all its personnel; assessment project description and objectives; qualifications of all personnel; and the type of training each member has received. A copy of the SOPs shall be available to the Regional Board Executive Officer upon request.
5. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (i.e., an estuary or unwadable stream), California Department of Fish and Game and the Regional Board Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors by the field crews, the receiving laboratory, and the Principal Permittee. These forms shall be available to California Department of Fish and Game or the Regional Board Executive Officer upon request. Field inspections should be planned with random visits and should be performed by the Principal Permittee, if properly trained in CSBP methods, or an independent auditor. These visits should report on all aspects of the field procedure with corrective action occurring immediately.
6. Taxonomic identification laboratories process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format.

There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Principal Permittee can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval from the Regional Board. External QA/QC should be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory in Rancho Cordova.

7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)¹³. The following results and information shall be included in the annual Monitoring Report:
 - a) All physical, chemical and biological data collected in the assessment;
 - b) Photographs and GPS locations of all stations;
 - c) Documentation of quality assurance and control procedures;
 - d) Analysis that shall include calculation of the metrics used in the CSBP;
 - e) Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;
 - f) Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and
 - g) Copies of all QA/QC documents from laboratories.

SPECIAL STUDIES

H. New Development Impacts Study in the Santa Clara Watershed

The Principal Permittee, with support from the City of Santa Clarita, shall monitor tributaries in the Santa Clara watershed to determine impacts from new development and to compare storm water quality between subwatersheds with and without SUSMPs.

1. The Principal Permittee, in cooperation with the City of Santa Clarita, shall select one station that is representative of a subwatershed in which the majority of development has occurred without SUSMP

¹³ California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

implementation, and one station (SUSMP station) in a subwatershed in which the majority of the development has/will include SUSMP implementation. Other inputs to runoff, such as septic systems, in the two subwatersheds should be similar.

2. The Principal Permittee shall coordinate with the City of Santa Clarita and the Regional Board to develop a proposed study design, including a description of the drainage areas to be monitored and sampling locations, no later than August 1, 2002. If appropriate, this study may be conducted in conjunction with the Peak Discharge Impact Study, described below.
3. The Principal Permittee shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.
4. Samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge¹⁴, unless the Regional Board Executive Officer approves alternate protocol. Constituents to be analyzed for each location shall include the following:
 - a) pH, dissolved oxygen, temperature, conductivity, chloride, nitrogen, and TSS;
 - b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc;
 - c) Pathogen Indicators (Coliform);
 - d) PAHs; and
 - e) Flow (flow may be estimated using EPA methods at sites where flow measurement devices are not in place).
5. The Principal Permittee shall submit an analysis of the data, including a description of each subwatershed, year-to-year changes compared to the amount of development that occurred in each, comparisons between stations, and an analysis of SUSMP effectiveness, with the fourth year Monitoring Report.

I. Peak Discharge Impact Study

The Principal Permittee shall conduct a study to evaluate peak flow control and to determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.¹⁵ The Principal Permittee may partner with the Ventura County Flood Control District to expand the stream erosion study to the Santa Clara River watershed. The study shall begin no later

¹⁴ Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

¹⁵ Permit, Part 4.D.2 (Development Planning Program) requires the development of numerical criteria for peak flow control in natural drainage systems.

than August 1, 2002.

J. BMP Effectiveness Study

The Principal Permittee shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs. The objective of this study shall include the following:

- Monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined.
- Evaluate the requirements, feasibility and cost of maintenance for each BMP.
- Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Los Angeles County.

The Principal Permittee may participate in the SMBRP's, "Performance Evaluation of Structural BMPs for Storm Water Pollution Control in the Santa Monica Bay Watershed" study to meet this requirement. Participation includes collaboration and fund contribution to cover the scope of the proposed study.

K. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]
Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. Monitoring and Records [40 CFR 122.41(j)(2)] [CWC §13383(a)]
The Principal Permittee and Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.
3. Monitoring and Records [40 CFR 122.21(j)(3)]
Records of monitoring information shall include:
 - a) The date, exact place, and time of sampling or measurements;
 - b) The individual(s) who performed the sampling or measurements;
 - c) The date(s) analyses were performed;

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- d) The individual(s) who performed the analyses;
 - e) The analytical techniques or methods used; and,
 - f) The results of such analyses.
4. Monitoring and Records [40 CFR 122.21(j)(4)]

All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.
 5. Monitoring and Records [40 CFR 122.21(j)(5)]

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.
 6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.
 7. For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg.* 31682), the MLs published in Appendix 4 of the SIP shall be used for all analyses, unless otherwise specified. The MLs from the SIP are incorporated into the Constituent List (Attachment U-1).
 8. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:
 - a) An actual numerical value for sample results greater than or equal to the ML;
 - b) "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or
 - c) "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.
 9. For priority toxic pollutants, if the Principal Permittee or Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead

of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]
If the Principal Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual Monitoring Reports.
11. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]
Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.
12. If no flow occurred during the reporting period, the Monitoring Report shall so state.
13. The Regional Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:
 - a) By petition of the Principal Permittee or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or
 - b) As deemed necessary by the Regional Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Dennis A. Dickerson
Executive Officer
Date: December 13, 2001

Changes approved by:

Jonathan Bishop
Executive Officer
Date: June 15, 2005

**ATTACHMENT U-1
LIST OF CONSTITUENTS FOR THE STORM WATER
MONITORING PROGRAM AND ASSOCIATED MINIMUM LEVELS (MLs)¹**

CONSTITUENTS	MLs
CONVENTIONAL POLLUTANTS	mg/L
Oil and Grease	5
Total Phenols	0.1
Cyanide	0.005
pH	0 - 14
Temperature	None
Dissolved Oxygen	Sensitivity to 5 mg/L
BACTERIA	
Total coliform	<20mpn/100ml
Fecal coliform	<20mpn/100ml
Enterococcus (marine waters)	<20mpn/100ml
E. coli (fresh waters)	
GENERAL	mg/L
Dissolved Phosphorus	0.05
Total Phosphorus	0.05
Turbidity	0.1NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Volatile Suspended Solids	2
Total Organic Carbon	1
Total Petroleum Hydrocarbon	5
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Ammonia-Nitrogen	0.1
Total Kjeldahl Nitrogen	0.1
Nitrate-Nitrite	0.1
Alkalinity	2
Specific Conductance	1umho/cm
Total Hardness	2
MBAS	0.5
Chloride	2
Fluoride	0.1
Methyl tertiary butyl ether (MTBE)	1

¹ For Priority Pollutants, the MLs represent the lowest value listed in Appendix 4 of SIP. MDLs must be lower than or equal to the ML value. If a particular ML is not attainable in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead.

METALS	µg/L
Aluminum	100
Antimony	0.5
Arsenic	1
Beryllium	0.5
Cadmium	0.25
Chromium (total)	0.5
Copper	0.5
Hex. Chromium	5
Iron	100
Lead	0.5
Mercury	0.5
Nickel	1
Selenium	1
Silver	0.25
Thallium	1
Zinc	1
SEMIVOLATILE ORGANIC COMPOUNDS	µg/L
Acids	
2-Chlorophenol	2
2, 4-Dichlorophenol	1
2,4-Dimethylphenol	2
2, 4-Dinitrophenol	5
2-Nitrophenol	10
4-Nitrophenol	5
4-Chloro-3-methylphenol	1
Pentachlorophenol	2
Phenol	1
2,4,6-Trichlorophenol	10
BASE/NEUTRAL	µg/L
Acenaphthene	1
Acenaphthylene	2
Anthracene	2
Benzidine	5
1,2 Benzanthracene	5
Benzo(a)pyrene	2
Benzo(g,h,i)perylene	5
3,4 Benzoflouranthene	10
Benzo(k)flouranthene	2
Bis(2-Chloroethoxy) methane	5
Bis(2-Chloroisopropyl) ether	2
Bis(2-Chloroethyl) ether	1
Bis(2-Ethylhexyl) phthalate	5
4-Bromophenyl phenyl ether	5

Butyl benzyl phthalate	10
2-Chloroethyl vinyl ether	1
2-Chloronaphthalene	10
4-Chlorophenyl phenyl ether	5
Chrysene	5
Dibenzo(a,h)anthracene	0.1
1,3-Dichlorobenzene	1
1,4-Dichlorobenzene	1
1,2-Dichlorobenzene	1
3,3-Dichlorobenzidine	5
Diethyl phthalate	2
Dimethyl phthalate	2
di-n-Butyl phthalate	10
2,4-Dinitrotoluene	5
2,6-Dinitrotoluene	5
4,6 Dinitro-2-methylphenol	5
1,2-Diphenylhydrazine	1
di-n-Octyl phthalate	10
Fluoranthene	0.05
Fluorene	0.1
Hexachlorobenzene	1
Hexachlorobutadiene	1
Hexachloro-cyclopentadiene	5
Hexachloroethane	1
Indeno(1,2,3-cd)pyrene	0.05
Isophorone	1
Naphthalene	0.2
Nitrobenzene	1
N-Nitroso-dimethyl amine	5
N-Nitroso-diphenyl amine	1
N-Nitroso-di-n-propyl amine	5
Phenanthrene	0.05
Pyrene	0.05
1,2,4-Trichlorobenzene	1
CHLORINATED PESTICIDES	µg/L
Aldrin	0.005
alpha-BHC	0.01
beta-BHC	0.005
delta-BHC	0.005
gamma-BHC (lindane)	0.02
alpha-chlordane	0.1
gamma-chlordane	0.1
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
Dieldrin	0.01
alpha-Endosulfan	0.02

beta-Endosulfan	0.01
Endosulfan sulfate	0.05
Endrin	0.01
Endrin aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Toxaphene	0.5
Polychlorinated Biphenyls	µg/L
Aroclor-1016	0.5
Aroclor-1221	0.5
Aroclor-1232	0.5
Aroclor-1242	0.5
Aroclor-1248	0.5
Aroclor-1254	0.5
Aroclor-1260	0.5
ORGANOPHOSPHATE PESTICIDES	µg/L
Chlorpyrifos	0.05
Diazinon	0.01
Prometryn	2
Atrazine	2
Simazine	2
Cyanazine	2
Malathion	1
HERBICIDES	µg/L
Glyphosate	5
2,4-D	0.02
2,4,5-TP-SILVEX	0.2

**ATTACHMENT U-2
SHORELINE MONITORING STATIONS**

Station	Location¹	Latitude	Longitude
S1	Surfrider Beach, Malibu, <u>50 yds E. of breechpoint zero</u>	34.03500 <u>03244</u>	= 118.678336 7900
S2	Topanga Point <u>Creek</u> , Malibu, seaward of lifeguard station <u>point zero</u>	34.03833 <u>03814</u>	= 118.580835 8200
S3	Pulga storm drain, Pacific Palisades, <u>50 yds E. of drainpoint zero</u>	34.03361 <u>03757</u>	= 118.534175 4200
S4	Santa Monica Canyon storm drain, Pacific Palisades, <u>50 yds E. of drainpoint zero</u>	34.02639 <u>02784</u>	= 118.518615 1800
S5	Santa Monica Pier, Santa Monica, <u>50 yds S. of pierpoint zero</u>	34.00833 <u>00870</u>	= 118.496674 9600
S6	Pico-Kenter storm drain, Santa Monica, <u>50 yds S. of drainpoint zero</u>	34.00583 <u>00615</u>	= 118.492504 9100
S7	Ashland storm drain, Santa Monica, <u>50 yds S. of drainpoint zero</u>	33.99639 <u>99702</u>	= 118.484724 8400
S8	Windward storm drain, Los Angeles, <u>50 yds S. of drainpoint zero</u>	33.98778 <u>98520</u>	= 118.477504 7600
S9	Marina Del Rey Beach, Marina Del Rey, at lifeguard tower.	33.98139	=118.45833
S10	Ballona Creek, Playa Del Rey, 50 yds S. of south jetty	33.96083 <u>96077</u>	= 118.456144 5550
S11	Culver Blvd., <u>extended storm drain</u> , Playa Del Rey, N-side of Culver storm drain <u>point zero</u>	33.95639 <u>95641</u>	= 118.451674 5100
S12	Imperial Hwy. <u>Storm storm drain</u> , Playa Del Rey, <u>50 yds S. of drainpoint zero</u>	33.93028 <u>93005</u>	= 118.437224 3600
S13	El Porto, Manhattan Beach, 40 th St. extended	33.90389 <u>90390</u>	=118.42250
S14	Manhattan Beach Pier, Manhattan Beach, <u>50 yds S. of pierpoint zero</u>	33.88360 <u>88422</u>	= 118.412784 1100
S15	Hermosa Beach Pier, Hermosa Beach, 50 yds S.	33.86114	=

Los Angeles County Municipal Storm Water Permit
December 13, 2001

Changes to Shoreline Monitoring Requirements approved on June 15, 2005

Station	Location ¹	Latitude	Longitude
	of pier	<u>86112</u>	<u>118.402784</u> <u>0270</u>
S16	Redondo Pier, Redondo Beach, <u>50-100 yds S. of pier</u>	<u>33.83833</u> <u>83908</u>	= <u>118.391113</u> <u>9000</u>
S17	Ave. I storm drain, Redondo Beach, Ave. I extended, <u>50 yds S. of drainpoint zero</u>	<u>33.81889</u> <u>81944</u>	= <u>118.391113</u> <u>9000</u>
S18	Malaga Cove, Palos Verdes Estates, Arroyo Circle extended	<u>33.80500</u> <u>80440</u>	= <u>118.394673</u> <u>9424</u>

¹ Station locations from *Ocean Water Regulatory & Monitoring Protocol*, County of Los Angeles, Department of Health Services, May 5, 1999, updated based on *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan*, April 7, 2004.

Attachment U-3
Total Maximum Daily Loads Scheduled for Implementation in
Los Angeles County within 10 Years

<i>Watershed</i>	<i>TMDL</i>
Malibu	Coliform, Nutrients
Malibu Creek Lakes and Tributaries	Metals
Ballona Creek	Trash, Coliform, Historic Pesticides, Metals, TBT
Dominguez Channel/LA Harbor	Coliform, PAHs, Historic Pesticides, PCBs, DDT, Metals, Nutrients, Trash
Los Angeles River	Trash, Nutrients, Coliform, Chlorpyrifos, Metals
San Gabriel River	Nutrients, Coliform, Metals, Trash
San Gabriel Lakes	Coliform
Santa Monica Bay Beaches	Coliform, Metals, Chlordane, Historic PCBs and Pesticides
Santa Clara River	Historic Pesticides, Chloride, Coliform, Nitrogen, Eutrophication, Trash
Los Cerritos Channel	Metals, Ammonia, Coliform

Los Angeles County Municipal Storm Water Permit (Order 01-182)
Individual Annual Report Form
Attachment U-4

This form summarizes the requirements in Order No. 01-182. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Program (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with Order 01-182; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED <i>Do not leave any of the sections blank.</i>
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

This Report Form consists of the following sections:

SECTION	PAGE
I. Program Management	2-4
II. Receiving Water Limitations	5
III. SQMP Implementation	5-7
IV. Special Provisions	8
IV.A. Public Information and Participation Program	8-14
IV.B. Industrial/Commercial Facilities Program	15-17
IV.C. Development Planning Program	18-21
IV.D. Development Construction Program	22-23
IV.E. Public Agency Activities Program	24-33
IV.F. IC/ID Elimination Program	34-37
V. Monitoring	38
VI. Assessment of Program Effectiveness	38
VII. Certification	39

Los Angeles County Municipal Storm Water Permit (Order 01-182)

Individual Annual Report Form

Attachment U-4

Reporting Year 200__ - 200__

I. Program Management

A. Permittee Name: _____

B. Permittee Program Supervisor: _____

Title:

Address:

City:

Zip Code:

Phone:

Fax:

C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

TABLE 1 - Program Management

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education		
2. Industrial/Commercial Inspections		
3. Construction Permits/Inspections		
4. IC/ID Inspections		
5. Street sweeping		
6. Catch Basin Cleaning		
7. Spill Response		
8. Development Planning (project/SUSMP review and approval)		
9. Trash Collection		

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Individual Annual Report Form
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D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary

1. Does your municipality have a storm water utility? Yes No
If no, describe the funding source(s) used to implement the requirements of Order No. 01-182.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes No
3. Complete Table 2 to the extent that accurate information is available (indicate U in the spaces where the information is unavailable), and report any supplemental dedicated budgets for the same categories on the lines below the table.
4. List any additional state/federally funded projects related to storm water.

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TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Estimated Amount Needed to implement Order 01-182
1. Program management a. Administrative costs b. Capital costs		
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance		
3. Industrial/Commercial inspection/ site visit activities		
4. Development Planning		
5. Development Construction a. Construction inspections		
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other		
7. IC/ID Program a. Operations and Maintenance b. Capitol Costs		
8. Monitoring		
9. Other		
10. TOTAL		

List any supplemental dedicated budgets for the above categories:

List any activities that have been contracted out to consultants/other agencies:

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II. Receiving Water Limitations (Part 2)

- A. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes No

- B. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes No

- C. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:
 - 1. A description of the pollutants that are in exceedance and an analysis of possible sources;
 - 2. A plan to comply with the RWL (Permit, Part 2);
 - 3. Changes to the SQMP to eliminate water quality exceedances;
 - 4. Enhanced monitoring to demonstrate compliance; and
 - 5. Results of implementation.

III. SQMP Implementation (Part 3)

- A. Has your agency implemented the SQMP and any additional controls necessary to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes No

- B. If your agency has implemented additional or different controls than described in the countywide SQMP, has your agency developed a local SQMP that reflects the conditions in its jurisdiction and specifies activities being implemented under the appropriate elements described in the countywide SQMP? Yes No

- C. Describe the status of developing a local SQMP in the box below.

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- D. If applicable, describe an additional BMP, in addition to those in the countywide SQMP, that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

- E. Watershed Management Committees (WMCs)

- 1. Which WMC are you in?
- 2. Who is your designated representative to the WMC?
- 3. How many WMC meetings did you participate in last year?
- 4. Describe specific improvements to your storm water management program as a result of WMC meetings.

- 5. Attach any comments or suggestions regarding your WMC.

- F. Storm Water Ordinance

- 1. Have you adopted a storm water and urban runoff ordinance to enforce all requirements of Order 01-182? Yes No

If not, describe the status of adopting such an ordinance.

- 2. If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes No
If not, please attach a copy to this Report.

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3. Were any amendments made to your storm water ordinance during the last fiscal year? Yes No
If yes, attach a copy of amendments to this Report.

G. Discharge Prohibitions

1. List any non-storm water discharges you feel should be further regulated:

2. List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

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IV. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message

- a) How many storm drain inlets does your agency own?
- b) How many storm drain inlets were marked with a no dumping message in the last fiscal year?
- c) What is the total number of storm drain inlets that are legibly marked with a no dumping message?

If this number is less than the number in question 1.b, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

- d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year?

Describe your agency's status of implementing this requirement by the date required in Order No. 01-182.

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2. Reporting Hotline

- a) Has your agency established its own hotline for reporting and for general storm water management information? Yes No
- b) If so, what is the number?
- c) Is this information listed in the government pages of the telephone book? Yes No
- d) If no, is your agency coordinated with the countywide hotline? Yes No
- e) Do you keep record of the number of calls received and how they were responded to? Yes No

f) How many calls were received in the last fiscal year?

g) Describe the process used to respond to hotline calls.

h) Have you provided the Principal Permittee with your current reporting contact information? Yes No

i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site (Principal Permittee only)? Yes No

If not, when is this scheduled to occur?

3. Outreach and Education

a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. (Principal Permittee only)

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- b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes No

How many Public Outreach Strategy meetings did your agency participate in last year?

Explain why your agency did not attend any or all of the organized meetings.

Identify specific improvements to your storm water education program as a result of these meetings:

List suggestions to increase the usefulness of quarterly meetings:

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented (*Principal Permittee only*).

- c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

- d) Describe efforts your agency made to educate local schools on storm water pollution.

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- e) Did you provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution (*Principal Permittee only*)? Yes No
If not, explain why.

- f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts (*Principal Permittee only*).

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

- g) What is the behavioral change target that was developed based on sociological data and other studies (*Principal Permittee only*)?

If no target has been developed, explain why and describe the status of developing a target.

What is the status of meeting the target by the end of Year 5?

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4. Pollutant-Specific Outreach

a) Attach a description of each watershed-specific outreach program that your agency developed (*Principal Permittee only*). All pollutants listed in Table 1 (Section B.1.d.) must be included.

b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes No

c) Did your agency help distribute pollutant-specific materials in your city? Yes No

d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

5. Businesses Program

a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains (*Principal Permittee only*).

b) How many corporate managers did your agency (*Principal Permittee only*) reach last year?

c) What is the total number of corporations to be reached through this program (*Principal Permittee only*)?

d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years (*Principal Permittee only*)? Yes No

If not, describe measures that will be taken to fully implement this requirement.

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- e) Has your agency developed and/or implemented a Business Assistance Program? Yes No
If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

- 6. Did you encourage local radio stations and newspapers to use public service announcements? Yes No
How many media outlets were contacted?
Which newspapers or radio stations ran them?

Who was the audience?

- 7. Did you supplement the County's media purchase by funding additional media buys? Yes No
Estimated dollar value/in-kind contribution:
Type of media purchased:
Frequency of the buys:
Did another agency help with the purchase? Yes No

- 8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes No
If so, describe the type of advertising.

- 9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes No
Describe the materials that were distributed:

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Who were the key partners?

Who was the audience (businesses, schools, etc.)?

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes No
How many events did you attend?

11. Does your agency have a website that provides storm water pollution prevention information? Yes No
If so, what is the address?

12. Has awareness increased in your community regarding storm water pollution? Yes No
Do you feel that behaviors have changed? Yes No
Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

13. How would you modify the storm water public education program to improve it on the City or County level?

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B. Industrial/Commercial Facilities Program

1. Critical Source Inventory Database

Did you (individually or jointly) update the Database for Critical Sources Inventory? Yes No

Comments/Explanation/Conclusion:

2. Inspection Program

Provide the reporting data as suggested in the following tables.

Category	Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption
Landfills				
TSDF				
...				

Comments/Explanation/Conclusion:

3. BMPs Implementation

Provide the reporting data as suggested in the following table.

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Category	Number of facilities inspected by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade
Landfills										
...										

Comments/Explanation/Conclusion:

4. Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number of enforcement actions since permit adoption (by category)

Facilities by category	Number of Warning letters	Number of NOVs	Number of Referral	Number of Other

Comments/Explanation/Conclusion:

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5. Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective

Somewhat Effective

Non-effective

Comments/Explanation/Conclusion:

6. You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.

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C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes No
Attach examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.
2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:
 - a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes No
 - b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes No
 - c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes No
 - d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes No

3. List the types and numbers of BMPs that your agency required for priority projects to meet the requirements described above.

4. Describe the status of the development or implementation of peak flow controls in Natural Drainage Systems.

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5. Has your agency amended codes and/or ordinances to give legal effect to the SUSMP changes required in the Permit? Yes No

6. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

7. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?

- a) Residential
- b) Commercial
- c) Industrial
- d) Automotive Service Facilities
- e) Retail Gasoline Outlets
- f) Restaurants
- g) Parking Lots
- h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area
- i) Total number of permits issued to priority projects

8. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? %

9. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

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- 10. After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold?

- 11. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes No

- 12. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes No

If no, provide an explanation and an expected date of completion.

- 13. Did your agency update any of the following General Plan elements in the past year?
 - a) Land Use Yes No
 - b) Housing Yes No
 - c) Conservation Yes No
 - d) Open Space Yes No

If yes, please describe how watershed and storm water quality and quantity management considerations were included.

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- 14. How many targeted staff were trained last year?
- 15. How many targeted staff are trained annually?
- 16. What percentage of total staff are trained annually? %
- 17. Has your agency developed and made available development planning guidelines? Yes No
- 18. If no, what is the expected date that guidelines will be developed and available to developers?
- 19. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

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D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?

a) Will result in soil disturbance of one acre or greater Yes No

b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area Yes No

c) Is located in a hillside area Yes No

3. Attach one example of a local SWPPP

4. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

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5. How many building/grading permits were issued to sites requiring Local SWPPPs last year?
6. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year?
7. How many building/grading permits were issued to construction site less than one acre in size last year?
8. How many construction sites were inspected during the last wet season?
9. Complete the table below.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment				
Off-site discharge of other pollutants				
No or inadequate SWPPP				
Inadequate BMP/SWPPP implementation				

10. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

11. Describe the system that your agency uses to track the issuance of grading permits.

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E. Public Agency Activities (Part 4.F)

1. Sewage System Maintenance, Overflow, and Spill Prevention
(only applicable to agencies that own and/or operate a sanitary sewer system)

- a) Has your agency developed and implemented a response plan for sanitary sewer overflows that includes the requirements in Order 01-182? Yes No
- b) How many sanitary sewer overflows occurred within your jurisdiction?
- c) How many did your agency respond to?
- d) Did your agency investigate all complaints received? Yes No
- e) How many complaints were received?
- f) Upon notification, did your agency immediately respond to overflows by containment? Yes No
- g) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes No
- h) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes No

If so, describe the program:

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- i) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes No
If so, describe the program:

2. Public Construction Activities Management

- a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit ? %
- b) Give an explanation for any sites greater than 5 acres that were not covered:

- c) What is the total number of active public construction sites?
How many were 5 acres or greater in size?

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- d) (After March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes No

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

- a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes No

- b) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

- (1) Good housekeeping practices
- (2) Material storage control
- (3) Vehicle leaks and spill control
- (4) Illicit discharge control

- c) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes No
If not, what is the status of implementing this requirement?

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d) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above?

4. Landscape and Recreational Facilities Management

a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers?

Yes No

Briefly describe this protocol:

b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of?

Yes No

If so, list them:

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- d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?
- e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

5. Storm Drain Operation and Management

- a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes No
- b) How many of each designation exist in your jurisdiction?
Priority A:
Priority B:
Priority C:
- c) Is your city subject to a trash TMDL? Yes No
- d) If yes, describe the activities and/or implementation measures that your agency conducted pursuant to the TMDL and any other trash reduction efforts that occurred.

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- e) How many times were all Priority A basins cleaned last year?
- f) How many times were all Priority B basins cleaned last year?
- g) How many times were all Priority C basins cleaned last year?
- h) How much total waste was collected in tons from catch basin clean-outs last year?
- i) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.
- j) Did your agency place and maintain trash receptacles at all transit stops within its jurisdiction. Yes No
- k) How many new trash receptacles were installed last year?
- l) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:
 - (1) Provide for the proper management of trash and litter generated from the event? Yes No
 - (2) Arrange for temporary screens to be placed on catch basins? Yes No
 - (3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes No
- m) Did your agency inspect the legibility of the catch basin stencil or labels? Yes No
What percentage of stencils were legible?

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n) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes No

o) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes No
Is the prioritization attached? Yes No

p) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes No
What changes have been made?

q) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes No

r) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

s) Where is removed material disposed of?

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6. Streets and Roads Maintenance

a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:

(1) Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes No

(2) Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes No

(3) Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes No

b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:

(1) Priority A – These streets and/or street segments shall be swept at least two times per month? Yes No

(2) Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes No

(3) Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes No

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- c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes No
- d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes No
- e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes No
- f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
- (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes No
- (2) Identify and select appropriate BMPs? Yes No
7. Parking Facilities Management
- a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes No
- b) Were any Permittee-owned parking lots cleaned less than once a month? How many? Yes No

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8. Public Industrial Activities Management
- a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? Yes No
- b) Does your agency serve a population of less than 100,000 people? Yes No
9. Emergency Procedures
- a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes No
- b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes No
10. Feasibility Study
- a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes No
- b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? Yes No

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F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a).
2. Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

4. Describe your record keeping system to document all illicit connections and discharges.

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5. What is the total length of open channel that your agency owns and operates?
6. What length was screened last year for illicit connections?
7. What is the total length of closed storm drain that your agency owns and operates?
8. What length was screened last year for illicit connections?
9. Describe the method used to screen your storm drains.

10. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# that resulted in <i>other</i> actions
01/02							
02/03							
03/04							
04/05							
05/06							

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11. Explain any *other* actions that occurred in the last year.

12. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

a) Were all identified connections terminated within 180 days? Yes No

b) If not, explain why.

13. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02							
02/03							
03/04							
04/05							
05/06							

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14. What is the average response time after an illicit discharge is reported?

a) Did any response times exceed 72 hours? Yes No

b) If yes, explain why.

15. Describe the your agency's spill response procedures.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

17. Attach a list of all permitted connections to your storm sewer system.

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V. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-182 that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 2.

VI. Assessment of Program Effectiveness

- A. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:
1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
 2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
 3. A summary of the strengths and weaknesses of your agency's storm water management program;
 4. A list of specific program highlights and accomplishments;
 5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
 6. Interagency coordination between cities to improve the storm water management program;
 7. Future plans to improve your agency's storm water management program; and
 8. Suggestions to improve the effectiveness of your program or the County model programs.
- B. On a scale of 1 to 10 (10 being full implementation of requirements by their deadlines), rate your municipality's level of compliance with Order No. 01-182.
- C. List any suggestions your agency has for improving program reporting and assessment.

**Los Angeles County Municipal Storm Water Permit (Order 01-182)
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VII. Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____, 20__,

at _____.

Printed Name _____ Title _____

(Signature) _____

Signature by duly authorized representative

ATTACHMENT H-5

This form summarizes the requirements in Order No. 01-182. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Program (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with Order 01-182; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED <i>Do not leave any of the sections blank.</i>
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

This Report Form consists of the following sections:

SECTION	PAGE
I. Program Management	2-4
II. Receiving Water Limitations	5-6
III. SQMP Implementation	7-8
IV. Special Provisions	9
IV.A. Public Information and Participation Program	9-16
IV.B. Industrial/Commercial Facilities Program	17-20
IV.C. Development Planning Program	21-23
IV.D. Development Construction Program	24-26
IV.E. Public Agency Activities Program	27-38
IV.F. IC/ID Elimination Program	39-43
V. Monitoring	44
VI. Assessment of Program Effectiveness	44
VII. Certification	Separate file
Required Attachments	Separate files

Reporting Year 2011- 2012

I. Program Management

A. Permittee Name: City of Manhattan Beach

B. Permittee Program Supervisor: Jim Arndt

Title: **Director of Public Works**

Address: **3621 Bell Avenue**

City: **Manhattan Beach**

Zip Code: **90266**

Phone: **(310) 802-5363**

Fax: **(310) 802-5303**

C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

The Department of Public Works management team oversees the City's storm water pollution mitigation initiatives. The team consists of the Director of Public Works responsible for NPDES compliance, a management analyst, one maintenance superintendent, one utilities manager and administrative support personnel. The PW team communicates with staff from other City departments to coordinate the management, inspection, enforcement and compliance efforts. The City retains an environmental consultant to assist with coordinating NPDES and TMDL programs, provide staff training and to assist with emerging technical and regulatory issues.

The Public Works team meets regularly to discuss city environmental program, maintenance and infrastructure issues (i.e. maintenance of signage at storm drains, capital project updates, BMP implementation, etc.). Additionally, pertinent municipal code ordinances and City policies are reviewed regularly to ensure applicability to current requirements and practices. The Public Works Director and/or management analyst meets monthly with the City's environmental consultant to plan and coordinate TMDL and NPDES implementation activities and initiatives.

TABLE 1 - Program Management

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education	Administration/Public Works	2
2. Industrial/Commercial Inspections	Administration/Public Works	2
3. Construction Permits/Inspections	Operation & Engineering/PW Code Enforcement/ComDev	3
4. IC/ID Inspections	Waste Water Operations, PW, & PD (for field screening)	2
5. Street sweeping	Maintenance & Administration/PW	3
6. Catch Basin Cleaning	Waste Water Operations/PW	2
7. Spill Response	Waste Water Operations/PW	2
8. Development Planning (project/SUSMP review and approval)	Engineering/PW Code Enforcement/PW Planning/ComDev	9
9. Trash Collection	Maintenance & Admin/PW	3

D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

See attached

E. Budget Summary

1. Does your municipality have a storm water utility? Yes No

If no, describe the funding source(s) used to implement the requirements of Order No. 01-182.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes No

3. Complete Table 2 to the extent that accurate information is available (indicate U in the spaces where the information is unavailable), and report any supplemental dedicated budgets for the same categories on the lines below the table.

4. List any additional state/federally funded projects related to storm water.

The City of Manhattan Beach Greenbelt Low Flow Infiltration project has been awarded \$500,000 in grant funding by Santa Monica Bay Restoration Commission Prop 84.

Attachment U-4 Individual Annual Report Form

Program Element	Estimated Expenditures in Fiscal Year 2011-2012	Estimated Amount Needed in FY 2012-13
1. Program management a. Administrative costs b. Capital costs	a) \$51,756 b) -	a) \$50,949 b) -
2. Public Information & Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance	a) \$9,808 b) \$3,454 c) N/A d) \$1,512	a) \$11,702 b) \$4,720 c) N/A d) \$2,596
3. Industrial/Commercial inspection a. Consultant b. Restaurant & Grease insp.	a) \$ 713 b) \$24,119	a) \$3,540 b) \$30,621
4. Development Planning	\$13,231	\$13,416
5. Development Construction a. Construction inspections	\$15,000	\$15,000
6. Public Agency Activities a. Catch basin cleaning & BMP maintenance b. Municipal street sweeping c. Trash collection/recycling d. Capital costs e. Consultant assistance	a) \$170,000 b) \$221,260 c) \$3,307,641 d) \$50,000 e) \$1,281	a) \$170,000 b) \$393,277 c) \$3,416,523 d) \$500,000 e) -
7. IC/ID Program a. Operations and Maintenance b. Capital Costs	a) \$5,124 b) -	a) \$7,536 b) -
8. Monitoring—SMBBB TMDL CSMP	\$11,217	\$11,440
9. Other a. NPDES Permit fee b. TMDL consulting services c. SMBBB TMDL Implementation	a) \$25,000 b) \$12,124 c)	a) \$25,500 b) \$16,048 c)
10. TOTAL	\$3,923,740	\$4,672,868

List any supplemental dedicated budgets for the above categories:

We have a limited dedicated budget for NPDES related activities and programs that is split across multiple departments. We also have a dedicated budget for street sweeping and trash collection/recycling. The City utilizes CalRecycl Used Oil funds in part for public education regarding stormwater pollution prevention.

List any activities that have been contracted out to consultants/other agencies:

The City contracts for several maintenance activities that directly support our storm water program including: 1) street sweeping, 2) parking lot cleaning, 3) clarifier cleaning, and 4) solid waste trash and recycling collection and disposal. We also have contracted with a private firm for inspections related to industrial/commercial facilities control program. The City contracts with a consultant to assist in NPDES and TMDL compliance. The City contracts jointly with Jurisdictional Group 5&6 agencies for coordinated shoreline monitoring under the SMBBB TMDL.

II. Receiving Water Limitations (Part 2)

- A. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes No
- B. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes No

The City is not aware, nor has the City been notified this year, that discharges from its MS4 are causing or contributing to exceedances of water quality standards. Other

The City of Manhattan Beach received a Notice of Violation (NOV) from the LARWQCB dated March 4, 2008 and October 15, 2009 stating that the City was in violation of waste discharge requirements established in Board Order No. 01-182 as amended by Orders R4-2006-0074 and Order No R4-2007-0042 (MS4 Permit). LARWQCB technical staff had concluded that violations of the Receiving Waters Limitations provisions of Part 2.5 of the MS4 Permit had occurred due to alleged discharges from the MS4 that caused or contributed to exceedances of bacterial objectives during summer dry weather at SMB 5-02, SMB 5-03, SMB 6-01 and SMB 6-05. The City explained in its response to the NOV that drainage from the City of Manhattan Beach is not tributary to site SMB 6-05. Furthermore, at site SMB 5-03 discharges from the storm drains are diverted to the sanitary sewer during dry weather and do not reach the shoreline. During the 2010-11 reporting year, the RWQCB removed the Santa Monica Bay Bacteria Dry Weather TMDL from the MS4 permit, and the RWQCB Executive Officer rescinded the NOV's issued in 2008 and 2009 which originally triggered the need to file a RWL Compliance report for SMB 6-01.

The City had prepared and submitted a Receiving Waters Limitation Compliance Report for Coordinated Shoreline Monitoring location SMB 5-2 (28th Street, Manhattan Beach) as an attachment to the NPDES MS4 Individual Annual Report for Fiscal Year 2006-2007 (prior to the NOV) because the low flow diversions for this storm drain system had not been brought online in time for the summer dry weather bacteria TMDL deadline. The low flow diversions were started up and an update was submitted with the Annual Report for Fiscal Year 2008-09. In response to the NOV mentioned above, the City submitted a Receiving Waters Limitation Compliance Report for shoreline monitoring site SMB 6-01 under the Santa Monica Bay Beaches Bacteria (SMBBB) TMDL Coordinated Shoreline Monitoring Plan for the 2007-2008 reporting year and a RWL Compliance status report for SMB 6-01 was attached with the 2009-10 Individual Annual Report. The City also provided a compliance report for SMB 5-2 and SMB 6-1 with the reporting year 2010-11 Annual Report in order to address both summer dry weather and winter dry weather conditions at SMB 5-2 and SMB 6-01. Another status report is not required until the 2012-13 reporting year. The City has not received a response from the RWQCB's staff on any of the RWL Compliance reports filed to date.

The abovementioned notices and the monitoring reports did not evidence, or

conclusively prove that discharges from the City's MS4 cause or contribute to a violation of water quality standards. Other than the now rescinded notice of violation, the City has not been notified that runoff from the City is contributing to or causing exceedances of water quality standards. As a good faith means of fully apprising the Regional Board of its activities and if necessary to comply with the provisions of the next MS4 permit, the City will consider whether to submit a RWL report with the 2012-13 Annual Report. The City continues to evaluate its stormwater program and in cooperation with the other agencies of Jurisdictional Groups 5 and 6, further investigate sources of potential pollutants and ways to treat and prevent stormwater runoff.

Results of the Santa Monica Bay Coordinated Shoreline Monitoring Program and data collected by the City of Los Angeles EMD under the Monitoring and Reporting Program CI 6948 under the MS4 Permit monitoring program are discussed in the Assessment of Program Effectiveness attachment to this Annual Report, in response to Item 5 *A description of water quality improvements or degradation in your watershed over the past fiscal year.* These results indicate that the two open beach shoreline monitoring locations in Manhattan Beach, SMB 5-1 and SMB 5-3, have continued to exhibit high water quality during both summer dry weather and winter dry weather consistent with their historically high water quality and both sites continue to exhibit lower exceedance rates than the reference beach. Thus no receiving waters limitation compliance reports are necessary for those monitoring locations.

- C. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:
1. A description of the pollutants that are in exceedance and an analysis of possible sources;
 2. A plan to comply with the RWL (Permit, Part 2);
 3. Changes to the SQMP to eliminate water quality exceedances;
 4. Enhanced monitoring to demonstrate compliance; and
 5. Results of implementation.

III. SQMP Implementation (Part 3)

- A. Has your agency implemented the SQMP and any additional controls necessary to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes No
- B. If your agency has implemented additional or different controls than described in the countywide SQMP, has your agency developed a local SQMP that reflects the conditions in its jurisdiction and specifies activities being implemented under the appropriate elements described in the countywide SQMP? Yes No
- C. Describe the status of developing a local SQMP in the box below.

The City of Manhattan Beach has implemented the SQMP requirements as outlined in the County of Los Angeles NPDES permit requirements. In addition to the Countywide SQMP the City of Manhattan Beach is also implementing additional activities as they are developed under the Jurisdictional Group 5 & 6 Implementation Plan for the Santa Monica Bay Beaches Bacteria TMDL.

- D. If applicable, describe an additional BMP, in addition to those in the countywide SQMP, that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

The City requires all new commercial development to have covered trash enclosures that are plumbed to the sanitary sewer system. The City is conducting annual inspections of restaurants under the Clean Bay Restaurant certification program established in cooperation with the Santa Monica Bay Restoration Commission.

- E. Watershed Management Committees (WMCs)
1. Which WMC are you in? **Ballona Creek and Other Urban**
 2. Who is your designated representative to the WMC?
Kathleen McGowan, P.E./Consultant
 3. How many WMC meetings did you participate in last year? **Four (4)**
 4. Describe specific improvements to your storm water management program as a result of WMC meetings.

Our WMC has been a forum to share and disseminate information on new initiatives with respect to Low Impact Development and TMDL Implementation programs. In addition to the WMC meetings, the City participates in monthly meetings of the Jurisdictional Groups 5 & 6 agencies to plan and coordinate Santa Monica Bay Beaches Bacteria TMDL implementation activities.

5. Attach any comments or suggestions regarding your WMC. **None**

F. Storm Water Ordinance

1. Have you adopted a storm water and urban runoff ordinance to enforce all requirements of Order 01-182? Yes No
If not, describe the status of adopting such an ordinance.

N/A

2. If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes No
If not, please attach a copy to this Report.

3. Were any amendments made to your storm water ordinance during the last fiscal year? Yes No
If yes, attach a copy of amendments to this Report.

G. Discharge Prohibitions

1. List any non-storm water discharges you feel should be further regulated:

None

2. List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

Potable water releases necessary to comply with Safe Drinking Water Act standards should be exempt from the MS4 discharge prohibitions that cause or contribute to exceedances of recreational bacteria standards. While these releases in themselves do not contain indicator bacteria, when discharged through the storm drain system they may result in dry weather discharges to Santa Monica Bay which could contribute to exceedances of the Bacteria TMDL. The City believes that as a matter of good public policy, potable water discharges necessary to maintain the quality of potable water supplies must take a higher priority for the protection of public health than recreational water standards. Thus discharges from the MS4 associated with potable water releases should be exempt from the discharge prohibition.

IV. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message

a) How many storm drain inlets does your agency own? **348**

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year? **35**

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message? **348**

If this number is less than the number in question 1.b, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

All are legible.

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year? **None-previously posted**

Describe your agency's status of implementing this requirement by the date required in Order No. 01-182.

There is only one channel within the City; however it is fenced to prevent public access. Even so, it is posted with no dumping signage.

2. Reporting Hotline

- a) Has your agency established its own hotline for reporting and for general storm water management information? Yes No
- b) If so, what is the number? **We use the 888CleanLA #**
- c) Is this information listed in the government pages of the telephone book? Yes No
- d) If no, is your agency coordinated with the countywide hotline? **N/A** Yes No
- e) Do you keep record of the number of calls received and how they were responded to? Yes No
- f) How many calls were received in the last fiscal year? **101 calls directly to the City, the City does not have a count of calls that were handled via 888CleanLA**

- g) Describe the process used to respond to hotline calls.

Calls received by Public Works through the main phone number or from the County Hotline are directed to the appropriate department depending on the nature of the call. In addition, Public Works staff performs site inspections. If a violation is apparent, the offending party is cited and must clean up or pay for the cleaning of contaminate discharge. PW personnel monitor the cleanup and provide any further assistance.

- h) Have you provided the Principal Permittee with your current reporting contact information? Yes No
- i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site (Principal Permittee only)? Yes No
If not, when is this scheduled to occur? **N/A**

3. Outreach and Education

- a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. (Principal Permittee only)

N/A

- b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes No

How many Public Outreach Strategy meetings did your agency participate in last year? **Four (4)**

plus twelve (12) Jurisdictional Group 5 & 6 coordination meetings

Explain why your agency did not attend any or all of the organized meetings.

Identify specific improvements to your storm water education program as a result of these meetings:

The meetings helped us stay up-to-date regarding available materials for public dissemination and timing of Countywide outreach. The meetings also provided a forum for sharing new ideas and for disseminating information.

List suggestions to increase the usefulness of quarterly meetings:

We appreciate the webcasting of the quarterly meetings to reduce the time and energy cost of commuting to the meeting. Such a medium is more convenient and consistent with city policies to reduce greenhouse gas emissions and consumption of fossil fuel associated with travel to meetings. The City supports the continued use of webcasts for these meetings.

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented (*Principal Permittee only*).

N/A

- c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

The City's local media placements and related news articles produced approximately 734,307 impressions: City Newsletter quarterly (14,474x4=57,896), Eight inserts in solid waste bills or door hangers to single-family residences (8x 8,392 =67,136) Two ads in Beach Reporter (2x55,500=111,000) Five news articles in Daily Breeze (66,355x5=331,775), three news articles in Beach Reporter (3x55,500=166,500)] Regional news articles in LA Times not included in count.

- d) Describe efforts your agency made to educate local schools on storm water pollution.

We have an extensive outreach program to the schools through our contract with our franchise solid waste hauler. We have a dedicated recycling coordinator who works with schools and includes a storm water pollution prevention message. The City is supporting a parent implemented environmental program in the public elementary schools, "Grades of Green".

Also, as part of the Jurisdictional Groups 5&6 joint implementation programs for Santa Monica Bay Beaches Bacteria TMDL, the J5&6 website provides resource links for stormwater related curriculum and other hands on activities for teachers.

We also conduct outreach to school age children through our community events. The booth that PW runs is always the most popular, evidenced by the long line, with kids because we have an interactive spin-the-wheel quiz game. Kids and their parents answer environmental questions, including questions on storm drain pollution, for prizes. We also hand out educational brochures on storm water pollution with the prizes.

- e) Did you provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution (*Principal Permittee only*)?

Yes No

If not, explain why.

N/A

- f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts (*Principal Permittee only*).

N/A

For Permit Years 2-5, attach an assessment of the effectiveness

of in-school storm water education programs.

g) What is the behavioral change target that was developed based on sociological data and other studies (*Principal Permittee only*)?

N/A

If no target has been developed, explain why and describe the status of developing a target.

N/A

What is the status of meeting the target by the end of Year 5?

N/A

4. Pollutant-Specific Outreach

a) Attach a description of each watershed-specific outreach program that your agency developed (*Principal Permittee only*). All pollutants listed in Table 1 (Section B.1.d.) must be included. **N/A**

b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes No

c) Did your agency help distribute pollutant-specific materials in your city? Yes No

d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

Public Works staff made outreach material available to contractors and developers through the public counter. We place inserts in utility bills to residents. Additionally, we distribute a quarterly newsletter and provide outreach and educational materials at our Earth Day and Hometown Fair events and through the public works page on the City's website. City has worked jointly with other south bay cities to develop and launch a new website focused on public outreach to address the Santa Monica Bay Beaches Bacteria TMDL. The website addresses three key target audiences: beach/pier goers, residents and businesses, see: www.SouthBayStormwaterProgram.com .

5. Businesses Program

a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains (*Principal Permittee only*).

N/A

- b) How many corporate managers did your agency (*Principal Permittee only*) reach last year? **N/A**
- c) What is the total number of corporations to be reached through this program (*Principal Permittee only*)? **N/A**
- d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years (*Principal Permittee only*)? **N/A** Yes No
If not, describe measures that will be taken to fully implement this requirement.

N/A

- e) Has your agency developed and/or implemented a Business Assistance Program? Yes No
If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

The City of Manhattan Beach, along with the cities of Hermosa Beach, Redondo Beach, and Torrance in cooperation with the Santa Monica Bay Restoration Commission, has implemented the Clean Bay Restaurant Certification program targeting food service establishments with exposure to stormwater. The agencies developed a comprehensive 28-point storm water inspection checklist that requires 100% compliance in order for the facility to be awarded a Clean Bay Restaurant Certification by the Santa Monica Bay Restoration—this checklist far exceeds the minimum requirements of the MS4 NPDES Permit. The Santa Monica Bay Restoration Commission publicizes the names and locations of Clean Bay certified restaurants on their website and through press releases. Clean Bay Restaurant certificates are posted in public view, either in the window or inside the restaurant.

The City provides outreach to businesses on a variety of environmental programs through the South Bay Environmental Services Center, in collaboration with the South Bay Cities Council of Governments.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes No
How many media outlets were contacted? **2**
Which newspapers or radio stations ran them?

Beach Reporter, Daily Breeze,

Who was the audience?

Local residents and businesses.

7. Did you supplement the County's media purchase by funding additional media buys? Yes No
Estimated dollar value/in-kind contribution: **\$500**
Type of media purchased: **Print**
Frequency of the buys: **varies**
Did another agency help with the purchase? Yes No
8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes No
If so, describe the type of advertising.

Restaurants who achieve the Clean Bay Restaurant certification post their certificates in public view in their establishments.

A banner was hung over the Sepulveda Blvd and Manhattan Beach Blvd intersection for 2 weeks prior to each composting workshop.

9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes No
Describe the materials that were distributed:

The City of Manhattan Beach again co-sponsored a very well organized and well attended Earth Day festival. A number of organizations set up tents and offer earth-friendly shopping and information. The Public Works Department operated our environmental booth at the Earth Day festival. We hand out educational brochures related to storm water prevention pollution along with the prizes.

Who were the key partners? **Chamber of Commerce**
Who was the audience (businesses, schools, etc.)?

Residents and local businesses.

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes No
How many events did you attend? **3**
11. Does your agency have a website that provides storm water pollution prevention information? Yes No
If so, what is the address? <http://www.ci.manhattan-beach.ca.us/Index.aspx?page=1519>
also
<http://www.ci.manhattan-beach.ca.us/Index.aspx?page=1506>

12. Has awareness increased in your community regarding storm water pollution? Yes No
Do you feel that behaviors have changed? Yes No

Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

Manhattan Beach residents enjoy a lifestyle that includes many outdoor activities. Most residents frequent the beach and pier as part of their routine activities. The City passed a plastic shopping bag ban with support from City Council and residents. Community awareness can be gauged by the interest in resident participation on the Environmental Task Force and the frequency of calls and complaints received regarding irrigation runoff.

The Jurisdictional Groups 5 & 6 agencies conducted a survey posted on the South Bay Stormwater Program website to evaluate the baseline knowledge of residents and target audiences as the foundation for the joint public outreach program. Results of the survey included:

- **100% of those who responded agreed that urban runoff is an environmental issue**
- **94% of those who responded new that rain carries pollution directly to the ocean**
- **77.9% of respondents agreed that irrigation over-spray causes water pollution**

When asked to rank a list of thirteen activities from highest to lowest the top ranking activities as a cause of ocean and beach water pollution were: plastic bags or water bottles, littering, over fertilizing, cigarette butts, and take-out or fast food containers.

13. How would you modify the storm water public education program to improve it on the City or County level?

The public education program is not static--we look for opportunities to improve the public education program. The City is working together with sister cities and the Santa Monica Bay Restoration Commission to increase public awareness of the Santa Monica Bay TMDLs and to provide a consistent message among the agencies regarding how residents, businesses and beach goers can help prevent stormwater pollution

B. Industrial/Commercial Facilities Program

1. Critical Source Inventory Database

Did you (individually or jointly) update the Database for Critical Sources Inventory? Yes No

Comments/Explanation/Conclusion: **The contract inspector updated the list based on field observations.**

2. Inspection Program

Provide the reporting data as suggested in the following tables.

Category	Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption
Landfills	N/A, we have no landfills	N/A	N/A	N/A
TSDf	N/A, we have no TSDf	N/A	N/A	N/A
Restaurants	144*	66	>600%	922 + 66= 988
All other	45	16	>100%	188 + 16 = 204

Comments/Explanation/Conclusion: ***Restaurants were inspected during the reporting year as part of the Clean Bay Restaurant Certification program. Every year the number of facilities fluctuates up and down due to the transitory nature of these businesses.**

NPDES No. CAS 004001 LA County Municipal Stormwater Permit Order No. 01-182
Attachment U-4 Individual Annual Report Form

3. **BMPs Implementation**

Provide the reporting data as suggested in the following table.

Category	Number of facilities inspected by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number of inspections during this permit adequately implementing	Total Number during this permit required to implement or upgrade
Restaurants	66	62	94%	4	NA**	NA**	NA**	NA**	646+62=708	79+4=83
Automotive	0	NA	NA	NA	82	48	58%	34	*	*
Laundry***	16	16	100%	0	25+16=41	41	100%	0	*	*
Printing	0	NA	NA	NA	4	4	100%	0	*	*
Misc. categories	0	NA	NA	NA	13	11	84%	2	*	*

Comments/Explanation/Conclusion:

***No categorical information available from first cycle, only total number of facilities is available for first cycle.**
**** The term “cycle” is no longer applicable for restaurant inspections in Manhattan Beach because they are being inspected annually now under the SMBBB TMDL Implementation**
***** Exposure assessments were conducted for laundries to determine whether there were laundry operations/activity in exposure to stormwater that warranted inspection—none of the facilities assessed had had activity in exposure to stormwater.**

NPDES No. CAS 004001 LA County Municipal Stormwater Permit Order No. 01-182
Attachment U-4 Individual Annual Report Form

4. Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number of enforcement actions since permit adoption (by category)
Warning letter	0	0	0	39	NA	38	66
NOV via facility signature on inspection report	4	112+4=116	0*	94	0*	49	112+4=116
Referral	0	0	0	0	NA	NA	1

Facilities by category	Number of Warning letters	Number of NOVs	Number of Referral	Number of Other
Restaurants	0	4	0	0
Automotive	0	0	0	0
Misc.	0	0	0	0

Comments/Explanation/Conclusion:	<p>NOV consists of copy of inspection sheet with needed corrections noted and signature from manager or employee onsite at time of inspection.</p> <p>*not all follow up inspections have been completed for restaurants before the close of the reporting year</p>
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5. Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective

Somewhat Effective

Non-effective

Comments/Explanation/Conclusion:

6. You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.—**N/A—no longer a requirement**

C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? **N/A we do not have any natural drainage systems.** Yes No

Attach examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.

2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:
- a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes No
 - b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes No
 - c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes No
 - d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes No

3. List the types and numbers of BMPs that your agency required for priority projects to meet the requirements described above.

• **No SUSMP projects during the reporting year**

4. Describe the status of the development or implementation of peak flow controls in Natural Drainage Systems.

N/A There are no recognized natural drainage systems within the City's four square mile limits.

5. Has your agency amended codes and/or ordinances to give legal effect to the SUSMP changes required in the Permit? Yes No

6. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

The City of Manhattan Beach has incorporated the SUSMP requirements in our local ordinance and reference future NPDES program changes as enforceable.

7. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?

- a) Residential 0
- b) Commercial 0
- c) Industrial 0
- d) Automotive Service Facilities 0
- e) Retail Gasoline Outlets 0
- f) Restaurants 0
- g) Parking Lots 0
- h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area 0
- i) Total number of permits issued to priority projects 0

8. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? <1%

9. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

The City of Manhattan Beach has incorporated the SUSMP requirements in our local ordinance and referenced future program changes as enforceable. No changes to the municipal code were necessary to cover the change in SUSMP threshold for industrial/commercial facilities. We also monitor the size of all developments and industrial/commercial facilities.

10. After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold? **0-1**
11. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes No
12. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes No

If no, provide an explanation and an expected date of completion.

N/A

13. Did your agency update any of the following General Plan elements in the past year?
- a) Land Use Yes No
- b) Housing Yes No
- c) Conservation Yes No
- d) Open Space Yes No

If yes, please describe how watershed and storm water quality and quantity management considerations were included.

14. How many targeted staff were trained last year? **9**
15. How many targeted staff are trained annually? **100%**
16. What percentage of total staff are trained annually? **50-75%**
17. Has your agency developed and made available development planning guidelines? Yes No
18. If no, what is the expected date that guidelines will be developed and available to developers? **N/A**
19. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

Our Community Development staff uses the County of Los Angeles' Development Planning for Storm Water Management and CASQA BMP handbooks.

D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

The City of Manhattan Beach requires all construction activity to comply with storm water requirements stated in local codes and ordinances as well as those listed in a site runoff control checklist. Public Works' inspectors must sign-off the checklist prior to the start of any construction activities and then monitor the site periodically to ensure the job site is clean and in conformance with City codes and ordinances.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria? **Local SWPPPs are no longer utilized since sites one acre or greater are required to seek coverage under the Statewide General Construction Permit.**

- a) Will result in soil disturbance of one acre or greater Yes No
- b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area Yes No
- c) Is located in a hillside area Yes No

3. Attach one example of a local SWPPP

4. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

We use a permit checklist and plan check review to determine if a State General Construction Activity Storm Water permit is required. If so, the developer is conditioned to show proof of filing a Notice of Intent for coverage and preparing a SWPPP.

- 5. How many building/grading permits were issued to sites requiring Local SWPPPs last year? **0**
- 6. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year? **0**
- 7. How many building/grading permits were issued to construction site less than one acre in size last year? **52**

43 new construction, 5 major remodels, 4 grading permits

- 8. How many construction sites were inspected during the last wet season?

Even though few construction sites meet the 1 acre minimum size for mandatory inspections under the MS4 Permit, it is the City's practice that all new development construction sites, all major remodels and all grading sites are inspected for compliance with stormwater protection requirements. The Residential Construction/Code Enforcement Officer conducts daily rounds of active construction sites. Whenever a storm is anticipated these sites receive thorough inspections to ensure that BMPs are properly maintained.

all new construction, major remodel and grading permits

- 9. Complete the table below.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment	4	<100%	4	0
Off-site discharge of other pollutants	0	NA	NA	NA
No or inadequate SWPPP	NA	NA	NA	NA
Inadequate BMP/SWPPP implementation	0	NA	NA	NA

10. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

The City's typical enforcement process includes sending a Police Code Enforcement Officer and a Public Works Inspector to the site in question. Both City officials perform a site inspection, question the offending party and immediately request the clean up and further prevention of contaminant runoff. The PW Inspector will call for PW staff assistance to clean up the spill, if appropriate. The PW Inspector then monitors the site until cleanup activities are completed. The Police Code Enforcement Officer serves the Notice of Violation. The Public Works Inspector also has the option to "red tag", or put a stop on the work at the site until the violation is corrected.

11. Describe the system that your agency uses to track the issuance of grading permits.

The Community Development Department uses Permits-Plus software to track the issuance of grading permits.

E. Public Agency Activities (Part 4.F)

1. Sewage System Maintenance, Overflow, and Spill Prevention (only applicable to agencies that own and/or operate a sanitary sewer system)

a) Has your agency developed and implemented a response plan for sanitary sewer overflows that includes the requirements in Order 01-182? Yes No

b) How many sanitary sewer overflows occurred within your jurisdiction? **5**

c) How many did your agency respond to? **101 calls received and of these 96 were regarding SSOs from private laterals**

d) Did your agency investigate all complaints received? Yes No

e) How many complaints were received? **Most of these complaints were associated with private laterals—the City responded and provided information and assistance, none of these reached the storm drain system.** **101**

f) Upon notification, did your agency immediately respond to overflows by containment? Yes No

g) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes No

h) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes No

If so, describe the program:

Our sanitary sewer overflow response plan describes procedures for preventing sanitary sewer spills and leaks from entering the MS4. The City's Public Works staff cleans our entire sewer system twice a year as a preventative measure. We also require the installation of backflow prevention devices on new and redevelopment construction projects. We dispatch a city-owned sewer cleaning vacuum truck to sites with potential sewage spills (blockage or backup calls) in order to contain and clean up spills if they do occur.

The City is implementing its SSMP in accordance with the required schedule under the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order No. 2006-0003).

- i) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes No
- If so, describe the program:

Public Works maintenance staff tracked sewer blockages reported by residents and management used this information to schedule additional cleanings. Additionally, staff uses video monitoring to identify the source of blockages and to identify potential for future blockages. All sewer systems are cleaned twice a year at minimum and then monthly or quarterly for those areas where frequent blockages have been reported.

2. Public Construction Activities Management

- a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit?

We did not have any public construction sites 5 acres or larger this year. N/A %

- b) Give an explanation for any sites greater than 5 acres that were not covered:

N/A

- c) What is the total number of active public construction sites? **35**
- How many were 5 acres or greater in size? **0**

- d) (After March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes No

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

- a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes No

- b) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

- (1) Good housekeeping practices
- (2) Material storage control
- (3) Vehicle leaks and spill control
- (4) Illicit discharge control

1. **Good Housekeeping:** PW employees are trained on good housekeeping practices related to their individual positions. Specific examples include: collecting slurry from cement saw cutting operations; washing cars at commercial facilities or over on-site clarifier at PW Yard that is connected to a second clarifier and a CDS unit; landscape maintenance vendor vacuums all residual material from sidewalks and gutters with each job; Public Safety Facility parking lots are swept three times per week; weekly vacuuming of PW Yard hardscape areas; weekly sweeping of public parking lots.
2. **Material Storage Control:** Solvent-based materials are kept under a covered storage area with secondary containment.
3. **Vehicle Leaks and Spill Control:** City vehicles receive regularly scheduled preventative maintenance (PM). This includes inspection for leaks. Between PM visits each driver is required to regularly inspect his/her vehicle for any problems, including leaks. If leaks are noticed the vehicle is brought in for repair immediately. Fleet Maintenance staff also dry sweep the garage area daily and as needed. Spills are contained using a processed volcanic absorbent. The absorbent is collected and disposed of at a proper facility.
4. **Illicit Discharge Control:** Public Works, Community Development and Police Code Enforcement staffs are trained on how to identify illicit discharges. Each staff member is responsible for taking the appropriate action in the event they recognize an illicit discharge. Public Works staff also participate in preventative measures to control illicit discharges such as regular televising of sewer and storm drain lines for illegal connections or blockages. Any illicit discharges related to sewer system problems or public maintenance or construction activities are contained, tracked and recovered using vacuum trucks at storm drain locations downstream. (See attachments.)

- c) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes No
- If not, what is the status of implementing this requirement?

The City yard has two open vehicle wash pads, which are not used during inclement weather. Low-flow runoff is directed to a clarifier and then to the City's sanitary sewer system. The yard has one additional clarifier and a CDS unit to capture debris, oils and other hydrocarbons from the parking lot areas. The CDS unit is also equipped with floating filters that capture hydrocarbons before diverting runoff to the MS4. Appropriate BMPs have been put in place and we do not have plans to build a sheltered wash area.

- d) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above? **0**

4. Landscape and Recreational Facilities Management

- a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers?

Yes No

Briefly describe this protocol:

- **The City's Maintenance Superintendent applies to the County agricultural commissioner annually for a restricted materials permit**
- **Annually, the city's PCA licensed Maintenance Superintendent reviews pesticide recommendations provided by a state certified Pest Control Officer (PCO).**
- **Every City location and facility has a list of PCA recommended chemicals and this list is reviewed annually. Also, contract sprayers are limited to only applying listed chemicals.**
- **The contract sprayer must give the City's Maintenance Superintendent two-week notification and a list of what types of chemicals and quantities will be sprayed.**
- **The Maintenance Superintendent then has final approval on any pesticide and herbicide applications.**

- b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

All City pesticide and fertilizer contracts include statement restricting contract workers from spraying chemicals before, during and after rain events. IPM (Integrated Pest Management) techniques are utilized to minimize the amount of pesticides that are applied as detailed in the City's Least-Toxic Integrated Pest Management Policy No chemicals or pesticides of any kind are to be used in tot lots and/or children's play areas, regardless of play surface (sand or wood chip)
As a safeguard, the City's Maintenance Superintendent has final approval on all spraying activities

- c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes No

If so, list them:

N/A

- d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator? **N/A City Staff does not apply pesticides**

- e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

The City's Public Works staff plant native vegetation where appropriate. We also have a botanical garden demonstrating xeriscaping in conjunction with native vegetation. Additionally, as mentioned above, we incorporate an Integrated Pesticide Management approach and restrictive statements in City contracts.

5. Storm Drain Operation and Management

- a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes No

- b) How many of each designation exist in your jurisdiction?

Priority A: **18**
 Priority B: **34**
 Priority C: **390 plus approx. 80 privately owned but maintained by City**

- c) Is your city subject to a trash TMDL? Yes No
- d) If yes, describe the activities and/or implementation measures that your agency conducted pursuant to the TMDL and any other trash reduction efforts that occurred.

The Santa Monica Bay Nearshore and Offshore Marine Debris TMDL became effective March 20, 2012. The City will be submitting a Trash Monitoring and Reporting Plan by September 20, 2012.

The City instituted a variety of trash control and reduction measures well before the Marine Debris TMDL was adopted. These measures include but are not limited to:

- **The City has installed and maintains ten (10) hydrodynamic separators (CDS units) within the storm drain system.**
- **The City installed trash exclusion devices on high priority catch basin openings.**
- **When installing trash cans in municipal parks and the public right-of-way, the City utilizes cans with lids— usually the type with a small hole in the center that allows the user to deposit trash but prevents trash from being blown out of the trash can by wind and also deters birds and other animals from spreading trash.**

Due to increased effectiveness of source control BMPs for trash and litter as well as the installation of trash exclusion devices on catch basin openings, the City has been able to reduce the frequency of catch basin cleaning and has re-designated to Priority B or C catch basins which in previous years were Priority A or B.

- e) How many times were all Priority A basins cleaned last year? **Four times**
- f) How many times were all Priority B basins cleaned last year? **Two or more times**
- g) How many times were all Priority C basins cleaned last year? **Once or twice**
- h) How much total waste was collected in tons from catch basin clean-outs last year? **20.54 CY from catch basins, 14.2 CY from CDS units.** **34.74 cubic yards**
- i) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year. **See attached—electronic file.**
- j) Did your agency place and maintain trash receptacles at all transit stops within its jurisdiction. Yes No
- k) How many new trash receptacles were installed last year? **None last year. The City has already installed far in excess of the required number of trash receptacles with some 459 located throughout the City. An additional 126 receptacles for glass, plastic and aluminum beverage containers are located along the strand and in the business districts.**
- l) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:
- (1) Provide for the proper management of trash and litter generated from the event? Yes No
- (2) Arrange for temporary screens to be placed on catch basins? Yes No
- (3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes No

- m) Did your agency inspect the legibility of the catch basin stencil or labels? Yes No
What percentage of stencils were legible? **90%**
35 were re-stenciled
- n) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes No
- o) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes No
Is the prioritization attached? **The City has only one open channel.** Yes No
- p) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes No
What changes have been made?

The City adjusts the prioritization of catch basins for cleaning annually based on accumulation of material. Screens on catch basin inlets have reduced the frequency of necessary catch basin cleaning.

- q) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes No
- r) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

The City's Public Works team used a vacuum and sewer cleaning truck during normal maintenance inspections. The cleaning system uses high pressure and low flow of water to remove and capture contaminants from the MS4. Field crews also control water flow in the area and dam the catch basins to prevent any runoff from maintenance activities.

- s) Where is removed material disposed of?

Trash waste and green waste was collected by Waste Management Inc. and sent to Puente Hills Landfill for disposal or recycling. Cement and asphalt waste was sent to Blue Diamond Crushing Plant for recycling. Liquid waste collected from City clarifiers was removed by Safety Kleen for recycling or disposal.

6. Streets and Roads Maintenance

a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:

(1) Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes No

(2) Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes No

(3) Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes No

b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:

(1) Priority A – These streets and/or street segments shall be swept at least two times per month? Yes No

(2) Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes No

(3) Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes No

- c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes No
- d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes No
- e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes No
- f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
- (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes No
- (2) Identify and select appropriate BMPs? Yes No

7. Parking Facilities Management

- a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes No
- b) Were any Permittee-owned parking lots cleaned less than once a month? Yes No
How many? **N/A**

8. Public Industrial Activities Management

- a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? **N/A we do not have any municipal activities considered industrial under USEPA Phase I.** **N/A**
Yes No
- b) Does your agency serve a population of less than 100,000 people? Yes No

9. Emergency Procedures

- a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes No
- b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes No

10. Feasibility Study

- a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes No
- b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? Yes No

F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.). **The City of Manhattan Beach has implemented the SQMP requirements as outlined in the County of Los Angeles NPDES permit requirements. We use the model programs available on the Los Angeles County website. http://www.ladpw.org/wmd/NPDES/model_links.cfm** along with the City's Sewer Overflow Response Plan for responding to all reports of illicit discharge.
2. Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

See attached

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

Process:

1. **Identify source of discharge and/or illicit connection and, if appropriate, film using the city's video camera.**
 2. **Immediately notify the offender of the problem and request that they clean up the illicit discharge and, if and illicit connection is also discovered, notify that that connection must be terminated or be approved (permitted) by the city and county. Initial notification is given in person to the offending party at the discharge site, then through letter and/or phone calls. Additionally, a violation warning or citation may also be issued.**
 3. **The city's maintenance staff assists with or monitors the cleanup of the illicit discharge.**
 4. **Staff performs their assessment within 21 days. This assessment includes locating the source of runoff and making a determination regarding the legality of the connection.**
- All illicit connections are then terminated within 180 days and findings are documented for future enforcement actions, if appropriate.**

4. Describe your record keeping system to document all illicit connections and discharges.

The City's Utility Manager keeps an Excel spreadsheet log of all illicit connections identified during the course of the year. This log includes the location of the connections, the test conducted to determine the extent of the problem (usually a smoke test), the requested remedy, due date, and status. The locations are shared with the GIS Analyst who then plots the information on a map. The City's Management Analyst keeps an Excel spreadsheet log of all illicit discharges identified during the course of the year. This log includes the location of the discharge, the type of discharge, the action taken to address the discharge, and contact information for the responsible party.

5. What is the total length of open channel that your agency owns and operates? **550 feet**
6. What length was screened last year for illicit connections? **0 - completed in prior year**
7. What is the total length of closed storm drain that your agency owns and operates? **18 miles**
8. What length was screened last year for illicit connections? **0 - completed in prior year**
9. Describe the method used to screen your storm drains.

During the course of the 5-year NPDES permit, City Public Works hired an outside contractor to video screen high priority drains for illicit connections and overall condition. Suspect connections were smoke tested to discover the source. City Public Works staff also screen the storm drains during their regular annual cleaning activities and continually field screen for problems that would be indicated by situations such as sink holes.

10. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# that resulted in <i>other</i> actions
01/02	0	0	0	0	0	0	0
02/03	0	0	0	0	0	0	0
03/04	0	0	0	0	0	0	0
04/05	1	1	0	0	0	0	0
05/06	0	0	0	0	0	0	0
06/07	0	0	0	0	0	0	0
07/08	0	0	0	0	0	0	0
08/09	0	0	0	0	0	0	0
09/10	0	0	0	0	0	0	0
10/11	0	0	0	0	0	0	0
11/12	0	0	0	0	0	0	0

11. Explain any *other* actions that occurred in the last year.

12. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported? **15-60 minutes**

a) Were all identified connections terminated within 180 days? **N/A no identified connections** Yes No

b) If not, explain why.

N/A

13. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge to storm drain system	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02	7	7	0	0	0	0	N/A
02/03	8	8	0	8	0	0	0
03/04	13	13	0	13	0	0	3
04/05	29	28	1	28	0	0	7
05/06	32	32	3	32	0	0	8
06/07	27	26	1	4	0	0	11
07/08	18	16	2	2	0	0	8
08/09	8	8	0	4	0	0	1
09/10	3	3	0	2	0	0	0
10/11	37	37	0	13	0	0	0
11/12	3	3	0	0	0	0	0

14. What is the average response time after an illicit discharge is reported? **15 minutes (30-45 after hours)**

a) Did any response times exceed 72 hours? Yes No

b) If yes, explain why.

N/A

15. Describe the your agency's spill response procedures.

Staff follows the same procedures described in the Sewer Overflow Response Plan for illicit discharge incidents considered "spills". For those that do not require public works staff involvement the following procedures apply: Dispatch a Police Code Enforcement Officer to the site in question. CEO performs a site inspection, questions the offending party and immediately request the clean up and further prevention of contaminant runoff. The CEO then monitors the site until cleanup activities are completed. The Police Code Enforcement Officer either serves a warning or a Notice of Violation.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

The City anticipates revising the program with the next permit adoption.

17. Attach a list of all permitted connections to your storm sewer system.
N/A, no permitted connections.

V. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-182 that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 2.

We have implemented a coordinated shoreline monitoring plan, along with the other responsible agencies, for the Santa Monica Bay Beaches Bacteria TMDL. There are 3 locations in Manhattan Beach that are monitored for indicator bacteria levels.

VI. Assessment of Program Effectiveness

- A. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:
(see attached)
1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
 2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
 3. A summary of the strengths and weaknesses of your agency's storm water management program;
 4. A list of specific program highlights and accomplishments;
 5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
 6. Interagency coordination between cities to improve the storm water management program;
 7. Future plans to improve your agency's storm water management program; and
 8. Suggestions to improve the effectiveness of your program or the County model programs.
- B. On a scale of 1 to 10 (10 being full implementation of requirements by their deadlines), rate your municipality's level of compliance with Order No. 01-182.
10
- C. List any suggestions your agency has for improving program reporting and assessment.

ATTACHMENT H-6

Los Angeles County Municipal Storm Water Permit (Order 01-182)

Individual Annual Report Form

Attachment U-4

This form summarizes the requirements in Order No. 01-182. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Program (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with Order 01-182; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED <i>Do not leave any of the sections blank.</i>
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

This Report Form consists of the following sections:

SECTION	PAGE
I. Program Management	2-4
II. Receiving Water Limitations	5
III. SQMP Implementation	5-7
IV. Special Provisions	8
IV.A. Public Information and Participation Program	8-16
IV.B. Industrial/Commercial Facilities Program	17-20
IV.C. Development Planning Program	21-24
IV.D. Development Construction Program	25-27
IV.E. Public Agency Activities Program	27-36
IV.F. IC/ID Elimination Program	37-40
V. Monitoring	41
VI. Assessment of Program Effectiveness	41-42
VII. Certification	Separate Attachment

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Reporting Year 2011 - 2012

I. Program Management

- A. Permittee Name: City of Norwalk
- B. Permittee Program Supervisor: Dan Garcia
 Title: City Engineer
 Address: 12700 Norwalk Blvd
 City: Norwalk Zip Code: 90650
 Phone: 562-929-5727 Fax: 562-929-5584
- C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

The City Engineer is responsible for the implementation and coordination of the City's Stormwater Quality Management Program. The City Engineer collects and distributes program information, directs departmental activities and serves as the contact point for city contractors, consultants (including site visit inspections), Los Angeles County (Principal Permittee) and other co-permittees. The City's Administration Department coordinates the outreach and public education activities as well as being responsible for managing the trash collection contract. Additional business facility inspections are conducted by the Property Maintenance Division. Building and Construction permits are issued by Building & Safety (private property) and Engineering (public property). IC/IDs are investigated by the Property Maintenance inspectors. Street sweeping is performed under a contract administered by the Public Services Department. All catch basins are cleaned at least annually by the county's contractor and any additional cleaning needed is conducted by the City Contractor which is also under the Public Services Department. Spill response is handled by Public Services with assistance from the County Fire (Haz Mat) Dept. New Development projects are reviewed by the Planning and Engineering Divisions and applicable BMP and SUSMP requirements are applied.

TABLE 1 - Program Management

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education	Administration	1
2. Industrial/Commercial Inspections (site visits)	Engineering	Consultant
3. Construction Permits/Inspections	Building & Safety and Engr. Div	4
4. IC/ID Inspections	Building & Safety	2
5. Street sweeping	Public Services	1+contractor
6. Catch Basin Cleaning	Public Services	1+contractor
7. Spill Response	Public Services	3+County
8. Development Planning (SUSMP) review and approval)	Planning/Engineering and Building & Safety	3
9. Trash Collection	Administration	1+contractor

Los Angeles County Municipal Storm Water Permit (Order 01-182)

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D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

Training is conducted on an annual basis with informal training occurring throughout the year. The most recent training sessions were conducted on 6/13/2012 and 7/10/2012. See attached.

E. Budget Summary

1. Does your municipality have a storm water utility? Yes No

If no, describe the funding source(s) used to implement the requirements of Order No. 01-182.

<p>General fund with limited assistance from the Used Oil Fund.</p>

2. Are the existing financial resources sufficient to accomplish all required activities? Yes No

Funding for the required activities of this unfunded State mandate necessitated reductions in funding for other City services, programs and capital projects.

3. Complete Table 2 to the extent that accurate information is available (indicate U in the spaces where the information is unavailable), and report any supplemental dedicated budgets for the same categories on the lines below the table.

4. List any additional state/federally funded projects related to storm water.

<p>N/A</p>

Los Angeles County Municipal Storm Water Permit (Order 01-182)

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Program Element	Expenditures in Fiscal Year 2011-2012	Estimated Amount Needed to implement Order 01-182
1. Program management a. Administrative costs b. Capital costs	\$13,100	\$616,033
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance	\$7,840	\$ 88,364
3. Industrial/Commercial inspection/ site visit activities	\$ 2,832	\$154,000
4. Development Planning	\$3,830	\$88,502
5. Development Construction a. Construction inspections	\$2,100	\$88,161
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs including Transportation center GIASP and water wells b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs	a. \$39,100 b. \$655,000 c. \$1,500 d. Not tracked by city	\$1,280,000 \$4,026,000 \$63,470 N/A \$200,000
7. IC/ID Program a. Operations and Maintenance b. Capital Costs	a. \$1,030 b. \$	\$49,722
8. Monitoring	by LA County	\$0
9. Other TMDL	\$5,000	\$0
10. TOTAL	\$ 731,000	\$ 6,654,252

List any supplemental dedicated budgets for the above categories:

--

List any activities that have been contracted out to consultants/other agencies:

Site visits (inspections) - consultant Catch Basin cleaning - county Trash hauling - contractor Street sweeping -contractor
--

Los Angeles County Municipal Storm Water Permit (Order 01-182)

Individual Annual Report Form

Attachment U-4

II. Receiving Water Limitations (Part 2)

- A. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes No
- B. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes No
- C. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:
1. A description of the pollutants that are in exceedance and an analysis of possible sources;
 2. A plan to comply with the RWL (Permit, Part 2);
 3. Changes to the SQMP to eliminate water quality exceedances;
 4. Enhanced monitoring to demonstrate compliance; and
 5. Results of implementation.

III. SQMP Implementation (Part 3)

- A. Has your agency implemented the SQMP and any additional controls necessary to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes No
- B. If your agency has implemented additional or different controls than described in the countywide SQMP, has your agency developed a local SQMP that reflects the conditions in its jurisdiction and specifies activities being implemented under the appropriate elements described in the countywide SQMP? Yes No
- C. Describe the status of developing a local SQMP in the box below.

The City follows the Countywide SQMP.

Los Angeles County Municipal Storm Water Permit (Order 01-182)

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Attachment U-4

- D. If applicable, describe an additional BMP, in addition to those in the countywide SQMP, that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

N/A

E. Watershed Management Committees (WMCs)

1. Which WMC are you in?
San Gabriel River Watershed
2. Who is your designated representative to the WMC?
John L. Hunter & Associates
3. How many WMC meetings did you participate in last year?
All meetings were attended
4. Describe specific improvements to your storm water management program as a result of WMC meetings.

The San Gabriel River Watershed Management Committee meetings provide a valuable opportunity for the exchange of ideas and discussion of pertinent issues.

5. Attach any comments or suggestions regarding your WMC.
None at this time

F. Storm Water Ordinance

1. Have you adopted a storm water and urban runoff ordinance to enforce all requirements of Order 01-182? Yes No
If not, describe the status of adopting such an ordinance.

N/A

**Los Angeles County Municipal Storm Water Permit (Order 01-182)
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2. If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes No
If not, please attach a copy to this Report.
3. Were any amendments made to your storm water ordinance during the last fiscal year? Yes No
If yes, attach a copy of amendments to this Report.

G. Discharge Prohibitions

1. List any non-storm water discharges you feel should be further regulated:

None at this time

2. List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

None at this time

Los Angeles County Municipal Storm Water Permit (Order 01-182)

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Attachment U-4

IV. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message

a) How many storm drain inlets does your agency own? 58

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year? Completed in a previous reporting cycle and re-stenciled as necessary

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message? 58

If this number is less than the number in question 1.b, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

The County re-stencils as needed as part of their clean-out activities

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year? N/A

Describe your agency's status of implementing this requirement by the date required in Order No. 01-182.

No City owned access points.

**Los Angeles County Municipal Storm Water Permit (Order 01-182)
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2. Reporting Hotline

- a) Has your agency established its own hotline for reporting and for general storm water management information? Yes No
- b) If so, what is the number? Day time number is (562) 929-5727
- c) Is this information listed in the government pages of the telephone book? Yes No
- d) If no, is your agency coordinated with the countywide hotline? Yes No
- e) Do you keep record of the number of calls received and how they were responded to? Yes No

f) How many calls were received in the last fiscal year?

N/A

g) Describe the process used to respond to hotline calls.

The caller's information (name, date, time etc.) is recorded on a standard city form. The report is forwarded to the appropriate department.

h) Have you provided the Principal Permittee with your current reporting contact information? Yes No

i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site (Principal Permittee only)? Yes No

If not, when is this scheduled to occur? N/A

3. Outreach and Education

a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. (Principal Permittee only)

N/A

Los Angeles County Municipal Storm Water Permit (Order 01-182)

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b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes No

How many Public Outreach Strategy meetings did your agency participate in last year? 4- JLHA attended all

Explain why your agency did not attend any or all of the organized meetings.

N/A

Identify specific improvements to your storm water education program as a result of these meetings:

The City received updates from the county and would consider those into making outreach planning in the upcoming fiscal year.

List suggestions to increase the usefulness of quarterly meetings:

None at this time

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented (Principal Permittee only).

N/A

Los Angeles County Municipal Storm Water Permit (Order 01-182)

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- c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

A stormwater pollution prevention during rainy season reminder was published in the city's newspaper "Norwalk Now" in November. Total impressions would be about 30,000.

- d) Describe efforts your agency made to educate local schools on storm water pollution.

The city reached out to all 5th grade school teachers with environmental wall calendars and encourage schools to be more environmentally concerned. In addition, presentations and materials were available to local schools upon request.

- e) Did you provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution (*Principal Permittee only*)? Yes No
If not, explain why.

N/A

- f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts (*Principal Permittee only*).

N/A

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

Los Angeles County Municipal Storm Water Permit (Order 01-182)

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- g) What is the behavioral change target that was developed based on sociological data and other studies (*Principal Permittee only*)?

N/A

If no target has been developed, explain why and describe the status of developing a target.

N/A

What is the status of meeting the target by the end of Year 5?

N/A

4. Pollutant-Specific Outreach

- a) Attach a description of each watershed-specific outreach program that your agency developed (*Principal Permittee only*). All pollutants listed in Table 1 (Section B.1.d.) must be included.
- b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes No
- c) Did your agency help distribute pollutant-specific materials in your city? Yes No
- d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

The city places informational materials at the City Hall counters, and from time to time includes stormwater program information in the city's newspaper.

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5. Businesses Program

- a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains (*Principal Permittee only*).

N/A

- b) How many corporate managers did your agency (*Principal Permittee only*) reach last year? N/A

- c) What is the total number of corporations to be reached through this program (*Principal Permittee only*)? N/A

- d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years (*Principal Permittee only*)? N/A Yes No

If not, describe measures that will be taken to fully implement this requirement.

The city of Norwalk implemented its restaurant outreach program by sending a mailer to local restaurant owners. The annual outreach targets all restaurants with an emphasis on sidewalk, patio and parking lot cleaning and maintenance. 57 restaurants were reached during this reporting period.

- e) Has your agency developed and/or implemented a Business Assistance Program? Yes No

If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

Several BMP pamphlets are available, including a brochure (also a mailer) "A Business Guide to Stormwater Pollution Prevention" addressing proper BMPs compliance to business owners. The brochure/mailer was also made available to send out to businesses with violations or complaint.

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6. Did you encourage local radio stations and newspapers to use public service announcements? Yes No

If yes, How many media outlets were contacted?
Which newspapers or radio stations ran them?

The city's monthly newspaper "Norwalk Now" constantly publishes stormwater or environmental news and program updates.

Who was the audience?

Residents and businesses

7. Did you supplement the County's media purchase by funding additional media buys? Yes No

Estimated dollar value/in-kind contribution: N/A
Type of media purchased: N/A
Frequency of the buys: N/A

Did another agency help with the purchase? Yes No

8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes No

If so, describe the type of advertising.

Stormwater educational information is made available at the city department counter.

9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes No

Describe the materials that were distributed:

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The city distributed outreach material developed for general industrial, commercial facilities, automotive services facilities and restaurants during site visits and inspections. The city also distributed program information via local events.

Who were the key partners? The business community
Who was the audience (businesses, schools, etc.)?

General public and businesses

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes No

How many events did you attend? 1
Rabies Clinic Event (June 7, 2011)

11. Does your agency have a website that provides storm water pollution prevention information? Yes No
If so, what is the address?

The city has linked its website to the County environmental website:
www.888cleanLA.com

12. Has awareness increased in your community regarding storm water pollution? Yes No
Do you feel that behaviors have changed? Yes No

Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

No scientific or statistical surveys have been conducted, while out at events. The public's overall understanding and awareness of the program has been steadily increasing.

13. How would you modify the storm water public education program to improve it on the City or County level?

No suggestions at this time.

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B. Industrial/Commercial Facilities Program

1. Critical Source Inventory Database

Did you (individually or jointly) update the Database for Critical Sources Inventory? Yes No

Comments/Explanation/Conclusion:

During the 2011-12 reporting year, the database was updated using information collected by the City inspectors and using information supplied by the city's business license Department.
--

2. Inspection Program

Provide the reporting data as suggested in the following tables.

Category	Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption
Industrial/Commercial	Although there is currently no reporting cycle. The city has continued inspections.	4	100% (Completed during previous reporting cycle)	169
Automotive	Although there is currently no reporting cycle. The city has continued inspections.	14	100% (Completed during previous reporting cycle)	150
Restaurants	Although there is currently no reporting cycle. The city has continued inspections.	25	100% (Completed during previous reporting cycle)	226

Comments/Explanation/Conclusion:

The City of Norwalk completed the required 2nd round of inspections for industrial/commercial facilities before the December 12, 2006 deadline. The City has exceeded permit requirements by continuing to conduct industrial/commercial and restaurant inspections. During FY 2011-2012, the City completed a total of 43 industrial/commercial, automotive, and restaurant inspections.

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3. BMPs Implementation

Provide the reporting data as suggested in the following table.

Category	Number of facilities inspected by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade
Industrial/Comm	4	4	100%	0	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.
Auto.	14	14	100%	0	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.
Rest.	25	23	92%	2	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.	N/A – Currently no reporting cycle.

Comments/Explanation/Conclusion:

The City of Norwalk has completed all 1st and 2nd cycle inspections in compliance with the permit. The City has exceeded permit requirements by continuing to inspect approximately 20% of all Industrial/Commercial facilities and Restaurants during the permit extension.

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4. Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number of enforcement actions since permit adoption (by category)
Verbal Warning	2	N/A	2	N/A	2	N/A	N/A
NOV	0	N/A	N/A	N/A	N/A	N/A	N/A

*Verbal Warnings are generally corrected while inspector is onsite; therefore, no re-inspection is necessary.

Facilities by category	Number of Warning letters	Number of NOVs	Number of Referral	Number of follow up inspections
Indust./Comm.	0	0	0	0
Automotive	0	0	0	0
Restaurants	0	0	0	2
Comments/Explanation/Conclusion:		N/A		

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5. Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective Somewhat Effective Non-effective

Comments/Explanation/Conclusion:

The overall understanding and support has increased since the start of the program. Outreach materials distributed during routine site inspections help open discussion of necessary BMP's and the reasons why they need to be implemented. Facility owners, managers and staff generally respond well to inspectors' requests for changes in operations to meet requirements for compliance.

6. You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities. The principle permittee has informed us that they are not accepting this information at this time.

Los Angeles County is not accepting this information at this time.

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C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes No

Attach examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.

2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:

- a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes No

- b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes No

- c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes No

- d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes No

3. List the types and numbers of BMPs that your agency required for priority projects to meet the requirements described above.

1- Biofiltration (1)
2- capture and reuse (1)

4. Describe the status of the development or implementation of peak flow controls in Natural Drainage Systems.

N/A

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5. Has your agency amended codes and/or ordinances to give legal effect to the SUSMP changes required in the Permit? Yes No

6. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

Requirements are added to projects through conditions of approval. Due in part to the economic downturn, no projects meeting the SUSMP threshold were reviewed by the city in this reporting period.

7. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?

- a) Residential
- b) Commercial 1
- c) Industrial
- d) Automotive Service Facilities
- e) Retail Gasoline Outlets
- f) Restaurants
- g) Parking Lots
- h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area
- i) Total number of permits issued to priority projects 1

8. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? Less than 1%

9. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

Previously implemented.

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10. After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold? 5-10
11. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes No
12. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes No

If no, provide an explanation and an expected date of completion.

13. Did your agency update any of the following General Plan elements in the past year?
- a) Land Use Yes No
 - b) Housing Yes No
 - c) Conservation Yes No
 - d) Open Space Yes No

If yes, please describe how watershed and storm water quality and quantity management considerations were included.

No significant updates to the General Plan elements were prepared in the 2011-2012 reporting year.

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14. How many targeted staff were trained last year? 39
15. How many targeted staff are trained annually? 39-40
16. What percentage of total staff are trained annually? 90-100%
17. Has your agency developed and made available development planning guidelines? Yes No
18. If no, what is the expected date that guidelines will be developed and available to developers? N/A
19. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

The County has taken the lead on this project.

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D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

- Erosion control plans are required as part of the grading permit application.
- Erosion control measures are required to be in place for grading between October 15th and April 15th of each year
- Inspection of grading sites includes review of erosion control measures
- Inspection of grading sites after rainstorms.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?

- a) Will result in soil disturbance of one acre or greater Yes No
- b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area Yes No
- c) Is located in a hillside area N/A Yes No

3. Attach one example of a local SWPPP
See previous annual reports.

4. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

A copy of the NOI and copy of the SWPPP is required to be submitted prior to issuance of grading or building permits for projects 1 acre or greater. The city also obtains a copy of the letter from the State Water Resources Control Board issuing the WDID number for the project

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- 5. How many building/grading permits were issued to sites requiring Local SWPPPs last year? LSWPPPs are general Confirm: zero projects with disturbed areas greater than 1 acre 7
- 6. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year? 4
- 7. How many building/grading permits were issued to construction site less than one acre in size last year? 805
- 8. How many construction sites were inspected during the last wet season? 480
- 9. Complete the table below.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment	5	1%	5	0
Off-site discharge of other pollutants	0	N/A	0	0
No or inadequate SWPPP	2	<1%	2	0
Inadequate BMP/SWPPP implementation	3	<1%	3	0

- 10. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

A Notice of Violation is issued upon discovery of a violation, requiring the correction or implementation of BMPs. This correction, clean-up or implementation is required to become the priority activity on the construction site. A stop work notice will be issued if the required actions have not been completed within the specified time frame. Site has the potential to receive citations if further noncompliance continues.

- 11. Describe the system that your agency uses to track the issuance of grading permits.

The city uses a computer based permit tracking system

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E. Public Agency Activities (Part 4.F)

1. Sewage System Maintenance, Overflow, and Spill Prevention (only applicable to agencies that own and/or operate a sanitary sewer system)

- a) Has your agency developed and implemented a response plan for sanitary sewer overflows that includes the requirements in Order 01-182? Yes No
- b) How many sanitary sewer overflows occurred within your jurisdiction? 3
- c) How many did your agency respond to? 3
- d) Did your agency investigate all complaints received? Yes No
- e) How many complaints were received? 3
- f) Upon notification, did your agency immediately respond to overflows by containment? Yes No
- g) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes No
- h) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes No

If so, describe the program:

The City continues to implement a program to prevent sewerage spills from entering the MS4. The City developed a SSMP to address sanitary sewer overflows.

- i) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes No

If so, describe the program:

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The city implemented and continues to implement a program of preventive measures including the following: (1) suspected trouble spots such as pipe segments subject to root intrusion, that are identified by video are identified and cleaned as needed. (2) repeat trouble spots are cleaned twice a year, (3) all lift stations are cleaned out three times a year, (4) the entire sanitary sewer system is cleaned once every 3 years (one third of the system every year).

2. Public Construction Activities Management

a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit? N/A %

b) Give an explanation for any sites greater than 5 acres that were not covered:

There are no public projects subject to the State's General Construction Permit during this reporting year.

c) What is the total number of active public construction sites? 2
How many were 5 acres or greater in size? 0

d) (After March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? N/A Yes No

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes No

The Public Services/Transportation Center is operating under the State's General Industrial Permit.

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- b) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:
- (1) Good housekeeping practices
 - (2) Material storage control
 - (3) Vehicle leaks and spill control
 - (4) Illicit discharge control

The above listed BMP's are routinely implemented through training of the appropriate personnel. The Pollution Prevention Plan (PPP) for the Public Services/Transportation Center provides guidelines to performing Good Housekeeping practices. Specific BMP's may include:

- Random inspections are conducted.
- There is a designated vehicle wash area discharging to the sanitary sewer.
- Vehicle repair and storage are indoors.

- c) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes No
- If not, what is the status of implementing this requirement?

N/A

- d) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above? N/A, Previously completed

4. Landscape and Recreational Facilities Management

- a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers? Yes No
- Briefly describe this protocol:

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All materials are applied by, or under the direct supervision of, a State licensed Pesticide Certified Advisor and Certified Qualified Applicator. All city applicator personnel and City landscaping contractors have adequate training and supervision to ensure that proper protocols are followed. The City contractor and city staff hold a permit (renewed annually) issued by the L. A. County Ag commissioner. At the beginning of every calendar, the City files a Pesticide Use Recommendation report with the County describing the material and procedures the City plans to implement.

- b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

This is covered in the training described above.

- c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes No
- If so, list them:

N/A

- d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator? 100%

- e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

The City encourages the use of native vegetation and drought tolerant plants throughout the City.

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5. Storm Drain Operation and Management

a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes No

b) How many of each designation exist in your jurisdiction?

Priority A: 0
Priority B: 0
Priority C: 58 county owned
884 county owned

c) Is your city subject to a trash TMDL? Yes No

d) If yes, describe the activities and/or implementation measures that your agency conducted pursuant to the TMDL and any other trash reduction efforts that occurred.

N/A

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- e) How many times were all Priority A basins cleaned last year? N/A
- f) How many times were all Priority B basins cleaned last year? N/A
- g) How many times were all Priority C basins cleaned last year? Once a year
Cleaned in Sept 2011.
- h) How much total waste was collected in tons from catch basin clean-outs last year? City owned:
0.33 tons
County owned:
County has this information
- i) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.
The County has this information. City has maps.
- j) Did your agency place and maintain trash receptacles at all transit stops within its jurisdiction. Yes No
The City continued its daily, weekly, and bi-weekly cleaning of the 242 transit stops which included the maintaining of trash receptacles.
- k) How many new trash receptacles were installed last year? 0
- l) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:
 - (1) Provide for the proper management of trash and litter generated from the event? Yes No
 - (2) Arrange for temporary screens to be placed on catch basins? Yes No
 - (3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes No

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m) Did your agency inspect the legibility of the catch basin stencil or labels? Standard procedure by the County contractor Yes No

What percentage of stencils were legible? 100%

n) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes No

o) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection?

Previously conducted Yes No

Is the prioritization attached? N/A

Only one open channel Yes No

p) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes No

What changes have been made?

Included in annual staff training. Other changes as necessary.

q) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes No

r) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

The Channel is cleaned approximately quarterly by the city's landscape contractors. The open channel has no usable outlet

s) Where is removed material disposed of?

At a legal point of disposal.

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6. Streets and Roads Maintenance
- a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:
- (1) Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? N/A
All streets are swept at priority A frequencies Yes No
- (2) Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? N/A Yes No
- (3) Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? N/A Yes No
- b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:
- (1) Priority A – These streets and/or street segments shall be swept at least two times per month? N/A, All streets are swept at priority A frequencies a minimum of twice per month Yes No
- (2) Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? N/A Yes No
- (3) Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? N/A Yes No

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- c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes No
- d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes No
- e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes No
- f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
- (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes No
- (2) Identify and select appropriate BMPs? Yes No
7. Parking Facilities Management
- a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes No
- b) Were any Permittee-owned parking lots cleaned less than once a month? Yes No
How many? N/A

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8. Public Industrial Activities Management
- a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? Yes No
- b) Does your agency serve a population of less than 100,000 people? Yes No
9. Emergency Procedures
- a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes No
- b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes No
10. Feasibility Study
- a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes No
- b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? N/A Yes No

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- F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)
1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.). The City has adopted and implements the Countywide model program for IC/IDs.
 2. Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

The City does not issue permits for maintaining connections to storm drains.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

Site is ordered to immediately cease any type of illicit discharge or illicit connection. Site is then instructed to clean up the illicit discharge and/or disconnect the illicit connection. Follow-up inspections are conducted as necessary. Site is required to implement and maintain these permanent corrective measures.

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4. Describe your record keeping system to document all illicit connections and discharges.

Property Maintenance tracks/maintains a database.

5. What is the total length of open channel that your agency owns and operates? 1,500 ft

6. What length was screened last year for illicit connections? Screened in a previous reporting year.

7. What is the total length of closed storm drain that your agency owns and operates? 16,360 ft

8. What length was screened last year for illicit connections? 0

9. Describe the method used to screen your storm drains.

Completed in a previous reporting cycle.

10. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# that resulted in <i>other</i> actions
01/02	0	0	0	0	0	0	0
02/03	0	0	0	0	0	0	0
03/04	0	0	0	0	0	0	0

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04/05	0	0	0	0	0	0	0
05/06	1	1	0	1	0	0	0
06/07	0	0	0	0	0	0	0
07/08	0	0	0	0	0	0	0
08/09	0	0	0	0	0	0	0
09/10	0	0	0	0	0	0	0
10/11	0	0	0	0	0	0	0
11/12	0	0	0	0	0	0	0

11. Explain any *other* actions that occurred in the last year.

N/A

12. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

Less than 24 hours

a) Were all identified connections terminated within 180 days? N/A

Yes No

b) If not, explain why.

None found this reporting cycle.

13. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02	20	20	0	0	0	0	0
02/03	45	26	0	16	0	0	1
03/04	23	23	0	0	0	0	0
04/05	26	26	0	8	0	0	2
05/06	6	6	0	0	0	0	0
06/07	6	6	0	0	0	0	0

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07/08	18	18	0	0	0	0	0
08/09	20	20	0	1	0	0	1
09/10	14	14	0	0	0	0	0
10/11	22	19	1	2	0	0	2
11/12	19	19	0	0	0	0	0

14. What is the average response time after an illicit discharge is reported? Less than 24 hours

a) Did any response times exceed 72 hours? Yes No

b) If yes, explain why.

N/A

15. Describe your agency's spill response procedures.

If it is a suspected hazardous material, the fire Department is called out. If not, the Public Services Dept takes the lead. The spill is contained and prevented from entering the storm drain system to the extent possible (sand bags, etc.). Spilled materials are collected using appropriate equipment and properly disposed of in accordance with applicable regulations.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

No suggestions at this time.

17. Attach a list of all permitted connections to your storm sewer system.

The City does not permit connections to the storm drain system.

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Briefly describe any storm water monitoring activities that are not required by Order No. 01-182 that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 2.

LA County is currently responsible for monitoring activities

VI. Assessment of Program Effectiveness

A. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:

1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;

The City of Norwalk is in full compliance with applicable requirements of the MS4 permit.

2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;

The City used: the completion and evaluation of this annual report, assessment of trash and debris amounts collected from city streets and catch basins, informal information from citizens, studies by scientific groups as they come to the attention of the city, and participation in watershed events.

3. A summary of the strengths and weaknesses of your agency's storm water management program;

Strengths include: Active participant in watershed meetings and Executive Advisory committees, aggressive street sweeping, annual education and training, and public outreach.

4. A list of specific program highlights and accomplishments;

See the San Gabriel River Watershed Area Management Committee's annual assessment

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5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
The City is unaware of any water quality improvements or degradation in this reporting period.
6. Interagency coordination between cities to improve the storm water management program;
Coordination between cities to improve the storm water management program is made through actively participating in the San Gabriel River Watershed Management Committee.
7. Future plans to improve your agency's storm water management program; and
The City intends to continue improving its stormwater program where possible.
8. Suggestions to improve the effectiveness of your program or the County model programs.
None at this time

- B. On a scale of 1 to 10 (10 being full implementation of requirements by their deadlines), rate your municipality's level of compliance with Order No. 01-182.

10

- C. List any suggestions your agency has for improving program reporting and assessment.

None at this time

ATTACHMENT H-7

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This form summarizes the requirements in Order No. 01-182. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Program (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with Order 01-182; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED <i>Do not leave any of the sections blank.</i>
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

This Report Form consists of the following sections:

SECTION	PAGE
I. Program Management	2-4
II. Receiving Water Limitations	5
III. SQMP Implementation	5-7
IV. Special Provisions	8
IV.A. Public Information and Participation Program	8-14
IV.B. Industrial/Commercial Facilities Program	15-17
IV.C. Development Planning Program	18-21
IV.D. Development Construction Program	22-23
IV.E. Public Agency Activities Program	24-33
IV.F. IC/ID Elimination Program	34-37
V. Monitoring	38
VI. Assessment of Program Effectiveness	38
VII. Certification	39

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D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary

1. Does your municipality have a storm water utility? Yes No
If no, describe the funding source(s) used to implement the requirements of Order No. 01-182.

General Fund.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes No

3. Complete Table 2 to the extent that accurate information is available (indicate U in the spaces where the information is unavailable), and report any supplemental dedicated budgets for the same categories on the lines below the table.

4. List any additional state/federally funded projects related to storm water.

Three Springs Storm Water Quality Improvement, Prop 13 Phase II Project
Malibu Creek Watershed –Wide Monitoring Program, Prop 13 Phase II Project
Proposition 50 – Citywide Landscape and Irrigation Retrofit Program

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TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Estimated Amount Needed to implement Order 01-182
1. Program management a. Administrative costs b. Capital costs	\$184,825 \$3,120	U
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance	\$1,699 \$744 \$0 \$0	U
3. Industrial/Commercial inspection/ site visit activities	\$0	U
4. Development Planning	\$2,914	U
5. Development Construction a. Construction inspections	\$601	U
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other	\$1007 \$21,828 \$1,370 \$2,960 \$0 \$0	U
7. IC/ID Program a. Operations and Maintenance b. Capitol Costs	\$686 \$0	U
8. Monitoring	\$13,356	U
9. Other	\$14,285	U
10. TOTAL	\$249,393	U

List any supplemental dedicated budgets for the above categories:

- * Proposition 50, Chapter 8 provided \$103,871.43 for the \$446,564 Citywide Landscape and Irrigation Retrofit Project (Prior year)
- * Total Street Sweeping Budget = \$115,581 (estimated 19.2% increase for NPDES BMP's implemented in 1996, therefore \$22,200 annual implementation cost)
- * Recycling Services is approximately \$105,000

List any activities that have been contracted out to consultants/other agencies:

Portions of the Development Planning/Development Construction is contracted to LA County Building & Safety. Stormwater Program Management is handled through the City Engineering services contract with Willdan (contract City staff). Catch basin cleaning is contracted to LA County Flood Control District. Sanitary Sewer maintenance is contracted to the consolidated sewer maintenance district.

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II. Receiving Water Limitations (Part 2)

- A. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes No
- B. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes No
- C. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:
1. A description of the pollutants that are in exceedance and an analysis of possible sources;
 2. A plan to comply with the RWL (Permit, Part 2);
 3. Changes to the SQMP to eliminate water quality exceedances;
 4. Enhanced monitoring to demonstrate compliance; and
 5. Results of implementation.

III. SQMP Implementation (Part 3)

- A. Has your agency implemented the SQMP and any additional controls necessary to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes No
- B. If your agency has implemented additional or different controls than described in the countywide SQMP, has your agency developed a local SQMP that reflects the conditions in its jurisdiction and specifies activities being implemented under the appropriate elements described in the countywide SQMP? Yes No
- C. Describe the status of developing a local SQMP in the box below.

The City is currently working with other Malibu Creek and Lagoon Bacteria TMDL responsible agencies to implement measures developed in the Integrated Total Maximum Daily Load Implementation Plan for the Malibu Creek Watershed. The plan is aimed toward implementation of the SQMP and any additional programs suitable to the Malibu Creek Watershed through a regionally consistent, economically efficient approach.

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- D. If applicable, describe an additional BMP, in addition to those in the countywide SQMP, that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

Weekly street sweeping citywide, measures identified in the above mentioned Implementation Plan.

E. Watershed Management Committees (WMCs)

1. Which WMC are you in? Malibu Creek and Rural SMB Watersheds
2. Who is your designated representative to the WMC? Joe Bellomo
3. How many WMC meetings did you participate in last year? 11
4. Describe specific improvements to your storm water management program as a result of WMC meetings.

The WMC meetings enable the watershed Cities to share information, success on pilot programs, and combine resources to be more effective at implementing programs that apply regionally. The Cities continue to use the WMC to combine resources for local public education and outreach activities. The Cities also use the WMC to move forward supplemental plans to achieve water quality improvements such as grants and TMDL programs such as the Total Integrated TMDL Implementation Plan for the Malibu Creek Watershed, and Trash Monitoring and Reporting Plan.

5. Attach any comments or suggestions regarding your WMC.

F. Storm Water Ordinance

1. Have you adopted a storm water and urban runoff ordinance to enforce all requirements of Order 01-182? Yes No
If not, describe the status of adopting such an ordinance.

N/A

2. If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes No
If not, please attach a copy to this Report.
3. Were any amendments made to your storm water ordinance during the last fiscal year? Yes No
If yes, attach a copy of amendments to this Report.

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G. Discharge Prohibitions

- 1. List any non-storm water discharges you feel should be further regulated:

None

- 2. List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

None

IV. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message

a) How many storm drain inlets does your agency own? 42

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year? U

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message? 409 (42 city, 367 county)

If this number is less than the number in question 1.b, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

N/A

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year? 0

Describe your agency's status of implementing this requirement by the date required in Order No. 01-182.

There are no public access points requiring signage in the City.

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2. Reporting Hotline

- a) Has your agency established its own hotline for reporting and for general storm water management information? Yes No
- b) If so, what is the number? N/A
- c) Is this information listed in the government pages of the telephone book? Yes No
- d) If no, is your agency coordinated with the countywide hotline? Yes No
- e) Do you keep record of the number of calls received and how they were responded to? Yes No
- f) How many calls were received in the last fiscal year? N/A
(County of Los Angeles does not have city specific totals available.)
- g) Describe the process used to respond to hotline calls.

When a hotline call is received by 888cleanla, they either respond directly or refer the call to our Stormwater Program Manger who investigates the report upon receipt of notification (next business day). If clean-up is needed, a service request is issued to LA County Flood control for response.
- h) Have you provided the Principal Permittee with your current reporting contact information? Yes No
- i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site (Principal Permittee only)? N/A Yes No
If not, when is this scheduled to occur? N/A

3. Outreach and Education

- a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. (Principal Permittee only)

N/A

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- b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes No
 How many Public Outreach Strategy meetings did your agency participate in last year? All
 Explain why your agency did not attend any or all of the organized meetings.

We coordinate representation at the Public Outreach Strategy meetings through our Watershed Management Committee. One representative from the WMC attends the meetings, taking ideas/suggestions from the WMC forum and then reported back to the WMC on what happened at the meeting.

Identify specific improvements to your storm water education program as a result of these meetings:

The Public Outreach Strategy meetings provide a forum for the County to share their outreach activities, and make their already developed advertising materials available to the Cities for use in their specific programs. This allows the sharing of resources that otherwise would not be available to individual city programs because of costs.

List suggestions to increase the usefulness of quarterly meetings:

For more cities to share their experiences and ideas for outreach in their communities.

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented (*Principal Permittee only*).

N/A

- c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media? Greater than 100,000
- d) Describe efforts your agency made to educate local schools on storm water pollution.

In collaboration with Los Angeles County's school outreach program, we ensure local schools are exposed to watershed education material. In addition, the City's Schools program included water quality elements to White Oak Elementary 4th graders in their annual outreach.

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- e) Did you provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution (*Principal Permittee only*)? Yes No N/A
- If not, explain why.

N/A

- f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts (*Principal Permittee only*).

N/A

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

- g) What is the behavioral change target that was developed based on sociological data and other studies (*Principal Permittee only*)?

N/A

If no target has been developed, explain why and describe the status of developing a target.

N/A

What is the status of meeting the target by the end of Year 5?

N/A

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4. Pollutant-Specific Outreach

- a) Attach a description of each watershed-specific outreach program that your agency developed (*Principal Permittee only*). All pollutants listed in Table 1 (Section B.1.d.) must be included.
- b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes No
- c) Did your agency help distribute pollutant-specific materials in your city? Yes No
- d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

There are handouts always available at our public counter at the City Hall and the Westlake lake management office. We periodically place info on BMPs in the Westlake Village "City News," and have included pollutant specific articles. The "City News" is a full color, two-sided newsletter that goes to every City resident monthly. We are able to provide guidance on BMPs and alternate ways to conduct these activities in a Lake-friendly manner. We distribute the Living Lightly in Our Watershed Guide and other like materials to the community.

5. Businesses Program

- a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains (*Principal Permittee only*).

N/A

- b) How many corporate managers did your agency (*Principal Permittee only*) reach last year? N/A
- c) What is the total number of corporations to be reached through this program (*Principal Permittee only*)? N/A
- d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years (*Principal Permittee only*)? N/A Yes No
If not, describe measures that will be taken to fully implement this requirement.

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N/A

- e) Has your agency developed and/or implemented a Business Assistance Program? Yes No
If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

Through site visits and inspections City staff has educated the business community about Stormwater regulations, and followed up through check up visits to ensure all environmental laws are being followed.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes No
How many media outlets were contacted? 2
Which newspapers or radio stations ran them?

Westlake Village "City News", and Westlake Village close circuit TV.

Who was the audience?

Westlake Village residents and businesses.

7. Did you supplement the County's media purchase by funding additional media buys? Yes No
Estimated dollar value/in-kind contribution: \$2,500
Type of media purchased: Promotional
Frequency of the buys: annually
Did another agency help with the purchase? Yes No

8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes No
If so, describe the type of advertising.

The Malibu Creek Watershed revised and reprinted the Living Lightly in Our Watershed Guide and continually distributes the guide. Through the Watershed Coordinator the City participates in many other outreach programs and advertising programs. The City partnered with Agoura Hills, Calabasas, and LVMWD in the Watershed Stewardship Project video.

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9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes No

Describe the materials that were distributed:

During this permit cycle, the City distributed a drainage map that the students can trace from their home to the discharge point at a major waterbody. Seeds, organic pot, and potting soil were distributed to each student to grow at home. A number of other informational handouts are distributed during City events.

Who were the key partners? None

Who was the audience (businesses, schools, etc.)?

4th Graders and parents.

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes No

How many events did you attend? At least 4

11. Does your agency have a website that provides storm water pollution prevention information? Yes No

If so, what is the address? <http://www.wlv.org/directoryofcityservices/engineeringandpublicworks/docStormWater.aspx>

12. Has awareness increased in your community regarding storm water pollution? Yes No

Do you feel that behaviors have changed? Yes No

Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

The educational site visits have increased the awareness at commercial facilities. Site inspections of commercial businesses for the past five years have resulted in fewer violations with each subsequent series of inspections. As in years past, this reported fiscal year made use of the City's public access channel to air stormwater type PSAs and announcements. Residential awareness primarily benefited from this practice as well as from Lightly Guides. Awareness is evident through public reports of illicit discharges such as mobile carwashes to the City for follow-up.

13. How would you modify the storm water public education program to improve it on the City or County level?

Increase the frequency of PSAs and distribution of stormwater quality material to commercial and residential. These will be implemented throughout the watershed as we intended through the Integrated TMDL Implementation Plan for the Malibu Creek Watershed and Integrated Regional Water Management Programs at the Leadership and Subregional level.

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B. Industrial/Commercial Facilities Program

1. Critical Source Inventory Database

Did you (individually or jointly) update the Database for Critical Sources Inventory? Yes No

Comments/Explanation/Conclusion: The database has been updated and to include a breakdown of all industrial/commercial businesses that are identified under the countywide NPDES stormwater permit for participation in the Industrial/Commercial Facilities Control Program. The vast majority of these businesses consist of retail gasoline outlets, restaurants, and automotive service facilities. This database is utilized in the coordination of the inspections of these facilities for implementation of the appropriate BMPs as required under the countywide NPDES permit.

2. Inspection Program

Provide the reporting data as suggested in the following tables.

Category	Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption
Landfills	0	0	N/A	0
TSDf	0	0	N/A	0
Retail Gasoline Outlets	3	0	100%	7
Restaurants	32	0	100%	71
Automotive Services	10	0	100%	21
Phase 1 Facilities	1	0	100%	1
Comments/Explanation/Conclusion:			None	

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3. BMPs Implementation

Provide the reporting data as suggested in the following table.

Category	Number of facilities inspected by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade
Landfills	0	N/A	N/A	N/A	0	0	0	0	0	0
TSDF	0	N/A	N/A	N/A	0	0	0	0	0	0
Retail Gasoline Outlets	0	N/A	N/A	N/A	3	3	100	1	3	1
Restaurants	0	N/A	N/A	N/A	32	31	97	7	32	7
Automotive Services	0	N/A	N/A	N/A	10	10	100	1	10	1

Comments/Explanation/Conclusion: Most recent inspections did not identify any major stormwater violations.

4. Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number of enforcement actions since permit adoption (by category)
Warning Letter	0	10	0	10	0	10	10
NOV	0	0	0	0	0	0	0
Referral to DA	0	0	0	0	0	0	0

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Facilities by category	Number of Warning letters	Number of NOVs	Number of Referral	Number of Other
Retail Gasoline Outlets	0	0	0	N/A
Restaurants	0	0	0	N/A
Automotive Servies	0	0	0	N/A
Comments/Explanation/Conclusion:		None		

5. Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective

Somewhat Effective

Non-effective

Comments/Explanation/Conclusion:

Inspection Program found most facilities to be in compliance with stormwater quality regulations and implementing BMPs adequately. A violation noted in a prior reporting year at a majority of the facilities was open trash bin lids. Upon further investigation, this common problem was due to the trash collectors pinning the trash bin lids behind the bin after collection. A letter was sent to the two companies that provide service to the City and copy sent to all inspected facilities requesting the collectors to ensure that lids are closed after collection to help the facilities maintain a closed trash bin lid. Since the letter was sent out, no complaints have been filed in regards to this issue and no open trash bin lids have been observed. The one facility with violations that required a follow-up visit met compliance during second visit and the general feeling from all facilities in Westlake Village was interest in preventing stormwater violations and responsiveness to the programs objectives.

6. You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.

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C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes No
 Attach examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.

2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:
 - a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes No
 - b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes No
 - c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes No
 - d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes No

3. List the types and numbers of BMPs that your agency required for priority projects to meet the requirements described above.

There are a number of planning priority projects, which have been conditioned to provide stormwater management and mitigation measures through the provisions of the SUSMP. An example, a commercial development met the stormwater management conditions of approval by the installation of in-line treatment devices (CDS units), catch basin filter inserts, or a combination thereof, prior to discharge of stormwater flows from the site. These sites do not have any significant slopes that would require stabilization measures.

4. Describe the status of the development or implementation of peak flow controls in Natural Drainage Systems.

The SUSMP requirement for developers to demonstrate no increase in peak flows where there is potential for downstream erosion has been implemented. Increase to peak flows due to development were mitigated by requiring on-site detention facilities whose design requirements included volumes generated by inflow-outflow hydrographs. In addition, the required Peak Flow Control Feasibility Study is being coordinated via LA County (Principal Permittee).

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5. Has your agency amended codes and/or ordinances to give legal effect to the SUSMP changes required in the Permit? Yes No
6. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

The City contracts all Building and Safety services through LA County. Each new development application is reviewed by all City Departments and conditions of approval are imposed. The Engineering Department conditions projects to meet all requirements per the NPDES Permit and SUSMP. LA County Building and Safety conducts development plan review and approvals, issues grading/building permits and oversees development construction. When a development project is submitted to County and it includes any grading or new construction, it is referred to the drainage and grading plan check engineer. In Addition to basic drainage and grading review, the plan check engineer enforces SUSMP and SWPPP/WWECF requirements. The plan check engineer obtains, reviews and approves the SUSMP mitigated flow rate calculations (Qpm/Vpm) from the developer and then refers the developer to the County Environmental Programs Division (EPD) for review and approval of their proposed SUSMP devices. The EPD checks the submitted SUSMP devices against the approved Qpm/Vpm calculation and confirms that the proposed devices provide sufficient filtration capacity and appropriate pollutant removal qualities for the associated land use. EPD also requires developers to obtain Industrial Waste Permits for annual inspection of any proposed structural BMP devices. The developer returns the EPD-approved SUSMP to the Buildings and Safety Department for final approval and permit issuance, including confirmation that the proposed SUSMP devices are included in the construction drawings. Prior to final approvals, the County contacts WLVP and requests confirmation that the City departments have established compliance with all conditions of approval. Once all SUSMP, SWPPP and WWECF requirements are met, a building or grading permit can be issued.

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7. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?
- a) Residential 0
 - b) Commercial 0
 - c) Industrial 0
 - d) Automotive Service Facilities 0
 - e) Retail Gasoline Outlets 0
 - f) Restaurants 1
 - g) Parking Lots 0
 - h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area 0
 - i) Total number of permits issued to priority projects 0
8. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? 0.8%
9. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

All of our review sheets indicate the reduced threshold. Every permittee that applies for a building permit is subject to the reduced threshold of 1 acre.

10. After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold? U
11. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes No
12. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes No

If no, provide an explanation and an expected date of completion.

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D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

All applicants are required to prepare a Wet Weather Erosion Control Plan and/or Local Storm Water Pollution Prevention Plan (LSWPPP) based on the guidelines described in the BMP Construction Handbook. Based on the approved plans, the inspector ensures that the contractor has installed all necessary BMPs and that the site and adjacent properties are protected from runoff.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?

- a) Will result in soil disturbance of one acre or greater Yes No
- b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area Yes No
- c) Is located in a hillside area Yes No

3. Attach one example of a local SWPPP

4. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

We require the following information prior to all grading plan approvals:

1. A copy of the filed NOI
2. The issued WDID number
3. The Local SWPPP

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- 5. How many building/grading permits were issued to sites requiring Local SWPPPs last year? 0
- 6. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year? 0
- 7. How many building/grading permits were issued to construction site less than one acre in size last year? 126
- 8. How many construction sites were inspected during the last wet season?
(Verify with inspector for information.) U
- 9. Complete the table below.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment	0	0	0	0
Off-site discharge of other pollutants	0	0	0	0
No or inadequate SWPPP	0	0	0	0
Inadequate BMP/SWPPP implementation	0	0	0	0

- 10. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

We contract all Building and Safety Services with LA County. The County inspectors require SWPPP implementation on areas to be disturbed prior to beginning of construction. Once construction is underway, the inspector visits the site a minimum of once per week and confirms complete and appropriate SWPPP implementation. If any off-site discharge or inadequate SWPPP implementation is observed, the inspector will write up a notice of correction. The notice of correction specifies what needs correction and indicates that if the corrections are not made within 24 hours, a stop work will be issued until the site is brought into full SWPPP compliance. A follow-up inspection is conducted in 24 hours and if the site is still not in compliance a stop work is enforced until the requested corrections are made. If the correction is a minor thing (ie: moving sand bags, etc), the inspector has it done immediately while they are on site. There were no violations this year that were not immediately corrected in the field at the time of the visit/inspection.

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11. Describe the system that your agency uses to track the issuance of grading permits.

We contract all Building and Safety Services with LA County. LA County uses a computerized database (DAPTS) to track all grading and building permits issued.

E. Public Agency Activities (Part 4.F)

1. Sewage System Maintenance, Overflow, and Spill Prevention (only applicable to agencies that own and/or operate a sanitary sewer system)

- a) Has your agency developed and implemented a response plan for sanitary sewer overflows that includes the requirements in Order 01-182? Yes No
- b) How many sanitary sewer overflows occurred within your jurisdiction? 1
- c) How many did your agency respond to? 1
- d) Did your agency investigate all complaints received? Yes No
- e) How many complaints were received? 1
- f) Upon notification, did your agency immediately respond to overflows by containment? Yes No
- g) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes No
- h) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes No
If so, describe the program:

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The Consolidated Sewer Maintenance District (CSMD) is responsible for sewer maintenance services of City owned collectors CSMD has a formalized CMOM program and does routine maintenance inspections of sewer manholes to prevent unexpected blockages and resulting overflows. When an overflow does occur, the County is notified immediately and responds with containment.

- i) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes No

If so, describe the program:

The Consolidated Sewer maintenance District (CSMD) is responsible for sewer maintenance services of City owned collectors. CSMD has a formalized CMOM program and does routine maintenance inspections of sewer manholes to prevent unexpected blockages and resulting overflows. When an overflow does occur, the County is notified immediately and responds with containment.

2. Public Construction Activities Management

- a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit ? 100 %
- b) Give an explanation for any sites greater than 5 acres that were not covered:

All were covered.

- c) What is the total number of active public construction sites? 2
 How many were 5 acres or greater in size? 1

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- d) (After March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes No

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

- a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? N/A Yes No

We do not have any vehicle maintenance facility, material storage facility, or corporation yard. We contract major services through LA County.

- b) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:
- (1) Good housekeeping practices
 - (2) Material storage control
 - (3) Vehicle leaks and spill control
 - (4) Illicit discharge control

We do not have any vehicle maintenance facility, material storage facility, or corporation yard. We contract major services through LA County.

- c) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? N/A Yes No
If not, what is the status of implementing this requirement?

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We do not own or operate any vehicle / equipment wash areas.

- d) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above? N/A

4. Landscape and Recreational Facilities Management

- a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers? Yes No

Briefly describe this protocol:

We contract landscape activities to a professional contractor. Our work agreement includes requirements for compliance with the NPDES permit and copies of the Permit requirements are provided to the landscape contractor. The City Inspector oversees the landscape maintenance contract, enforcing the implementation of NPDES requirements.

- b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

The landscaping contractor is required to follow this procedure.

- c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes No
- If so, list them:

N/A

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- d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator? N/A
- e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

All residential and commercial landscaping plans are required to be reviewed and approved by the City's planning staff prior to issuance of building permits. Through this process, the planning staff encourages the use of native vegetation, with minimal watering and fertilizing need for all new development. The landscape maintenance consultant is also required to manage public landscaping in light of these requirements.

5. Storm Drain Operation and Management

- a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes No
- b) How many of each designation exist in your jurisdiction?

Priority A:	0
Priority B:	0
Priority C:	367
	LACFCD
	42 City
- c) Is your city subject to a trash TMDL? Yes No
- d) If yes, describe the activities and/or implementation measures that your agency conducted pursuant to the TMDL and any other trash reduction efforts that occurred.

The Trash Monitoring and Reporting Plan/Minimum Frequency and Collection Program was drafted and submitted to the Regional Board Executive Office for review and approval. In addition to the efforts contained within that plan, the City sweeps streets citywide on a weekly basis, and daily collection of trash within City Rights-of-Way.

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- e) How many times were all Priority A basins cleaned last year? N/A
- f) How many times were all Priority B basins cleaned last year? N/A
- g) How many times were all Priority C basins cleaned last year? 2
- h) How much total waste was collected in tons from catch basin clean-outs last year? 0.54
- i) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.
- j) Did your agency place and maintain trash receptacles at all transit stops within its jurisdiction. Yes No
- k) How many new trash receptacles were installed last year? 0
- l) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:
- (1) Provide for the proper management of trash and litter generated from the event? Yes No
- (2) Arrange for temporary screens to be placed on catch basins? Yes No
- (3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes No
- m) Did your agency inspect the legibility of the catch basin stencil or labels? Yes No
 What percentage of stencils were legible? 100%

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- n) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes No

- o) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes No
 County owns most open channels in the City.
 Is the prioritization attached? N/A Yes No

- p) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes No
 What changes have been made?

We took over maintenance of the open channel drain at Foxfield Drive from LACFCD and had our landscaping contractor maintain the oil and trash boom. Accumulated debris is removed weekly, and an inspection log was kept on file documenting the amount and type of debris found. In 2009 we turned maintenance back over to the County.

- q) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes No

- r) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

County maintains MS4 system. When the City was responsible for maintenance of the Foxfield Drive open channel, it performed weekly removing algae growth with a net, dried in sunlight and disposed with grass clippings. Trash debris is pulled out weekly (if any) and disposed of in near by trash bin. Sediment is removed by County service twice a year, prior to a rainy season and after the rainy season.

- s) Where is removed material disposed of?

Biomaterial is dried and added to landscapers grass clippings for proper disposal. Infrequent trash material is disposed of in near by trash bin and emptied weekly. Sediment is removed and disposed of by County service.

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6. Streets and Roads Maintenance

- a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:
- (1) Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes No
All streets are designated "A" since we sweep weekly.
 - (2) Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes No
 - (3) Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes No
- b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:
- (1) Priority A – These streets and/or street segments shall be swept at least two times per month? Yes No
 - (2) Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes No
 - (3) Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes No

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- c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes No
- d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes No
- e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes No
- f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:
 - (1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes No
 - (2) Identify and select appropriate BMPs? Yes No

7. Parking Facilities Management

- a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes No
- b) Were any Permittee-owned parking lots cleaned less than once a month? Yes No
How many? 0

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- 8. Public Industrial Activities Management
 - a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? N/A We do not have any city industrial activity
 - b) Does your agency serve a population of less than 100,000 people? Yes No

- 9. Emergency Procedures
 - a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes No
 - b) Were BMPs implemented to the extent that measures did not compromise public health and safety? N/A No emergency occurred

- 10. Feasibility Study
 - a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes No
 - b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? N/A List prepared by LA County

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F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.).
2. Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

Local storm drains are owned and maintained by Los Angeles County Flood Control District.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

Illicit dischargers are notified to cease this activity in person (if caught in the act) and in writing (all occasions) and given educational material relative to the nature of the discharge. We have not had a single occasion where a discharger repeated the offense upon notification and education. However, should the discharger persist, the process would be to give a second written notice with information regarding legal actions that will be brought if the discharge persists. After second notice, the City Attorney would bring a civil or criminal action to abate, enjoin or otherwise compel the cessation of the illicit discharge.

Illicit connections are handled similarly.

4. Describe your record keeping system to document all illicit connections and discharges.

Illicit dischargers and connection incidents are put into the City's Service Request Database. Investigations and follow-up are documented through the database of the service request. For service requests involving discharges or connections, a record is also placed in our excel spreadsheet of ICIDs for annual update on our GIS map and then a hard copy placed on file in the NPDES ICID Program File.

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- 5. What is the total length of open channel that your agency owns and operates? 0
- 6. What length was screened last year for illicit connections? 0
- 7. What is the total length of closed storm drain that your agency owns and operates? U
- 8. What length was screened last year for illicit connections? 0
- 9. Describe the method used to screen your storm drains.

The majority of the storm drain system in the City of Westlake Village is under the jurisdiction of the LA County Flood Control District. Based on communication with Flood Control staff, it is our understanding that they conducted the field screening of all flood control channels and storm drains in their jurisdiction per NPDES Permit requirements for the discovery of any existing illicit connections.

- 10. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# that resulted in <i>other</i> actions
01/02	0	0	0	0	0	0	0
02/03	0	0	0	0	0	0	0
03/04	0	0	0	0	0	0	0
04/05	0	0	0	0	0	0	0
05/06	0	0	0	0	0	0	0
06/07	0	0	0	0	0	0	0
07/08	0	0	0	0	0	0	0
08/09	0	0	0	0	0	0	0
09/10	0	0	0	0	0	0	0
10/11	0	0	0	0	0	0	0
11/12	0	0	0	0	0	0	0

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11. Explain any *other* actions that occurred in the last year. N/A
12. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported? 24 hrs

a) Were all identified connections terminated within 180 days? N/A – None identified Yes No

b) If not, explain why.

None have been identified to date

13. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02	3	2	0	0	0	0	0
02/03	2	2	0	0	0	0	0
03/04	4	3	0	1	0	0	0
04/05	3	3	3	0	0	0	0
05/06	8	7	0	0	0	0	0
06/07	6	4	1	1	0	0	4
07/08	5	3	0	2	0	0	1
08/09	15	11	0	4	0	11	0
09/10	7	6	0	1	0	5	0
10/11	6	4	0	2	0	0	0
11/12	5	4	0	1	0	3	0

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14. What is the average response time after an illicit discharge is reported? 2 hrs

a) Did any response times exceed 72 hours? Yes No

b) If yes, explain why.

N/A

15. Describe the your agency's spill response procedures.

The NPDES Coordinator is notified of the discharge-related service request by the administrative staff. The City Inspector is notified and responds to the location of the discharge, reporting his findings back to the NPDES Coordinator. The City Inspector will stop the discharge and give educational materials to the violator if caught-in-the-act. If the situation needs further follow-up, the NPDES Coordinator will conduct necessary investigations as necessary to identify and send written correction/education notices to the violator.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

At this point this program is operating effectively.
--

17. Attach a list of all permitted connections to your storm sewer system.

N/A –There are no permitted connections to the city's storm sewer system

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V. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-182 that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 2.

The Malibu Creek Watershed was awarded Prop 13 Grant funding in a past fiscal year to conduct a watershed-wide monitoring program. The grant was in the amount of \$510,000. The watershed contributed a match amount of \$269,000 for a total monitoring program amount of \$779,000. The City of Calabasas is spearheading this effort on behalf of the watershed cities. The program was geared towards filling data gaps in existing monitoring data.

A Baseline report was completed and submitted during the 2nd quarter of the 2006-07 Fiscal Year. The final report was filed in FY07/08 and the project is closed out.

On March 11, 2008 a number of the Malibu Creek Watershed agencies subject to the Malibu Creek and Lagoon Bacteria TMDL began the Compliance Monitoring Program which conducts weekly sampling at a number of locations for bacteria indicators. The annual cost is around \$124,000.

Lastly, the City began a roving mobile carwash inspection program due to a number of these operations in town. The first year this program was implemented the inspector conducted 15 inspections, all of which now properly conduct BMPs or have not returned. This reporting year, no compliance issues have been found.

Los Angeles County Municipal Storm Water Permit (Order 01-182)**Individual Annual Report Form****Attachment U-4****VI. Assessment of Program Effectiveness**

- A. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:
1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
 2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
 3. A summary of the strengths and weaknesses of your agency's storm water management program;
 4. A list of specific program highlights and accomplishments;
 5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
 6. Interagency coordination between cities to improve the storm water management program;
 7. Future plans to improve your agency's storm water management program; and
 8. Suggestions to improve the effectiveness of your program or the County model programs.
- B. On a scale of 1 to 10 (10 being full implementation of requirements by their deadlines), rate your municipality's level of compliance with Order No. 01-182.
10—full implementation of requirements by their deadlines
- C. List any suggestions your agency has for improving program reporting and assessment. None

ATTACHMENT H-8

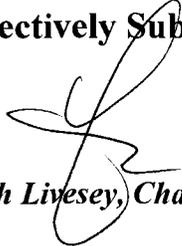
September 2012

**The Ballona Creek
&
Santa Monica Bay
Watershed Management
Committee
Annual Assessment 2010-2011**

Submitted to:
The Regional Water Quality Control Board, Los Angeles Region

Prepared by:
*The Ballona Creek &
Santa Monica Bay
Watershed Permittees*

Respectively Submitted


Yaneth Livesey, Chair, Ballona Creek Watershed Management Committee

**The Ballona Creek Watershed Management Committee
Annual Assessment 2011-12**

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The Ballona Creek Watershed Management Committee
Annual Assessment 2011-12

I. Introduction:

The NPDES Municipal Storm Water and Urban Runoff Permit (Order 01-182) requires that an annual watershed-wide assessment be conducted by each Watershed Management Committee. This assessment is to be incorporated into the Unified Annual Report covering the period July 1 through June 30 of each year which is to be submitted to the Los Angeles Regional Water Quality Control Board no later than October 15 of each year.

The overall assessment of effectiveness includes:

- a) Summary of common activities conducted by all permittees;
- b) WMA BMP implementation;
- c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;
- d) Permittee level of effort, as indicated in their Individual Annual Report self evaluations; and
- e) Integrated summary of Monitoring Program Results.

This assessment addresses items a, b and c above. Item d is included in the individual annual reports. Item e is addressed by the Monitoring Report being prepared by the Principle Permittee. This assessment is based upon the information submitted by the individual municipal permittees of the Watershed specifically for this assessment between July 1, 2011 and September 10, 2012.

II. Summary of Common Activities:

Permittees of the Ballona Creek watershed continue to implement a wide variety of BMPs in accordance with the Stormwater Quality Management Program (SQMP). These include:

Active participation in the Watershed and EAC meetings;
Adoption of adequate legal authority;
Implementation of BMPs specifically for “Pollutants of Concern”;
Employee Training;
Erosion control BMPs at construction sites;
Street Sweeping;
Continued cleanout of catch basins on a regular basis;
Screening or cleaning of catch basins during and immediately after major events;
Illegal connection and illicit discharge control; and
Critical source inspections

While these activities are more fully detailed within the individual annual reports, individual permittee highlights include:

The Ballona Creek Watershed Management Committee
Annual Assessment 2011-12

III. Summary of Cities:

City of Beverly Hills

FY 2011/12 WMC Assessment for the City of Beverly Hills

Regional Watershed Works:

The Ballona Creek TMDL group started the ambient monitoring for the Metals and Toxics and Bacteria TMDL. The watershed has submitted the Implementation Plan to the Regional Board for review and approval. The City of Beverly Hills paid approximately \$138,000 to the cost of the TMDL MOAs. The watershed group is currently working on a new MOA for the three TMDLs it has been managing.

Employee Training:

One staff member attended three days' worth of training in FY 2011/12. Staff attended the annual CASQA event held in Monterey, California, September 26 -28. The conference theme was "Stormwater Management: Practical Solutions to Changing Conditions."

Catch Basin Inspection and Management:

At the end of FY 2011/12, the City has 513 catch basins surfgates. No additional catch basin surfgates were installed in this fiscal year due to the Stormwater Fund's annual operating deficit. These catch basin surfgates have deterred a total of 5 -tons of solids from going into the storm drain system. In addition, the enhanced six-day per week street sweeping program has collected a total of 1,200 tons of debris from entering the storm drain system. These numbers are significantly higher than previous fiscal years.

Public Educational Activities:

Like last year, budget constraints have prevented the program from publishing educational notes in the annual Consumer Confidence Report (CCR). Instead, staff utilized the City's website to inform stakeholders of the latest General Construction Permit requirements for SWPPP and SWPPP certified preparers. The City also utilized LA County's collateral

City of Beverly Hills

materials. The City used these materials for Earth Day, Woofstock and the Affair in the Gardens events.

The City of Beverly Hills provides tours to Beverly Hills High School students and UCLA Nursing Program. In these tours, the City educated these students on the importance of watershed quality and water resource issues.

The City continues to support LA County's PIPP program by donating \$3,700 in their media contribution fund.

Commercial/Industrial Inspection Activities:

Budget constraints contributed towards the eliminations of one Environmental Program Inspector in recent years. The remaining inspector inspected 106 restaurants this past fiscal year. 5 out of 5 retail gasoline stations were inspected and 10 out of 10 automotive service stations were inspected, as well. 100% of all facilities have been inspected during the permit cycle.

Construction Inspection Activities:

The Environmental Program Inspector visited 14 construction sites in FY 2011/12. 95% of these sites were in compliance during their 1st inspection and were 100% compliant in their second and follow up visits. These sites have implemented minimum BMPs. The success of our program is a result of our aggressive educational program and also require these BMPs during the plan check process.

Sanitary Sewer Overflow Management:

In FY 2011/12, there were 7 SSO events. All spills were responded to and mostly contained and returned to the sanitary sewer system. All SSO events were reported to the CIWQS database. The low number of SSO events is a result of our aggressive wastewater maintenance program which includes 7-day per week coverage.

Illicit Discharge and Illicit Connection Management:

In FY 2011/12, there were no illicit connections discovered and reported to the City. The illicit connection inspection is included during catch basin inspection.

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In FY 2009/10, there were 11 illicit discharge events. The majority of these events are due to cleaning agents in the sidewalk and human trash activities. There were occurrences of illegal pool discharge to the sidewalk. Since the inception of the program, there has been a steady decrease of illicit discharges in the city thanks to a proactive monitor activity conducted by all city field staff.

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City of Culver City

Culver City has complied and will continue to implement the MS4 NPDES Permit until the new version has been adopted. Given that FY11-12 was tough, economically, Culver City was able to sustain its storm water program.

Some highlights that staff worked on are:

- Prop 50 grant was decreased from \$1.25 million to \$1.1 million. Luckily the prices of the full capture devices have significantly gone down. This grant will install 672 full capture devices in catch basins throughout the City. It will also fund 4 rain gardens and place 50 trash and recycling bins in high trash volume areas.
 - The catch basin inserts have had a setback due to attaining LA County permits and sizing issues to the screens. Culver City is working with the County to push and have all units installed by FY12-13.
 - Of the 4 rain gardens, 2 are built and 2 are in design phase. The first built one resides in a residential area and treats drainage that once was flowing directly to Ballona Creek. The second built garden is located on the bike path of Ballona Creek, it is a much larger rain garden that was designed to handle the discharges from the elementary/middle schools.
 - The trash and recycling bins design have been selected and once the units are shipped, they will be placed appropriately throughout the City.
- The City hired a consultant to continue the commercial/industrial inspections; however, there were no inspections this year. Inspections will commence next year once the new permit is adopted.
- New public outreach materials are designed and awaiting approval from management to be released with the adoption of the new permit. The brochures will be used in conjunction with the inspections program.
- All stakeholders have signed all of the TMDL MOAs. Monitoring and special studies have been completed or will continue and the implementation phase will begin soon.
- Other aspects of the permit are sustained and each subsection will be upgraded and modified to comply with the new permit.

City of El Segundo

City of El Segundo

WMC Assessment Summary for 2011/2012

The primary mission of the City of El Segundo is to provide effective and responsive public services, which enhance the safety and quality of life in the community. As a result, the City takes a proactive approach to implementing storm water policies or procedures and the permit itself is viewed as a citywide responsibility with many departments working together as a team.

A large portion of the City's success with its storm water program can be contributed to the effort provided by its staff. All city employees are knowledgeable about the importance of eliminating stormwater pollution. They are very motivated, informed and educated in storm water activities. Staff is also effective at educating the public and promoting storm water BMP's by distributing fliers and brochures to residents, businesses and contractors. In addition, the Fire Department is very active with our Industrial Waste Permit Program and the Community Development and Building Safety Departments ensure that all construction activities are conducted within the guidelines of the permit.

Accomplishments and on-going efforts over the past year have included:

- The City performed enhanced street sweeping in commercial areas.
- The City continues to work on identified water quality projects that will be constructed as part of the Santa Monica Bay Beaches Bacteria Total Maximum Daily Load Implementation Plan. These projects will divert runoff from the ocean and conserve water.
- The City has prepared a best management practice "Help Keep Our Waterways and Oceans Clean" handout for all walk-in's at its City Maintenance Facility. The information is provided to inform residents and City staff how their everyday behaviors and activities can influence water quality. General tips and guidelines regarding landscaping and garden activities, pet waste, car washing, and household hazardous and electronic waste were covered, all of which can help prevent urban runoff and contaminants from reaching the storm drain system, and eventually the ocean. This publication is distributed throughout the City.
- The City has continued to promote and advertise the permanent S.A.F.E. Collection Center Hyperion Plant that is administered by the City of Los Angeles. This site has

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City of El Segundo

given residents an easy and convenient way to dispose of hazardous and electronic waste.

In conclusion, the City plans to continue to improve storm water quality by continued inspection, installing debris guards on catch basins in heavy use areas, public education, staff training and implementation of the TMDL's. The City will also continue to evaluate its program on an ongoing basis for ways to improve storm water quality.

City of Hermosa Beach

Hermosa Beach WMC Summary FY11-2

The City of Hermosa Beach is a small, historic beach town that encompasses only 1.4 square miles, with two miles of popular beaches and is home to over 19,500 residents. As a coastal city focused on surfing and other ocean-oriented activities as well as tourism, maintaining high water quality is an important issue for the City of Hermosa Beach. The City's residents are strongly supportive of proactive environmental measures and actions to protect water quality and the environment. City staff is innovative, progressive and strongly committed to protecting water quality.

Notable accomplishments and highlights of our program include:

A new city ordinance (H.B.M.C. Section 8.40.020) established smoke-free zones at: all public parks; Pier Plaza, the heart of the city's downtown; the Hermosa Beach Pier; outdoor dining areas, including within five feet of the outdoor dining areas; the Strand, which is the sidewalk and bike path adjacent to and running the full length of the beach; the Greenbelt, which is the pedestrian path running the length of the City between Valley Drive and Ardmore Avenue, and City-owned public parking lots. Smoking had already been prohibited on the beach, in city buildings and inside of restaurants.

The City of Hermosa Beach has secured a \$410,000 grant from the state's Strategic Growth Council to create a comprehensive, long-term plan for reducing and eventually eliminating the city's carbon footprint. The funding will be used to hire experts who will update and integrate the city's General Plan and Coastal Land Use Plan to create a "Comprehensive Blueprint for Sustainability and a Low Carbon Future."

The City has completed the final report on the Phase I Hermosa Strand Infiltration Trench, an award-winning full-scale pilot project to evaluate the effectiveness of subsurface infiltration on the beach as an alternative to low flow diversions to the sanitary sewer for compliance with Bacteria Total Maximum Daily Loads. The system effectively removes the bacteria load from the diverted runoff thereby eliminating the bacterial load to the shoreline from the diverted runoff and eliminating REC-1 exceedances associated with discharges from the storm drain during dry weather so long as the system is operating properly. During the first twelve months of operation, alone, the Phase I Hermosa Strand Infiltration Trench system diverted and filtered more than 1.6 million gallons of dry weather and some wet weather runoff from the relatively small but intensely developed drainage area of the Pier Avenue storm drain, effectively removing 100% of the bacteria load from the diverted water. A presentation on the project's

City of Hermosa Beach

effectiveness was delivered at the annual Headwaters to Ocean Conference in May 2012 held in San Diego.

The City completed the effectiveness assessment report on the **Pier Avenue Improvement Project**, a “green” multi-benefit streetscape improvement which retrofits the City’s main street to capture and treat stormwater/urban runoff from residential areas and commercial development in the downtown corridor (36-acre drainage area). It was determined from monitoring data that dry weather flows were eliminated through infiltration and wet weather runoff flows were estimated to be reduced by as much as 71% throughout the project area.

The City installed **certified trash full capture exclusion devices** on 14 City-owned catch basins within the downtown commercial area (four years in advance of the first milestone in the newly adopted Santa Monica Bay Nearshore and Offshore Marine Debris TMDL).



Pier Avenue Improvement Project, Hermosa Beach, CA

In 2010 the City adopted low impact development (LID) requirements as a customized amendment to the California Green Building Code. These LID requirements apply to new

City of Hermosa Beach

development commercial and residential projects regardless of size (i.e., even new development projects not subject to SUSMP under the MS4 Permit are subject to these requirements.

Hermosa Beach has instituted a Water Conservation and Drought Management Plan Ordinance and a Water Efficient Landscape Ordinance that far exceeds State requirements. The City actively enforces the water conservation ordinance which reduces dry weather runoff to Santa Monica Bay as a result of the reduction in outside water use and waste.

The City of Hermosa Beach has instituted a Green Matrix of requirements for special events in the City. The requirements include measures to:

- Reduce waste and single-use items
- Limit and reduce the size of handouts and flyers
- Control litter, contain wastes and prohibit hosing of surfaces
- Increase recycling and solid waste diversion rates
- Provide educational outreach to the public

The section of Hermosa Avenue which runs parallel to the beach from 27th to 35th Streets is equipped with a series of seven (7) filter/infiltration boxes designed by the City's engineering staff to intercept, filter, and infiltrate low flows conveyed down side streets from the areas east of Hermosa Avenue prior to entry into catch basin inlets on Hermosa Avenue.

The City's Dog Regulations include a leash law for all public and private property. Owners are required to carry a visible doggie bag when walking their dogs and must immediately remove and properly dispose of feces. The City has installed and maintains dispensers for pet waste collection bags in municipal parks and along the linear greenbelt. Dogs are prohibited on the beach.

The City has installed Drain Pac® inserts on 31 City-owned catch basins plus an additional 10 County-owned basins. The City cleans both the City-owned catch basins and the ten County-owned basins equipped with Drain Pac®.

The County through grant funding has installed debris excluders on 35 high priority catch basins in the City's commercial district along Hermosa Avenue and Pier Avenue. This has reduced the accumulation of trash and debris in the catch basins and the frequency of required catch basin cleaning. The debris excluders also increase the effectiveness of street sweeping.

The City plumbing code requires grease removal systems for food service establishments

City of Hermosa Beach

(FSEs) and provides for annual inspection of the grease recovery systems. Only facilities which do no frying of food can be exempted, e.g., coffee shops, or sandwich shops with no grilling.

The City of Hermosa Beach cooperates with other agencies on a number of other initiatives:

The City of Hermosa Beach, along with the cities of Manhattan Beach, Redondo Beach, and Torrance in cooperation with the Santa Monica Bay Restoration Commission, has implemented the Clean Bay Restaurant Certification program targeting food service establishments with exposure to stormwater. The agencies developed a comprehensive 28-point storm water inspection checklist that requires 100% compliance in order for the facility to be awarded a Clean Bay Restaurant Certification by the Santa Monica Bay Restoration Commission—this checklist far exceeds the minimum requirements of the current MS4 Permit as does the frequency of inspection which is annual instead of twice in five years under the permit. Compliance with the FOG ordinance is an additional provision of earning the Clean Bay Restaurant Certificate.

The City contributed \$70,000 to jointly fund implementation activities over several years under the Jurisdictional Groups 5 and 6 (J5&6) Implementation Plan which in combination with contributions from other J5&6 agencies totaled \$591,028 in joint implementation activities. While the implementation plan focuses ostensibly on winter dry weather and wet weather compliance measures, benefits are also realized for summer dry weather. The J5&6 Implementation Plan is a three-pronged approach incorporating programmatic/institutional elements, source identification and control, and structural BMP siting.

Jurisdictional Groups 5 & 6 also conduct ongoing joint monitoring under the Coordinated Shoreline Monitoring Plan through a memorandum of agreement.

The City hosts an annual joint household hazardous waste and electronic waste collection event in cooperation with the County of Los Angeles and also promotes the City of Los Angeles' permanent collection centers. The City supports the joint Clean LA campaign headed by the County of Los Angeles

The City's representative participates in the monthly Executive Advisory Committee of the Los Angeles County Municipal Stormwater Permittees, the quarterly Santa Monica Bay-Ballona Creek WMC meetings, the quarterly countywide public education coordination meetings, and monthly Jurisdictional Group 5 & 6 coordination meetings to ensure that the City stays abreast of important storm water/NPDES issues.

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City of Hermosa Beach

The City is also an active participant in the South Bay Cities Council of Governments and its committees, working groups, task forces and other special meetings. Ocean Friendly Landscaping Workshops are conducted through cooperation with the South Bay Environmental Services Center (a non-profit center established by the South Bay Council of Governments), West Basin Municipal Water District and Surfrider Foundation.

The City is a voting member of the Santa Monica Bay Restoration Commission Watershed Advisory Council, and the Mayor of Hermosa Beach is currently serving as an alternate member of the Governing Board of the Santa Monica Bay Restoration Commission.

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City of Los Angeles

Ballona Creek and Santa Monica Bay Watershed Management Committee Annual Assessment 2011-2012

The City of Los Angeles is a member of the Ballona Creek and Santa Monica Bay Watershed Management Committee. Los Angeles follows a multifaceted approach to comply with the provisions of the Stormwater NPDES Permit with increased emphasis placed on complying with newly established as well as anticipated TMDL standards.

- All the Stormwater Program’s social media elements experienced growth during this reporting period. The program redesigned and re-launched its web site (www.LAStormwater.org) and experienced more than 4 million hits. The LA Stormwater Group on Facebook currently boasts 1,793 fans, and a blog (www.LAStormwater.org/blog) receives regular posts from interested stakeholders with the program publishing 87 educational posts. The City’s quarterly e-newsletter, entitled LA Stormwater, continues to experience an increase in the number of subscribers. In 2011, the total number of e-newsletter subscribers was 7,279.
- During this reporting period, the program presented educational assemblies to 9,669 elementary-aged students at 69 schools. On June 7, 2012, the City co-sponsored the 19th annual Kids Ocean Day Beach Clean-Up at Dockweiler Beach with the Malibu Foundation for Environmental Education, Keep Los Angeles Beautiful and the California Coastal Commission. More than 5,000 Los Angeles area students cleaned the beach, collecting several tons of trash and creating a message in the sand (a picture of a shark with the message “Defend the Sea”). Kids Ocean Day received coverage on television, radio, print and online media throughout the world, in the United States, England, Brazil and the Philippines.
- Beginning in 2004, the City has committed \$128.8 million from the City’s Proposition O – Clean Water Bond for nine projects in the watershed designated to improve water quality as well as provide additional benefits. The largest of these projects are the upgrades of the low flow diversion facilities and three projects that target wet weather capture and treatment, all with the goal of assisting the City in achieving compliance with the Santa Monica Bay Beaches Bacteria TMDL standards.
Projects that completed construction during this reporting period:
 - Mar Vista Recreation Center Stormwater BMP
 - Santa Monica Bay Low Flow Diversion (SMB LFD) Upgrades Package #1 (Marquez Ave., Bay Club Drive, Thornton Ave., Venice Pavilion, and Imperial

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- Hwy. LFDs)
- SMB LFD Upgrades Package #2 (Temescal Canyon LFD)
- SMB LFD Upgrades Package #4 (Santa Monica Canyon and Palisades Park LFDs)
- Westside Park Rainwater Irrigation
- Projects in construction at the close of the reporting period:
 - Penmar Water Quality Improvement Phase I
 - SMB LFD Upgrades Package #3 (Coastal Interceptor Relief Sewer)
 - Temescal Canyon Park Stormwater BMP Phase I
- Projects in planning/design at the close of the reporting period:
 - Penmar Water Quality Improvement Phase II
 - SMB LFD Upgrades Package #3 - Phase II of the Coastal Interceptor Relief Sewer
 - Temescal Canyon Park Stormwater BMP Phase II
 - Westchester Stormwater BMP
- The City installed additional 1638 new catch basin opening screens to prevent the discharge of trash into the Ballona Creek. The City is already on target of having reached over 90% reduction in trash discharges into the Ballona Creek as required by the Trash TMDL by September 2012.
- As specified in the respective Coordinated Monitoring Plans, the City continued monitoring of: a) bacteria along Santa Monica Bay shoreline; b) bacteria in Marina del Rey Harbor; c) bacteria in Ballona Creek, Ballona Estuary, and Del Rey Lagoon; d) metals in Ballona Creek; and e) toxics in Ballona Estuary. These monitoring activities are being cost-shared by all TMDL responsible agencies. In July 2011, the City contracted the services of Brown & Caldwell to provide permanent power to the Ballona Creek automatic water samplers. While currently still operating on battery power, these samplers have been fully operational for collecting flow-weighted composite samples during storm events of the 2011/12 wet season. It is expected that permanent power will be in place prior to the start of the 2012/13 wet season. The City continued the collaboration with the County of Los Angeles and the other Marina del Rey watershed agencies regarding the implementation of the Coordinated Monitoring Plan for the Marina del Rey Toxics TMDL. In addition, the Marina del Rey watershed agencies submitted two special studies to the RWQCB that are required by the Toxics TMDL: the Partitioning Coefficient and the Low Detection Level Special Studies.
- In June 2012, the City resubmitted the Implementation Plan for the Ballona Creek Estuary Toxic Pollutants TMDL after receiving comments from the RWQCB in March 2012. The draft Implementation Plan for the Marina del Rey Harbor Toxic Pollutants

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City of Los Angeles

TMDL, addressing the upstream portion of the watershed that is under the jurisdiction of the City, Culver City and Caltrans, was submitted in March 2011 and is awaiting review by the RWQCB before final submittal.

- The City continues to pursue grant opportunities and partnerships with non-City agencies to implement “green” infrastructure projects. In August 2011, the Santa Monica Bay Restoration Commission awarded \$510,000 in grant funding for the University Park Rain Gardens project. The City is partnering with the Los Angeles Conservation Corps, TreePeople, the University of Southern California (USC), and others to install rain gardens that will capture, infiltrate, and biofiltrate dry weather and a portion of stormwater runoff from streets in the vicinity of USC.

City of Manhattan Beach

Manhattan Beach WMC Summary 2010-11

The City of Manhattan Beach fronts 2.1 miles of southern California beaches with a scenic 928-foot long fishing pier. There are 48 acres of parkland in addition to the 21-acre Manhattan Beach Parkway in the 3.88 square mile city. According to the 2010 census, approximately 35,135 people reside in Manhattan Beach. As a coastal city focused on surfing and beach-oriented recreational activity, maintaining high water quality is very important to its residents and City officials.

Specific program highlights and accomplishments include:



On July 14, 2011 the City of Manhattan Beach was notified that it had prevailed in its effort to ban plastic bags through a unanimous California Supreme Court decision in its favor against a challenge by the Save the Plastic Bag Coalition. The City's plastic bag ordinance began implementation on January 14, 2012.

On August 2nd, 2011 the City Council approved an ordinance expanding the areas where outdoor smoking is prohibited to include the Strand walkway adjacent to the beach and Veterans Parkway (the Valley/Ardmore Greenbelt). Previously in 2004 the City Council

City of Manhattan Beach

had prohibited smoking on the beach, the pier and at recreational facilities such as parks, athletic fields and tennis and basketball courts.

The City has completed design of the Greenbelt Infiltration Trench project being funded in part by a grant from Prop 84 Santa Monica Bay Restoration Commission. The project will utilize the linear greenbelt parkland which runs through the City of Manhattan Beach (City) to intercept and infiltrate dry weather and wet weather low flows from existing storm drains to effectively retrofit 55 acres of fully developed residential area.

The Post Office Demonstration Garden as proposed by the City's Environmental Task Force redesigned the landscape surrounding the Manhattan Beach Post Office to create a demonstration garden with high visibility for the community. The City partnered with the Leadership Manhattan Beach 2012 class to fully realize the Sustainable Garden project, which demonstrates the principles and practices of the City's Landscape Sustainability Audit and Community Mulch programs. The Sustainable Garden project was installed in the spring of 2012; the design utilizes recycled materials, climate-appropriate plants, and water-wise irrigation materials to create a beautiful example of sustainable landscaping.

Ten (10) CDS® gross pollutant hydrodynamic separators are installed on major storm drains within the City. The City has also installed approximately sixty (60) debris screens on catch basin openings that have historically required frequent cleaning (Priority A). These screens have significantly reduced trash deposited into catch basins and frequency of catch basin cleaning and together with the CDS units have reduced the discharge of trash and debris to the ocean.

Seven (7) municipal parking lots are retrofit with porous paving. For the 128,226 square feet of porous paving installed, an effective pervious area of 892,951 square feet was achieved.

The 11,000 square feet of median between Aviation Boulevard and Aviation Way is planted with native/drought-tolerant plants and is serviced by a water-saving drip irrigation system. The project eliminates 100% of dry weather runoff.

The City's Fats Oils and Grease (FOG) ordinance requires the installation of grease interceptors and their proper maintenance for all food service establishments that have the potential to generate FOG, and prohibits food grinders. Discharges from food grinders and grease to the sanitary sewer system can be significant contributors to sewer line clogs and sanitary sewer overflows.

City of Manhattan Beach

Manhattan Beach adopted a strict water conservation ordinance that became effective July 2, 2009. This water conservation reduces dry weather runoff to Santa Monica Bay as a result of the reduction in outside water use and waste.

The City has installed and maintains pet waste collection stations equipped with disposable bags for collecting and disposing of pet waste in municipal parks and along the linear greenbelt with a high frequency of use by residents with dogs. The City strictly enforces its leash law in all public parks—although ostensibly for public safety, this law has the secondary effect of reducing the likelihood that a dog will leave a deposit without the owner's knowledge.

The City of Manhattan Beach maintains more than 450 trash receptacles in municipal parks and the public right-of-way. The City utilizes trash receptacles with lids—usually the type with a small hole in the center that allows the user to deposit trash but prevents trash from being blown out of the trash can by wind and also deters birds and other animals from spreading trash. The City also maintains more than 125 additional receptacles for recyclable glass, plastic and aluminum beverage containers along the Strand, the Pier and adjacent parking lots, in the downtown Manhattan Business District and in the North End Business District.

The Manhattan Village Soccer Park is surfaced in synthetic turf which eliminates the need for fertilizer, pesticides or irrigation, thereby reducing pollutant loads and nuisance flows. Dry methods (vacuuming) are used to maintain the fields.

The City of Manhattan Beach cooperated with other cities on a number of activities:

The City expended \$176,913 of its limited funds over several years to jointly fund implementation activities under the Jurisdictional Groups 5 and 6 (J5&6) Implementation Plan which in combination with contributions from other J5&6 agencies totaled \$591,028 in Phase I and Phase II implementation activities. The J5&6 Implementation Plan is a three-pronged approach incorporating programmatic/institutional elements, source identification and control, and structural BMP siting.

Jurisdictional Groups 5 & 6 also conduct joint monitoring under the Coordinated Shoreline Monitoring Plan through a memorandum of agreement.

The City's representative participates in the monthly Executive Advisory Committee of the

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City of Manhattan Beach

Los Angeles County Municipal Stormwater Permittees, the quarterly Ballona Creek WMC meetings, the quarterly Countywide public education coordination meetings, and the monthly Jurisdictional Group 5 & 6 coordination meetings.

The City of Manhattan Beach is also an active participant in the South Bay Cities Council of Governments and its committees, working groups, task forces and other special meetings. The City participates in the Green Task Force of the South Bay COG which is an advisory group that serves as a clearinghouse for policies, programs and projects on energy efficiency, air quality, resource conservation and climate action.

The City of Manhattan Beach hosts the quarterly Santa Monica Bay-Ballona Creek WMC meetings and the City's representative serves as the watershed representative to the Executive Advisory Committee of the Los Angeles County Municipal Stormwater Permittees. The City also participates in the quarterly Countywide public education coordination meetings, and the monthly Jurisdictional Group 5 & 6 coordination meetings.

City of Palos Verdes Estates

Palos Verdes Estates WMC Summary FY11-12

The City of Palos Verdes Estates is a small city of 14,000 residents located on the Palos Verdes Peninsula. The City is primarily residential with a small commercial area consisting of small office spaces and restaurants. There are no industrial areas located within the City. The City of Palos Verdes Estates (City) has implemented programs that are consistent with the County's Storm Water Quality Management Plan (SQMP). The City is in full compliance with all applicable Permit requirements.

Highlights of our program include:

The City is implementing a plan to install full capture devices to achieve compliance with the Machado Lake Trash TMDL. Thirteen (13) Connector Pipe Screens have been installed to date in catch basins throughout the City. In order to minimize the litter/trash discarded on City streets, the City prohibits the use of top-loading trash trucks in the City. Any leaks and spills generated by trash trucks may be subject to City fines.

The City completed the required two inspection cycles of commercial facilities (there are approximately ten within the city, mostly restaurants) during the permit term and continues to inspect its commercial facilities every other year or more often if necessary.

All City landscaping projects are designed with drought tolerant, native plants. The City has a full-time forester who reviews all landscape plans.

The City has developed and implemented code enforcement measures to reduce irrigation/landscape overspray. The City has begun issuing code warnings and violations to residents, and businesses, that allow overspray into storm drains. The City has noticed a reduction of dry-weather flow rates and volumes as a result of this effort.

The City continues to implement an aggressive educational and outreach program. Ongoing educational/outreach efforts include:

- The City maintains an environmental webpage within the City's website, featuring storm water and pollution prevention information. The environmental webpage provides valuable information to the public regarding storm water best management practices, links to other environmental websites, and information on pollution prevention and recycling. In addition, information on storm water pollution and other environmental issues are periodically

City of Palos Verdes Estates

highlighted in the City's newsletter.

- Each year, the City participates in at least two community events. Depending on the event, stormwater outreach may utilize an EnviroScape™ Stormwater Model to educate residents on storm water pollution. The model is an interactive tool which demonstrates how storm water pollution enters the storm drain system from various land uses and is well received by the community.
- Palos Verdes Estates also hosts a Coastal Clean-up Day site and utilizes the event to distribute informational materials to the community.
- The City regularly distributes flyers for Household Hazardous Waste, E-waste, and for all nearby roundup events via public counter, hardware store, and used oil recycling center.
- The City actively works with local schools to promote environmental and stormwater education. Staff provide assistance to the local high school in implementing its recycling program and is working with students to develop an environmental awareness calendar.

The City cooperates with other agencies on a number of initiatives:

The City in cooperation with sister cities on the Palos Verdes Peninsula this year completed the first eleven months of monthly monitoring under the Palos Verdes Peninsula Coordinated Monitoring Plan for the Machado Lake Nutrient TMDL.

The Palos Verdes Peninsula Cities Implementation Plan for the Machado Lake Nutrient TMDL includes joint coordination of public outreach programs, e.g., the incorporated cities on the Palos Verdes Peninsula ran a quarterly full-color add in the Palos Verdes Peninsula News on stormwater pollution prevention targeting source control of nutrient pollution.

Participation in Jurisdictional Group 7 coordination meetings to work together to protect beach water quality along the Peninsula shoreline--three of the shoreline monitoring locations on the Palos Verdes Peninsula were listed on Heal the Bay's 2011-12 Honor Roll including Bluff Cove adjacent to the City of Palos Verdes Estates.

The City participates in the required watershed management committee meetings for Santa Monica Bay-Ballona Creek Watershed as well as additional meetings among the Peninsula

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City of Palos Verdes Estates

cities and with the Dominguez Channel Watershed Management Committee. These meetings provide cities an opportunity to discuss important information regarding Permit issues and to address issues of problems and concerns encountered while implementing individual programs.

The City of Palos Verdes Estates also contributed funding to the County-wide storm water pollution prevention campaign and participated in the County-led quarterly LA County Public Outreach Strategy meetings.

City of Rancho Palos Verdes

The City continues to remain in compliance with MS4 permit requirements by implementing the tasks designated in the permit on schedule and meeting all required deadlines. In addition, the City continues to collaborate with other outside agencies to mitigate stormwater pollution to the maximum extent practicable. The City has also been very proactive in outreaching to the public, below is a list of outreach efforts the city made during this reporting period:

- A community earth day event was hosted on April 22 by a homeowner association in the City to promote the awareness of green lifestyles/products and natural world. The news about the event was published in the PV News on April 19.
- The annual Household Hazardous Waste /E-waste roundup event (May 5, 2012) was well promoted to its residents via city's newsletter, City website, list server emails, banners, Peninsula Newsletter For Active Seniors, Palos Verdes News articles, Peninsula People magazine, and the City's waste hauler newsletter mailer. As a result, 1525 households were served and more than 15,800 lbs of household hazardous waste, as well as hundreds of gallons of used oil were properly recycled.
- The City continued to implement the Clean Bay Restaurant Certification Program in partnership with the Santa Monica Bay Restoration Commission. During this reporting period, 31 restaurants were awarded with the certification.
- Rancho Palos Verdes continued its efforts, along with the County's, to implement the annual restaurant outreach program. The program consists of annual outreach to all restaurants through a mailer which emphasizes sidewalk, patio & parking lot cleaning and maintenance management practices.
- The City continued to be the lead agency in Jurisdiction 7 for the Santa Monica Bay Bacteria TMDLs, and will continue these efforts in the upcoming reporting year.
- The City was active in the Peninsula Cities TMDL work group which developed Monitoring and Implementation Plans for the Machado Lake Nutrient TMDL this year. As part of the Implementation Plan, the Peninsula Cities are developing a joint outreach as addressing potential nutrients sources.
- The City's Stormwater and Used Oil programs collaborated to produce an advertisement with tips to prevent stormwater pollution. The ad was published in the Palos Verdes News on March 29.

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City of Rancho Palos Verdes

- The City's Stormwater and Used oil programs collaborated to produce an advertisement with tips to prevent stormwater pollution. The ad was published in the annual Concours d'Elegance Car Show magazine in September 2011.
- The City continued to air informational programming on its local station, Channel 33 to inform residents about the stormwater related issue.
- The City promoted various recycling events and composting workshops throughout the year in city newsletter, City website, Palos Verdes News articles, press releases, list server emails, banners, as well as in its waste hauler's newsletter.
- The City contributed to the County stormwater pollution media campaign.
- The City continuously promotes the use of the Gaffey SAFE center for the proper disposal of HHW and e-waste via the City website, newsletter, and hauler newsletter and at the City's various events. The center is open every weekend.
- The City has participated in 4 events throughout the year
 - 4th of July Celebration (7/4/2011)
 - Annual Coastal Clean Up Day (9/17/2011)
 - Whale of A Day (3/3/2012), and
 - Pet Vaccination Clinic (5/23, 2012)

City of Redondo Beach

City of Redondo Beach
Storm Water Program Summary Highlights
The Watershed Assessment Report
FY 2011-12

SMBBB TMDLs

- The City is the lead agency for Jurisdictions 5&6 of the SMBBB TMDL, a group effort that developed the joint monitoring and the Implementation Plan to comply with the TMDL's. The Implementation Plan includes programmatic and structural programs' BMPs. These tasks have been individually distinguished and separately assigned with specific deliverables for proper implementations.
- Programmatic tasks such as outreach to schools, graphic art contest, conducting a survey, design of inspection manual, inspectors round table, Parks and Recs activities evaluation and checklist, website design, compiling a list of available stormwater educational videos and DVDs, identifying appropriate speakers, designating targeted audience, developing restaurant and pet waste BMP brochures, website design, installation and monitoring it have been the main accomplishments of the Implementation phase of the Plan.
- The City has also started implementing the structural BMP tasks of the Plan by conducting initial studies and obtaining samples to determine the most adequate catchments for such BMPs. The study included samples of dry weather at various locations of the storm drain system within the Jurisdictions as wells as samples near the sanitary sewers to determine any possible leakages. The J5/6 agencies have already completed Phase I of the Site-Specific Structural BMP management approach of the IP utilizing available grant funding to pilot various structural BMPs. Consistent with Phase II of the Site-Specific Structural BMP management approach of the IP, evaluation of the performance of these pilot projects were completed. Based on experience with the BMP pilot projects, the agencies decided to move forward with Phase III of the Structural BMP management approach utilizing infiltration-based structural BMPs in the two high priority drainage areas if funds are available. A structural BMP siting study is underway and the study was completed in FY 11/12.. The structural BMPs for the IP are a major component in achieving compliance with the SMBBB TMDL. However, it is anticipated that the Programmatic Solutions and Source Identification and Control components will also help achieve compliance through less intrusive, less expensive routes and therefore it should not be necessary that 100% compliance be achieved with the Structural BMPs

City of Redondo Beach

alone. A full report of findings is available at the City.

- The City has obtained a permit from the Los Angeles County Beaches and Harbors Department and installed a Dry-Weather diversion facility to stop all discharges from the Sapphire Street storm drain during dry weather year around. This facility was made operational in July 2010.
- Rain Water Harvesting is an important means of helping meet the water needs of Southern California. The City operates a facility that captures rain since May 2011. This facility can divert and capture up to six million gallons of rain water a year for irrigation use or infiltration into the underground soils. Diversions from the storm drain system will reduce the amount of rain water, along with the bacteria and other pollutants it carries, from being discharged into the Santa Monica Bay – thus improving water quality and reducing the number of days bacteria concentrations in the water exceed healthful standards. Since December 2011, when diversion recorder keeping began, the facility has diverted 1.6 million gallons of rain water and urban runoff.
- The City worked with the Sanitation District and the Los Angeles Conservation Corps to conduct a study of ocean water quality around the pier in order to identify the source or sources of bacteria. The study was completed in February 2010
- The City has installed thirty eight (38) smart manhole covers that monitor the sewer level and alarm the City when the level rises.

The “Restaurant Certification Program”

- This program was launched and developed. The city jointly with the Santa Monica Bay Restoration Commission and the neighboring agencies implemented the “Clean Bay Restaurant Certification Program”. This program has been designed to target restaurants and modify the operator’s behaviors by providing incentives to encourage the implementation of appropriate BMPs.
- The City has inspected the restaurants regularly with the goal of visiting each establishment at least twice per year. This is far above and beyond the NPDES permit requirement of once every thirty months. The critical sources have also been the target establishments to be inspected by the City at a minimum of once every 30 months.
- Clean Bay Restaurant Certification Student Participation program- Participants on this field trip included 26 students from a Redondo Union High School AP Environmental

City of Redondo Beach

Science class and 8 students from Perras Middle School's Club Earth. Each student group was taught storm water quality management in the form of Best Management Practices for a restaurant's indoor and out door areas. Fats, oils and grease handling included use of grease removal devices and proper storage and recycling of used fry oil. Runoff pollution control included maintaining trash bins, storage areas and parking lots. This field trip helped the students understand, appreciate and remember the importance of pollution prevention. The restaurants were representative of corporate owned establishments (McDonald's, Panda Express, Subway) as well as small family owned (The Standing Room, Ham Supreme Shops). The students were given posters and brochures for further class room discussion and reinforcement of practices.



Trash Reduction BMPs

- The City has received a state grant for \$600,000 to install structural BMPs designed to reduce the accumulation of trash. The construction of the first BMP continuous deflection system (CDS) was completed in November of 2002. A second CDS unit was installed in Oct. 2003. A Third CDS unit was installed in April 2005 and a fourth was installed in May 2005.
- The \$350,000 State Grant was received for improving water quality around the City's Municipal Pier. Improvements funded by the grant include replacing sewer mains under the pier, installation of a fish cleaning station, constructing covered trash enclosures and replace trash receptacles on the pier. Installation of a low flow diversion on a storm drain that discharges under the pier was completed in April 2005.
- The City completed the installation of two pilot projects in the harbor area. These projects include the installation of trash filters in the drain inlets and re-routing roof

City of Redondo Beach

gutters on the pier diverting runoff from direct discharge in to the ocean. Construction was completed in February 2010.

Public Education BMPs

- The City has continued the pet waste awareness program in conjunction with the animal control and pet related businesses (i.e. veterinarians, pet stores). The City's website provides helpful tips for the pet owners. The City has an on-going program to hand out free pet waste collection bags at the City Engineering Counter.
 - The City's Quarterly Newsletter ads published information regarding the City's storm water program as well as promoting the various related events and helpful tips.
 - The Mayor and City Council formed a Water Quality Task Force in August 2005 made up of a diverse cross section of the community include individuals from teachers, youth, boaters, non-profit, general public, chamber of commerce, and harbor businesses. The Task Force is to provide the City Council with recommendations that will address water quality in the harbor and other waterfront areas of the City.
 - The Green Task Force was established in January 2007, for the purpose of improving community knowledge of environmental topics and encouraging practices which protect the environment. This task force has been served as a model in the region which considers the tremendous growth of interest in green issues and environmental concerns.
 - The City council approved an increase in the wastewater sewer user fee. This fee increase will help fund new State sewer system operational mandates to reduce sewer overflows.
 - The City adopted the Non-Smoking Beach Ordinance
-

City of Rolling Hills

City of Rolling Hills WMC Summary 2011-12

The City of Rolling Hills is a private, entirely residential community of single-family homes located on the Palos Verdes Peninsula. The City has a very small population of 1,860 residents in three square miles. There are just 684 single-family one-story homes, only 15 undeveloped lots remain with an additional 13 undevelopable lots in a landslide area. Minimum lot size is 1 acre; the average lot size is 2.7 acres. There is no public infrastructure, and no City-owned or maintained storm drains, roads, sewers, sidewalks or curb-and-gutter. Accordingly, many of the NPDES Permit requirements do not apply to the City, however the City of Rolling Hills is in full compliance with applicable permit requirements.

Highlights of the City's stormwater pollution prevention programs include:

Rolling Hills, as a municipality and in its geography, is unique. The City is by design a low density, low impact, rural residential community with primary drainage conveyed via natural canyons. Dry weather flows and small rainfall events are infiltrated within the natural soft-bottom canyons which are the primary drainage system. Storm water from private property drains into largely undisturbed heavily vegetated natural soft bottom canyons; there is no continuous improved storm drain system throughout the City. Source control is the primary means available to the City for maintaining and improving water quality; structural control/treatment devices are neither feasible nor environmentally appropriate in natural canyons nor does the City have easements in the canyons.

The City of Rolling Hills has now completed a second year of monitoring in accordance with the Trash Monitoring and Reporting Plan. The results for the second year of monitoring demonstrate that the City's current BMPs (the City's low-impact characteristics and routine maintenance practices) achieved 99.96% reduction of trash from annual trash generation rate and 99.98% load reduction when measured against the baseline waste load allocation. This additional data confirms previous results which established that the City is not now and has not previously been contributing trash to Machado Lake and that the City of Rolling Hills is not contributory to the 303d listing of Machado Lake nor the Santa Monica Bay Marine Debris listing.

The City of Rolling Hills is a hillside community and some areas of the City are prone to unstable geology and landslides, which limit onsite retention of stormwater beyond that which can be achieved by preserving pervious area and natural topography and vegetation. The City's Zoning Ordinance contains strict standards for development ratios on each property. Only 40% of the net lot area of a lot may be disturbed for construction. Only 35% of the net

City of Rolling Hills

lot area may be developed with impervious surfaces, including all structures, patios and other paved areas. Given that the minimum lot size in the City is one acre, this provision promotes infiltration of storm waters into the ground instead of onto streets. Residential roof runoff is also required to be diverted to vegetated areas before discharge.

The City's Zoning Ordinance precludes large impervious surfaces, i.e., driveways may not cover more than 20% of the area of the yard in which they are located; uncovered motor courts/parking pads may not cover more than 10% of the yard in which they are located. Tennis and sports courts are encouraged to have pervious surfaces.

The City encourages residents to install pervious surfaces when landscaping or installing/reconstructing driveways. Many residents have resurfaced their driveways with porous material. Stable access-ways may not be entirely paved and are encouraged to be 100% gravel.

City ordinance requires that residential solid waste containers be stored within a trash enclosure located in the side or rear yard. Trash enclosures must be designed with a solid wood fence or concrete wall six feet high on a cement or asphalt base with self-locking gate. Manure collection and recycling service for horse owners is available through the City's franchise hauler. The City's franchise solid waste hauler collects manure at no extra charge to residents. Alternatively if a larger bin for manure storage and hauling is needed, the solid waste franchise hauler will provide a special bin for such purpose for an additional fee.

Community association maintenance staff picks up any stray trash observed along roadsides or trails during daily rounds and every Friday conducts systematic patrol of roadways and trails specifically to collect stray litter or trash.

The City of Rolling Hills' newsletter is prepared by staff and mailed to every residence twice per month and includes frequent articles on storm water pollution prevention as well as related environmental issues. Brochures and flyers on various storm water best management practices (BMPs) are also available at the City Hall counter and at the Rolling Hills Community Association offices.

The City of Rolling Hills cooperated with other cities on the Palos Verdes Peninsula in a number of activities including:

- The City in cooperation with sister cities on the Palos Verdes Peninsula this year completed the first eleven months of monthly monitoring under the Palos Verdes

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City of Rolling Hills

Peninsula Coordinated Monitoring Plan

- Implementation of the Palos Verdes Peninsula Cities Implementation Plan for the Machado Lake Nutrient TMDL with joint coordination of public outreach—the incorporated cities on the Palos Verdes Peninsula ran a quarterly full-color add in the Palos Verdes Peninsula News on stormwater pollution prevention targeting source control of nutrient pollution.
- Participation in Jurisdictional Group 7 coordination meetings to work together to ensure that beach water quality on the Peninsula is protected--three of the shoreline monitoring locations on the Palos Verdes Peninsula were listed on Heal the Bay's 2011-12 Honor Roll.
- Partnership with the City of Rolling Hills Estates in staffing a stormwater quality educational booth at the local Earth Day event with the assistance of local youth
- Promotion of local household hazardous waste and electronic waste collection events.

The City's consultant also attends the monthly Executive Advisory Committee of the Los Angeles County Municipal Permittees, the quarterly Ballona Creek WMC meetings, the quarterly countywide public education coordination meetings to ensure that the City stays abreast of important storm water/NPDES issues.

The City is represented in the South Bay Cities Council of Governments and its committees, working groups, task forces and other special meetings including the Green Task Force of the South Bay COG which is an advisory group that serves as a clearinghouse for policies, programs and projects on energy efficiency, air quality, resource conservation and climate action.

Don't Drown Our Waterways in Pollution...
...Instead be the Pollution Solution!

You Can Be the Solution to Pollution

Watch how you use and dispose of different materials around your home. Fertilizer, yard clippings, automotive fluids, and animal waste can all be sources of pollution in our waterbodies. Please take care with these materials around your home, because your actions DO make a difference.

- Apply Fertilizer and Pesticides SPARINGLY and never apply these materials prior to rain!
- Make sure all leaf blowers, if used, do not blow yard clippings into the street or canyons.
- Talk to your gardener or landscaper about proper ways to dispose of yard waste and debris.
- Do not dump manure or yard waste into streets, or canyons, or on slopes; it can make GREAT composting material and can also be recycled.
- Clean up after pets and dispose of waste into a trash can, don't let them wash away.
- Collect and recycle used oil and filters when servicing your vehicle.
- Fix all oil leaks and use an absorbent material such as kitty litter to clean up spills.
- For more information on protecting our precious resources log onto: www.888CLEANLA.com

Nutrients can change the delicate balance of food and oxygen in fresh and coastal waters. An abundance of nutrients can result in algae blooms, dead zones, die offs, and change marine habitat. Nutrients are often found in fertilizers and other garden chemicals, along with animal waste, including manure.

Reduce - Reuse - Recycle

A message from the Cities of Rancho Palos Verdes, Rolling Hills Estates, Rolling Hills and Palos Verdes Estates.
Funded in part by a grant from Caltrans.

City of Rolling Hills Estates

Rolling Hills Estates WMC Summary FY2011-12

The City of Rolling Hills Estates is a small contract city of approximately 8,000 residents with a small full-time staff. The City, which is located on the Palos Verdes Peninsula in Southwest Los Angeles County, is predominantly residential, encompassing 4.2 square miles with a significant equestrian community, a central commercial district, and very little industrial zoning.

The City has a significant amount of dedicated open space including six parks, 25 miles of equestrian trails. Significant portions of the City's drainage system consist of natural, unimproved, canyons. The City has dedicated the George F Canyon Nature Center and Stein-Hale Nature Trail as a riparian preserve for public enjoyment with both passive and active education programs. We have partnered with the Palos Verdes Peninsula Land Conservancy in the preservation and restoration of coastal sage habitat and the endangered Palos Verdes Blue Butterfly at the Linden S. Chandler Preserve and at George F Canyon Nature Preserve.

The City's notable accomplishments this year with respect to NPDES programs as well as highlights of the City's ongoing program include:

The City completed installation of certified full capture devices for trash on 26 catch basins within Priority 1 areas of the City, completing the first phase of implementation under the Machado Lake Trash TMDL. These connector pipe screen devices were installed on seven (7) City-owned catch basins, and nineteen (19) County-owned catch basins.

The City in cooperation with sister cities on the Palos Verdes Peninsula this year conducted the first eleven months of monthly monitoring under the Palos Verdes Peninsula Coordinated Monitoring Plan consistent with the Machado Lake Nutrient TMDL.

The franchise solid waste hauler has converted all of its fleet used within the City of Rolling Hills Estates to CNG (compressed natural gas). This not only contributes to a reduction in greenhouse gas emissions, but also the reduction of local air deposition loading of nitrite/nitrate (NO_x) within the Machado Lake Watershed.

In July 2010 the City of Rolling Hills Estates adopted a Water Efficient Landscape ordinance and guidelines in accordance with statewide requirements. The City also has a water conservation ordinance applicable to existing and new development of all land use types. The anti-waste provisions of this ordinance not only conserve water but also reduce runoff.

City of Rolling Hills Estates

The City's residential solid waste service requires use of automated carts with hinged lids that prevent wind-blown and vector scattering of trash or green waste prior to collection. The City contracts for street sweeping at least twice per month throughout the entire city. The City has a proactive litter abatement program for keeping public rights-of-way, streets, medians, parks, and trails free of litter and debris. It also has a successful Adopt-a-Trail Cleanup and Maintenance program. The City has placed recycling bins for beverage containers in City parks with particular emphasis on parks with playing fields that are heavily utilized for youth sports programs.

The City provides curbside pickup of used oil and filters and compact fluorescent bulbs for recycling along with yard waste and other recyclables. Used oil filter collection through the City's curbside collection program increased by 73% in 2011. The City has also initiated a new program to include home-based collection of all household hazardous waste, e.g., paint, aerosol cans, and household cleaners.



City of Rolling Hills Estates

Manure collection and recycling service for horse owners is available through the City's franchise hauler. The City's solid waste ordinance prohibits improper disposal of manure and requires that manure not composted in an enclosed container must be removed completely from individual properties at least once per week. Based on manure collection rates provided by the City's solid waste franchise hauler, there has been an increase in manure diversion by 48% since instituting the current solid waste franchise agreement in 2006. Given that the horse population has remained relatively constant over the years, the City attributes the increase in manure recycling to a higher public awareness achieved through outreach, education and code enforcement.

City parks are equipped with pet waste clean-up stations and leash laws are strictly enforced.

The City of Rolling Hills Estates cooperated with other cities on the Palos Verdes Peninsula and the Machado Lake Watershed in a number of activities including:

- joint implementation of the Palos Verdes Peninsula Cities Implementation Plan and Coordinated Monitoring Plan for the Machado Lake Nutrient TMDL
- The City of Rolling Hills Estates in cooperation with the three other incorporated cities on the Palos Verdes Peninsula ran a quarterly full-color add in the Palos Verdes Peninsula News on stormwater pollution prevention targeting source control of nutrient pollution.
- participation in Jurisdictional Group 7 coordination meetings to protect beach water quality on the Peninsula--three of the shoreline monitoring locations on the Palos Verdes Peninsula were listed on Heal the Bay's 2011-12 Honor Roll.
- partnership with the City of Rolling Hills in sponsoring an Earth Day water quality booth at the local shopping mall
- joint promotion of local household hazardous waste and electronic waste collection events
- issuing a joint ad with the City of Rancho Palos Verdes promoting used oil and filter recycling in the local auto show program magazine

The City's representative attends the monthly Executive Advisory Committee of the Los

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City of Rolling Hills Estates

Angeles County Municipal Permittees, the quarterly Santa Monica Bay-Ballona Creek WMC meetings, and the quarterly countywide public education coordination meetings, to ensure that the City stays abreast of important storm water/NPDES issues. The City is also an active participant in the South Bay Cities Council of Governments and its committees, working groups, task forces and other special meetings. The City participates in the Green Task Force of the South Bay COG which is an advisory group that serves as a clearinghouse for policies, programs and projects on energy efficiency, air quality, resource conservation and climate action.

City of Santa Monica

City of Santa Monica Watershed Accomplishments FY11-12

The City has a goal of providing BMP treatment systems for all dry weather runoff and up to 80% of wet weather runoff leaving its borders whether to the Ballona Creek or Santa Monica Bay watersheds. Aided by a 1995 stormwater parcel fee and a 2006 Clean Oceans special tax, the City is well on its way to meeting its goal. Through its watershed management plan, passed in the summer 2006, the City is doing an excellent job in meeting the requirements in the NPDES permit. The City also continues to require the installation of post-construction structural BMPs for all land uses, both private and public, not just merely for the categories of the SUSMP.

2011-12 Highlights:

- Continued dedication of the City Council, managers and staff who believe in the City's sustainable policies in protecting our coastal waters. Existing laws and programs have allowed the City to build a very solid foundation in the ongoing effort to maintain clean waterways and beaches.
- Ongoing maintenance of about 650 city catch basins-storm drains, both with and without screens (some retractable)/filtering inserts, as well as other larger off-line centralized BMPs, such as screening-separation vortex and non-vortex proprietary systems.
- Ongoing design of a comprehensive trash removal strategy in the Kenter Canyon sub-watershed to meet the Santa Monica Bay Marine Debris TMDL.
- Ongoing implementation of the City's urban runoff pollution mitigation ordinance, SMMC 7.10, which promotes Low Impact Development solutions in lieu of treat and release systems.
- Implementation of the City's second year of its 5-year CIP Low Impact Development Plan, which enumerates 10 categories of watershed projects to be constructed with Clean Beaches funding, which included five permeable alleys. Development of designs for a parkway high efficiency bio-filtration pilot project.
- 11th year of successful SMURRF operations and tours.
- Installation of 133 new BMPs around the City (public and private).
- Beginning of two grant-funded projects: WaterSMART to help fund Master Sustainable

City of Santa Monica

Water Plan 2020; Proposition 84, In-Line Runoff Harvesting and Infiltration Project

- Commencement of installation of the City's 3rd green street, Ocean Park Blvd.
- Commencement of construction of new Civic park and botanical garden, which include three vertical infiltration structures for runoff harvesting.
- Approval by LA County Public Health of the Southern California rainwater-stormwater-runoff harvesting regulatory policy matrix.
- Completion of design of a new library that will include a 13,000 gallon cistern for indoor flushing, first such project in the City.

In an attempt to enhance the effectiveness of its program, the City works on a monthly basis with its watershed councils, the county, and City of LA on partnerships and efforts to reduce runoff pollution.

Weekly enforcement patrols help enforce city regulations to reduce urban runoff and pollution, as well as educate the public about watershed issues and solutions.

Efforts continue to design and implement projects for the Implementation Plan of the Bacterial Wet Weather TMDL for Santa Monica Bay Beaches.

Neal Shapiro, 8/29/12

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City of West Hollywood

City of West Hollywood
Ballona Creek
Watershed Management Committee
Watershed Summary
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Compliance with Permit Requirements:

The City has continued to implement all areas of the permit, targeted pollutants of concern and took additional steps to prevent spills and discharges.

The City's pollutants of concern – bacteria from pet waste, cigarettes from pedestrians, restaurants and bars & toxics and metals from parking lots and streets – continue to be addressed by a variety of methods including daily street sweeping, daily hand pick-up of litter, pet waste stations, steam cleaning of sidewalks and alleys, mandatory cigarette disposal receptacles at outdoor dining areas and aggressive code enforcement of excess trash and other NPDES related discharges. The City maintains 81 pet waste stations. The sewer inspection and maintenance project, budgeted at \$700,000 per year, is ongoing.

In 2007, West Hollywood's City Council formed an Environmental Task Force for input about water conservation, urban runoff and other environmental issues. The group presented its recommendations, which addressed: permeable surfaces, composting, a ban on plastic bags, enforcement of the polystyrene ordinance, waste reduction and urban runoff.

The City Council approved the mandatory Green Building Program for all commercial and residential projects greater than three units in 2007. The program requires compliance in areas of irrigation, water use and water efficient landscape. The ordinance also addresses: use of low emitting adhesives, sealants, paints and coatings, use of low emitting materials, composite wood and agrifiber products, indoor chemical and pollutant source control, recycled content, formaldehyde free insulation, use of composite wood without urea formaldehyde; no-VOC paints on exterior applications and other practices.

Evaluation Methods Used to Determine Program Effectiveness:

One of the most important measures are the monitoring reports for pollutants of concern in Ballona Creek. The City receives monthly reports for bacteria levels. The City continues to meet every other month with other cities within the Ballona Creek Watershed, to implement

City of West Hollywood

the Bacteria, Toxics and Metals TMDL's Monitoring & Implementation Plans. City staff attends LA County's quarterly NPDES Public Outreach meetings and any Ballona Creek Watershed meetings, as well. The reports help determine what additional BMPs should be installed and where.

Locally, a major indicator of the stormwater program effectiveness is the number of citations issued by the City's Code Compliance Divisions. This year, 15 stormwater related citations were issued, with one additional NPDES complaint addressed with a verbal warning, given by the City's NPDES Consultant, John L. Hunter & Associates. All complaints were resolved. The City's approach of educating and working together with business owners/managers and residents helps create awareness and facilitates active participation in helping reduce activities that contribute to stormwater pollution.

Summary of Program Strengths and Weaknesses:

At 1.9 sq miles, the City of West Hollywood can be monitored for illegal discharges fairly easily. The Code Compliance Divisions are aggressive about enforcement. Other City Divisions, such as Street Maintenance, are also well trained to spot problem areas at businesses and construction sites. Constituents are well informed about urban runoff and report problems readily. Neighborhood Watch groups assist in getting the word out about bacteria from pet waste and identify where additional pet waste stations should be installed. Volunteers from these groups, as well as Sheriff's volunteers and Code Compliance Officers distribute biodegradable plastic pet waste bags to dog walkers, as these opportunities arise.

Weaknesses include a steady turnover of restaurant, bar and hotel management/staff, which necessitates continual retraining and monitoring of these businesses. This challenge is not unique to West Hollywood, but can be seen countywide.

Highlights and Accomplishments:

1. To address bacteria, more pet waste stations have been - added for a current total of 81.
2. Aggressive Code Compliance efforts and educational outreach to restaurants, hotels and residents.
3. Mandatory green building ordinance in place, with toxics reduction and urban runoff measures spelled out.
4. Alternatives to styrofoam/polystyrene on City's website.
5. Plastic bag ban sent to Council; ordinance to be crafted. (Pending)
6. Resolution in support of SB 568(LOWENTHAL) Recycling: Polystyrene Food

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City of West Hollywood

Containers.

Water Quality Improvements or Degradation in the Watershed:

No significant improvement or degradation noted.

Interagency Cooperation:

The City works closely with many agencies to mitigate urban runoff. One of the most effective partnerships is with the cities of Culver City and Beverly Hills. These three cities collaborate on a Used Oil Recycling Grant and work together as “Westside Cities” to strategically use the funds to protect Ballona Creek.

The City continues to meet every other month with other cities within the Ballona Creek Watershed, to implement the Bacteria, Toxics and Metals TMDL’s Monitoring & Implementation Plans. City staff attends LA County’s quarterly NPDES Public Outreach meetings and any Ballona Creek Watershed meetings, as well.

Future Plans to Improve West Hollywood’s Program:

The City continues its work on an ordinance to ban plastic bags. The outreach to businesses is being coordinated with the City’s Economic Development Division and West Hollywood Chamber of Commerce. Since the ban is closely tied to urban runoff and protection of marine life, the outreach will integrate other aspects of pollution prevention including promotion of alternatives to polystyrene.

We expect the new upcoming NPDES permit and the City’s own General Plan updates to further strengthen pollution prevention efforts.

Suggestions to Improve Effectiveness of the City’s Program or LA County’s Model Programs:

Public Outreach materials from LA County, available in Russian, as the City of West Hollywood has a large Russian community - who benefits greatly when information is available in a bilingual format.

IV. Identification of Effective/Ineffective BMPs:

Ballona Creek Watershed permittees continue to implement BMPs as required by the SQMP. While no independent analysis of the effectiveness of individual BMPs has been conducted by the WMC, BMPs that are considered to be effective include:

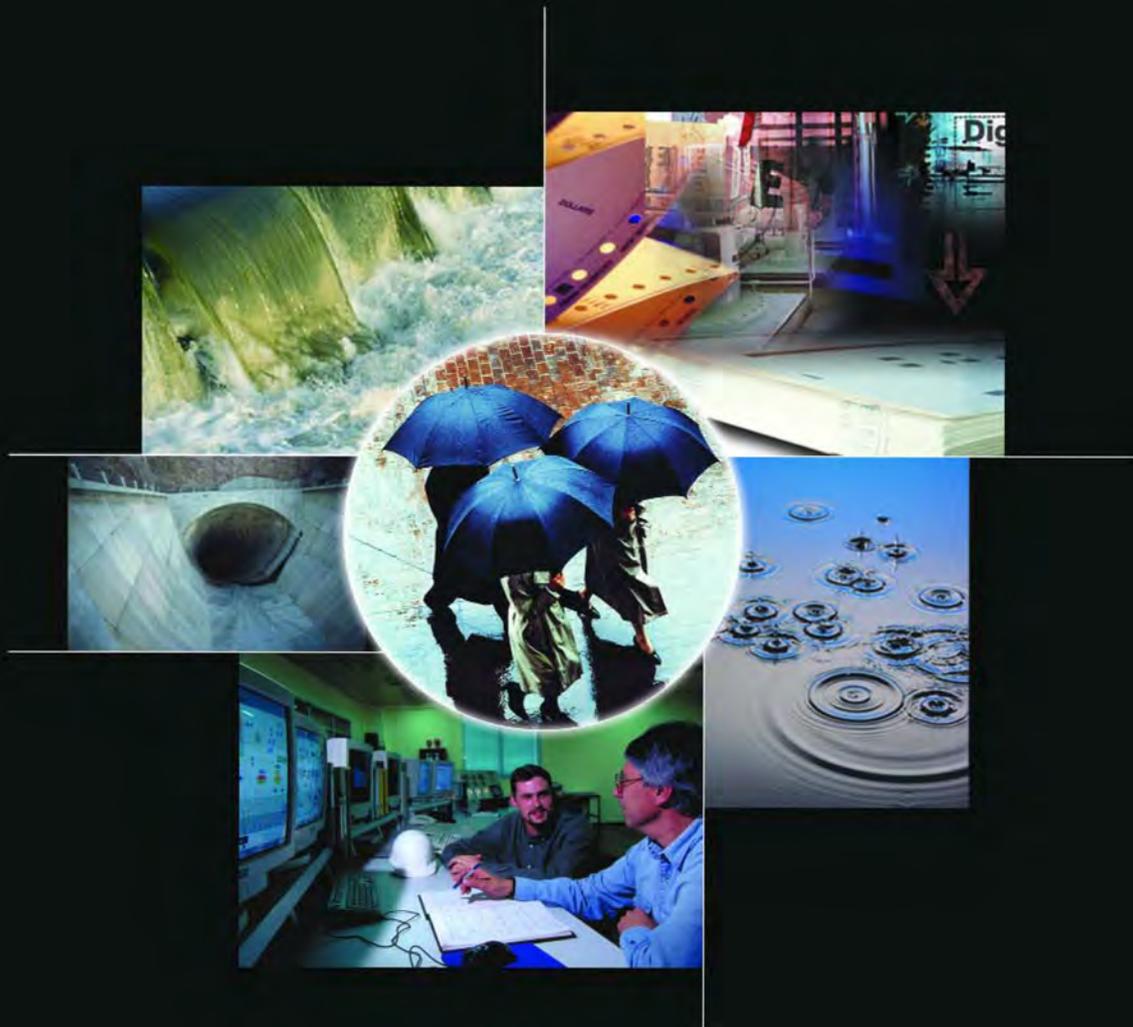
- ❖ Street sweeping;
- ❖ Catch basin cleaning;
- ❖ Catch basin inserts and end-of pipe controls;
- ❖ Infiltration controls;
- ❖ Erosion controls; and
- ❖ Public education and outreach

In addition to the Countywide SQMP the Santa Monica Bay Watershed Permittees are implementing additional BMPs through Implementation Plans developed and coordinated by the Jurisdictional Groups for the Santa Monica Bay Beaches Bacteria TMDL. By proper design, regulation, and proper implementation of BMPs, the impact of urbanization and pollution on local watersheds can be considerably reduced to continue to improve water quality.

NOTE: Individual City comments were submitted by the cities and were not reviewed or modified for content by the Watershed Management Committee.

ATTACHMENT I-1

2005 STORMWATER UTILITY SURVEY



BLACK & VEATCH
building a **world** of difference™

ENERGY WATER INFORMATION GOVERNMENT

Black & Veatch is pleased to provide the results of its sixth national Stormwater Utility Survey, to help those involved in the stormwater industry stay well-informed across a range of issues. The survey results offer insight into the following topics:

- Organization/Administration
- Planning
- Operations
- Finance/Accounting
- Stormwater User Fees and Billing
- Quality Issues – Best Management Practices
- Public Information/Education
- Major Challenges Recently Faced
- Significant Events Affecting Utilities

These results can be used for numerous purposes, from performance management to financial planning to organization strengthening. At Black & Veatch, we understand the value of knowing what others are doing in the industry. For 90 years, meeting the needs of the utility industry has been at the core of our business. We are happy to discuss any questions you might have regarding this survey.

Profile of Respondents

- Responses were received from 99 utilities in 21 states and one Canadian province. All of these utilities are funded in whole or in part through user fees.
- Approximately 86 percent of the respondents serve a city, rather than a county or region.
- The population served by the respondents ranges from 1,400 (Atlantic Beach, FL) to 3.9 million people (Los Angeles, CA) and the area served varies from 3 to 1,500 square miles. Eighty-one percent indicate they are responsible for stormwater facilities only, while the balance report they are responsible for combined sanitary/stormwater facilities. Approximately 88 percent indicate that they use their own staff to provide a majority of operation and maintenance services.
- For those utilities that base charges on gross property area, equivalent residential units ranged from 1,600 square feet total area to 11,000 square feet, with a mean of 6,964 square feet. For those utilities that base charges on impervious area, impervious areas per equivalent residential unit ranged from 1,500 square feet to 10,000 square feet, with a mean of 2,647 square feet.

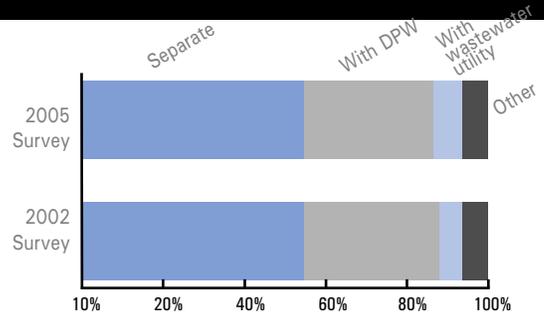
What's New

Feedback from participants prompted us to add a new question to the 2004-2005 version of the Stormwater Utility Survey. In recent years, a number of stormwater treatment systems have become commercially available. Fifty-six percent of respondents have installed at least one of these devices with the most popular being Stormceptor, StormFilter, and CDS Separator. Thirty-six percent have had a favorable experience with these devices in terms of treatment efficiency and ease of maintenance, while 41 percent are still in the evaluation process.

Organization / Administration

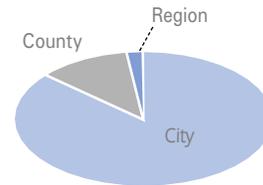
Q How is your operation organized?

- 55% Separate utility
- 32% Combined with Department of Public Works
- 7% Combined with wastewater utility
- 6% Other



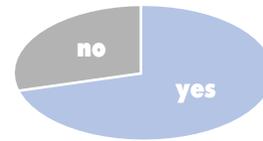
Q What area does your utility serve?

- 86% Within city limits
- 12% County
- 2% Region



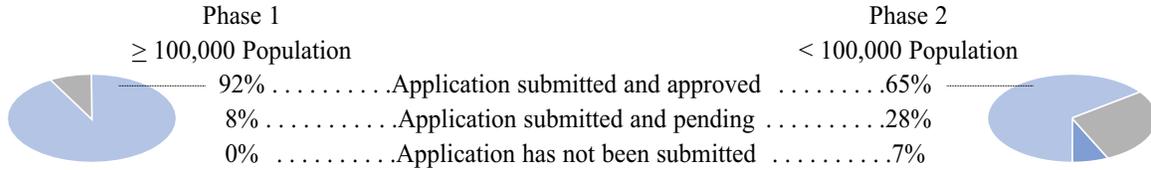
Q Does your state have specific statutes that govern the formation of stormwater utility and user fee financing?

- 71% Yes
- 29% No



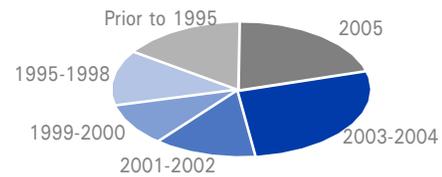
Planning

Q What is the status of your NPDES permit?



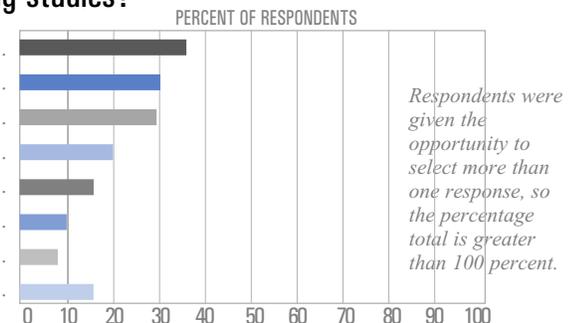
Q When was your most recent stormwater plan or stormwater facilities plan?

- 21% 2005
- 27% 2003–2004
- 13% 2001–2002
- 10% 1999–2000
- 13% 1995–1998
- 16% Prior to 1995



Q What stormwater computer models do you use for planning studies?

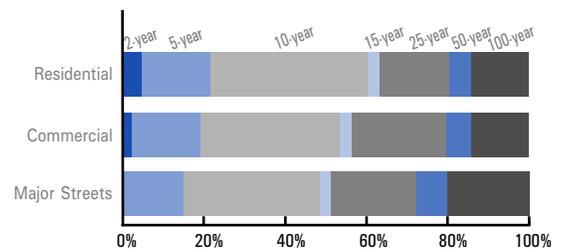
- 36% HEC-2
- 30% XP-SWMM
- 29% HEC-1
- 20% TR-55
- 16% EPA SWMM
- 10% HEC-RAS
- 7% HEC-HMS
- 15% Other



Planning (continued)

Q What return periods do you use to design your major stormwater structures?

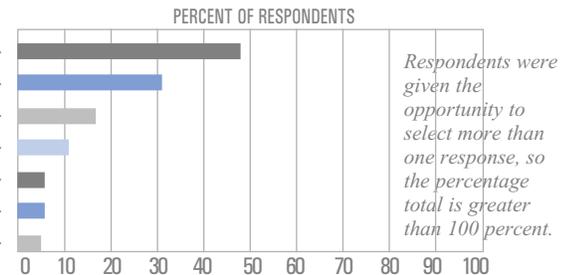
	Residential	Commercial	Major Streets
2-year	3%	1%	0%
5-year	18%	17%	14%
10-year	39%	35%	34%
15-year	3%	3%	3%
25-year	17%	23%	21%
50-year	6%	7%	8%
100-year	14%	14%	20%



Several respondents provided a range of return period.
The percentages above represent the smallest return period provided.

Q Which performance indicators do you consider most important in measuring improvement in stormwater management success?

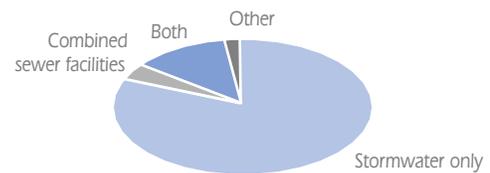
47%	Flood control
31%	Monitoring pollutants
17%	Customer complaints/satisfaction
11%	Cost control measures
6%	Erosion control
6%	Maintenance
5%	Habitat



Operations

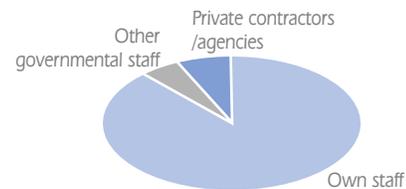
Q What is your utility responsible for?

81%	Stormwater facilities only
4%	Combined sewer (sanitary/stormwater) facilities
13%	Both
2%	Other



Q Who provides the majority of your O&M services?

88%	Own Staff
5%	Other Governmental Staff
7%	Private contractors/agencies

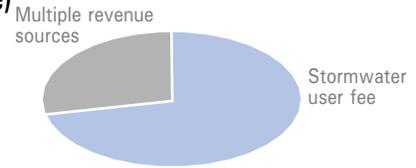


Finance/Accounting

Q What are your major (at least 90 percent of total income) revenue sources?

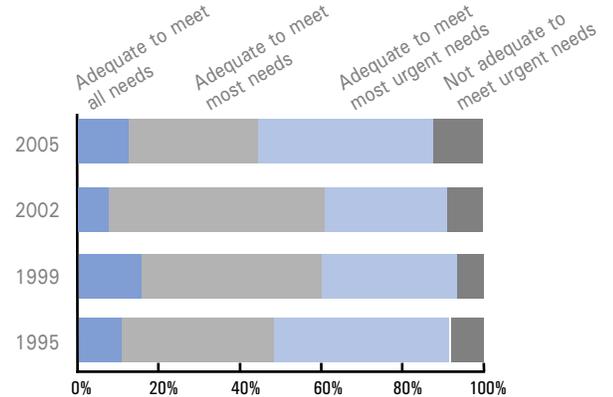
(Excludes 7 utilities that reported no single major source)

- 72% Stormwater user fee
- 28% Multiple revenue sources



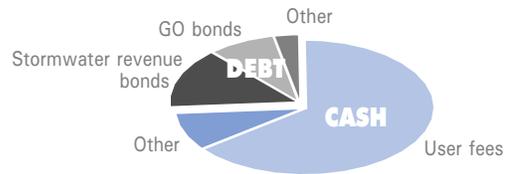
Q How adequate is available funding?

- 13% Adequate to meet all needs
2002 = 8% • 1999 = 16% • 1995 = 11%
- 32% Adequate to meet all needs
2002 = 53% • 1999 = 44% • 1995 = 38%
- 43% Adequate to meet most urgent needs
2002 = 30% • 1999 = 34% • 1995 = 44%
- 12% Not adequate to meet urgent needs
2002 = 9% • 1999 = 6% • 1995 = 7%



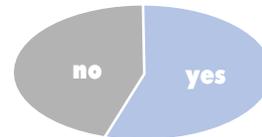
Q How is the majority of capital improvement needs financed?

- 74% Cash financed
 - 65% From user fees
 - 0% From ad valorem taxes
 - 9% Other
- 26% Debt financed
 - 14% Stormwater revenue bonds
 - 9% General obligation bonds
 - 0% Combined bonds
 - 3% Other



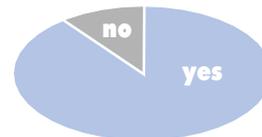
Q Does your accounting system permit cost tracking by operating activity (e.g., inlet cleaning)?

- 55% Yes
- 45% No



Q Does your accounting system identify user fee revenues by customer class (e.g., residential)?

- 89% Yes
- 11% No

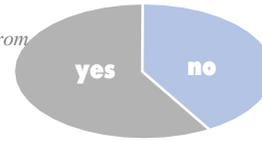


Stormwater User Fees and Billing

Q Were your rates revised in the last 12 months?

- 41% No
- 59% Yes

Increases ranged from 1% minimum to 117% maximum



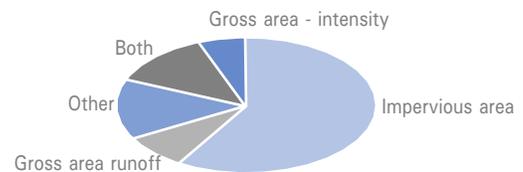
Q What are your user fees designed to pay for?

- 8% Operation and maintenance (O&M) expenses only
- 7% Capital improvements only
- 80% Both O&M expenses and capital improvements
- 5% Other



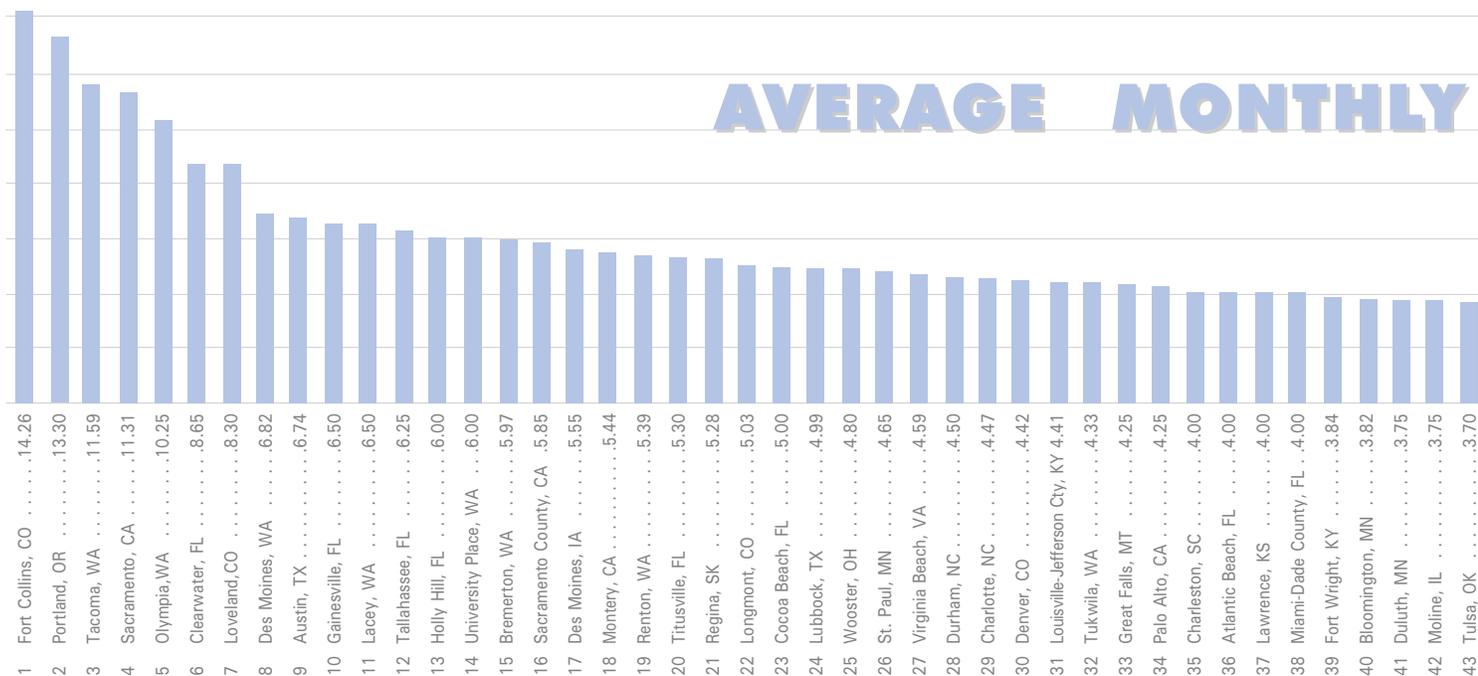
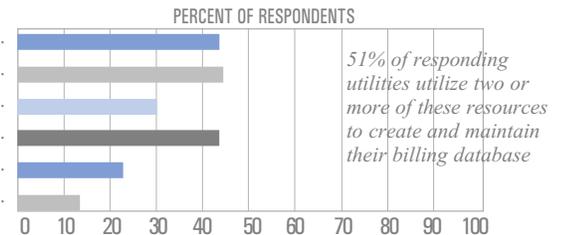
Q What is the basis for your user fees?

- 59% Impervious area
- 8% Gross area with intensity of development factor
- 14% Both impervious and gross areas
- 13% Other (e.g., number of rooms, water use, flat fee)
- 6% Gross area with runoff factor



Q If user fees are area-based, what principal resources were employed to create and maintain the customer database used to compute charges?

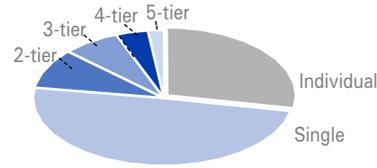
- 42% Property tax assessor records
- 43% Aerial photographs
- 29% On-site property measurement
- 42% Geographic Information System (GIS)
- 22% Planimetric map take-offs
- 13% Other (e.g., building permits, site plans)



Q Are your stormwater charges based on individual or class average characteristics?

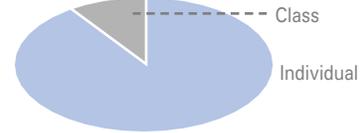
Residential

- 27% Individual parcel
- 73% Class average as:
 - 48% Single tier
 - 9% 2-Tier rate
 - 7% 3-Tier rate
 - 4% 4-Tier rate
 - 2% 5-Tier rate



Non-Residential

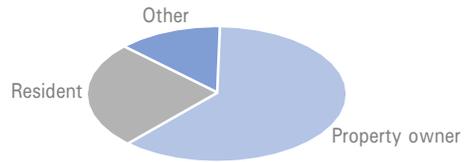
- 90% Individual parcel
- 10% Class average



3% of respondents who answered class average did not provide the number of rate tiers.

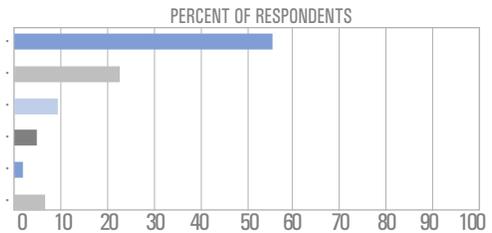
Q Who is responsible for the payment of user fees?

- 62% Property owner
- 25% Resident
- 13% Other (e.g., water or other utility bill recipient)

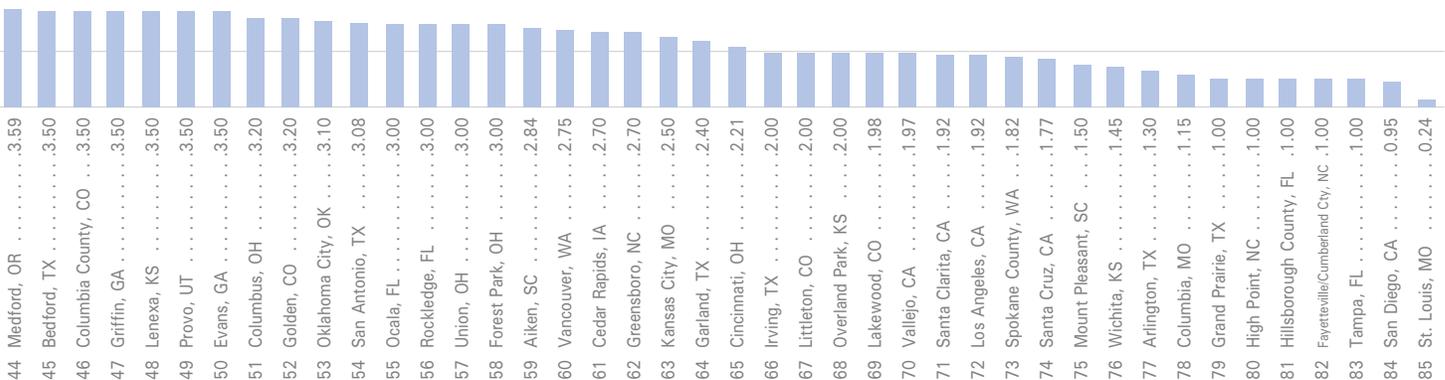


Q How frequently do you bill?

- 56% Monthly
- 22% Annually
- 9% Bi-monthly
- 5% Quarterly
- 2% Semi-annually
- 6% Other



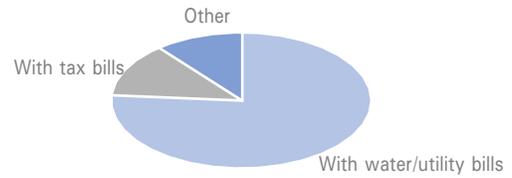
RESIDENTIAL CHARGE



Stormwater User Fees and Billing (continued)

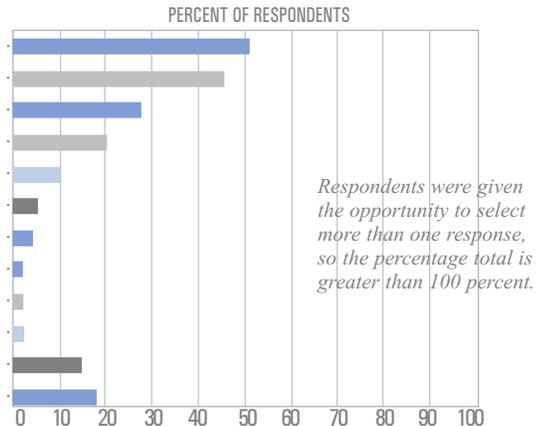
Q How are your user fees billed?

- 76% With water or other utility bills
- 13% With tax bills
- 11% Other



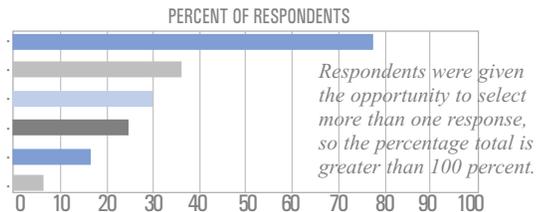
Q What types of properties are exempt from user fees?

- 51% Streets/highways
- 46% Undeveloped land
- 27% Rail rights-of-way
- 20% Public parks
- 10% Government
- 5% School districts
- 4% Churches
- 2% Airports
- 2% Colleges/universities
- 2% Water front
- 14% None
- 17% Other



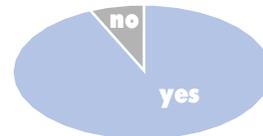
Q What customer classifications are recognized in your stormwater fee structure?

- 77% Residential
- 36% Commercial
- 30% Combined commercial/industrial
- 25% Other
- 17% Industrial
- 7% No designation



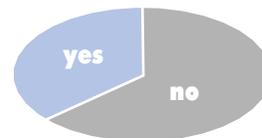
Q Are rates the same for all service areas or watersheds?

- 93% Yes
- 7% No



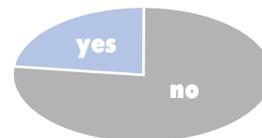
Q Are your user fees for single family dwellings the same as for individual multiple residential units, such as apartments and condominiums?

- 64% No
- 36% Yes



Q Are one-time impact/capital recovery fees applied to new stormwater utility customers or new development?

- 77% No
- 23% Yes

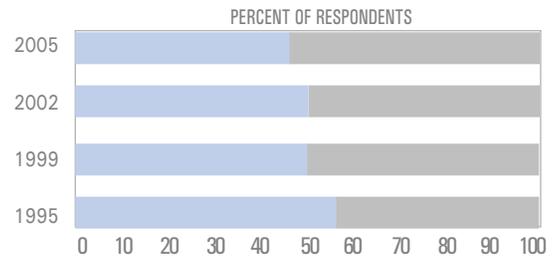


2004–2005 Stormwater Utility Survey

Q Are credits provided for private detention/retention facilities?

46% Yes
 2002 = 53% • 1999 = 50% • 1995 = 57%

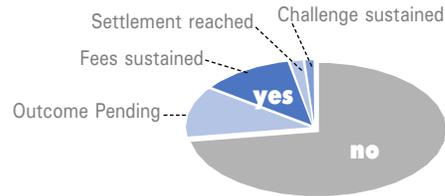
54% No



Q Have your user fees faced a legal challenge?

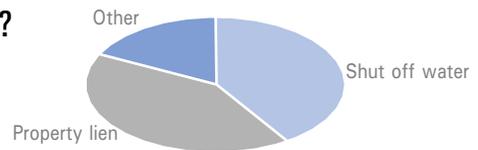
72% No
 28% Yes

12% Outcome pending
12% Fees sustained
2% Settlement reached
1% Challenge sustained (2 later remedied by legislation)



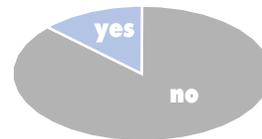
Q On what basis is payment of your user fees enforced?

41% Lien on property
 42% Shut off water
 18% Other



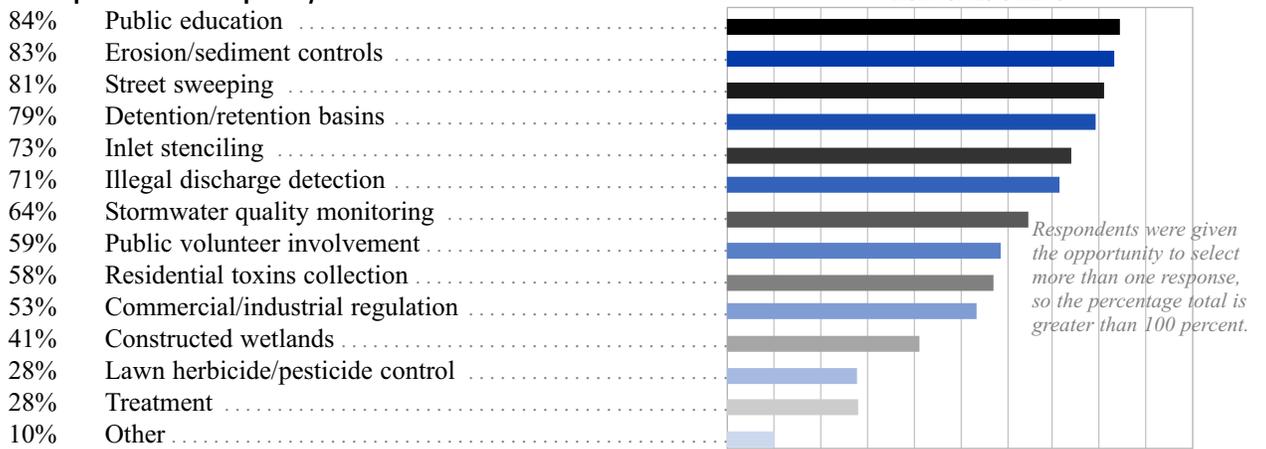
Q Is a significant share of your utility costs attributable to stormwater from outside your service area?

87% No
 13% Yes



Quality Issues – Best Management Practices

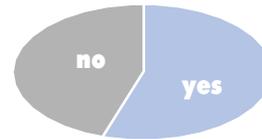
Q Which programs and practices are being used to protect or improve water quality?



Quality Issues Best Management Practice (continued)

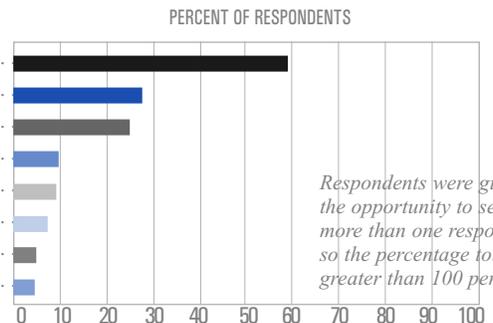
Q Have you installed any stormwater treatment systems in your stormwater conveyance system?

55% Yes
45% No



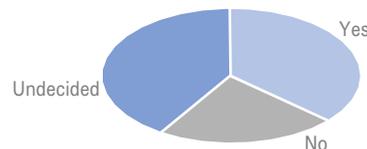
Devices installed:

59% Stormceptor
28% CDS Separator
24% StormFilter
9% Downstream Defend
9% Vortechincs
7% Bay Saver
4% Abtech
4% SunTree Technologies



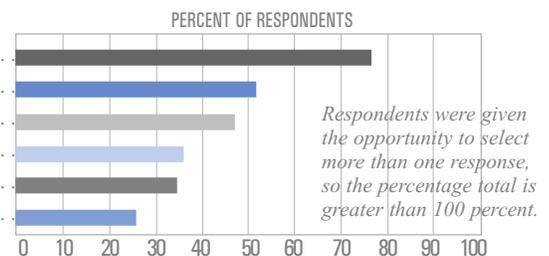
Have these devices met your expectations?

36% Yes
23% No
41% Undecided



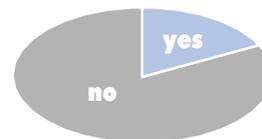
Q What contaminants are your greatest concern?

76% Sediments
51% Nutrients
47% Oil and grease
35% Heavy metals
34% Pesticides
25% Other



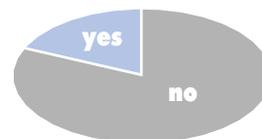
Q Are quality-based user fee credits or other incentives provided to encourage customers to control or reduce stormwater pollution?

18% Yes
82% No



Q Are your user fees specifically designed to provide for the separate recognition and equitable recovery of costs associated with stormwater quality management and quantity(runoff) management, respectively?

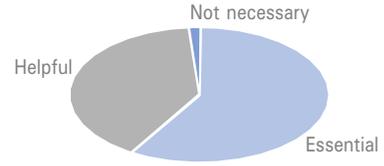
81% No
19% Yes



Public Information/Education

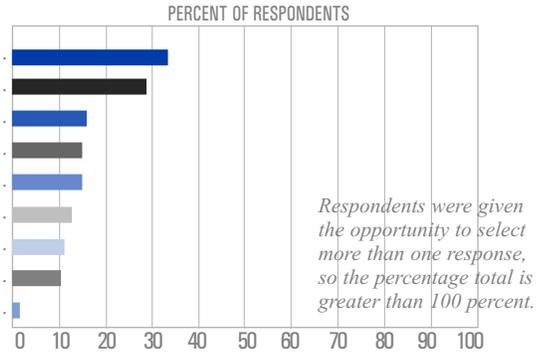
Q How important is an organized public information/education effort to the continuing success of a user fee funded stormwater utility?

- 59% Essential
- 40% Helpful
- 1% Not necessary



Q What means have you found to be the most effective in educating the public about utility services, program needs and financing, and citizen responsibilities?

- 33% Bill inserts
- 29% Public hearings/presentations
- 16% Internet
- 15% Brochures/flyers/newsletters
- 15% Newspaper
- 12% Television
- 11% Public schools
- 10% Speakers bureau
- 1% Direct mail



Major Challenges Recently Faced

Financial, rate, and billing related issues (e.g., financing growth, capital replacements, NPDES and other environmental mandates; rate increases, rate equitability, rate challenges; and billing database updating or conversion to GIS)	19 utilities
Weather and flooding issues (e.g., high amounts of rainfall, standing water, West Nile concerns, localized flooding)	10 utilities
Erosion control (e.g., run-off, erosion problems)	8 utilities
Regulatory and quality control compliance (e.g., illicit discharges, quality monitoring, and difficulties of complying with more stringent state and federal quality mandates related to Endangered Species Act, TMDLs, et al.)	8 utilities
Infrastructure planning issues (e.g., need for integrated flood, quality and environmental planning; remedy of specific infiltration/inflow or local flooding problems; and system-wide flood control master planning)	7 utilities
Jurisdictional issues (e.g., incorporation of added cities into service area and co-permittee coordination)	3 utilities
Public education (e.g., need for increased education regarding new programs or rate increases)	2 utilities

Significant Events Affecting Utilities in Past Two Years

NPDES compliance	21 utilities
CIP related (funding, projects started/completed)	14 utilities
User fee related (increases, lack of increases)	14 utilities
Weather related (heavy rains, storms, drought)	8 utilities
Organization/administration/staffing changes	7 utilities
Public education/awareness	4 utilities
Urban growth/decline in service area	4 utilities
Legal challenges	2 utilities

Some respondents listed the same events as positive, negative, or both (e.g., heavy rains or flooding brought both damage and increased public awareness of needs).

Stormwater Management

From run-off to potential revenue stream, stormwater management is uniquely challenging. It is often not source-specific, not metered or monitored closely within the community, and not tied to customers' daily decisions.

Black & Veatch's Enterprise Management Solutions team assists utilities nationwide in stormwater management issues to help provide stable funding for operations as well as capital projects.

ABOUT ENTERPRISE MANAGEMENT SOLUTIONS

Black & Veatch is pleased to provide this survey as an industry service. For 90 years, meeting the needs of utilities nationwide has been at the core of our business. We understand the value of knowing how others are addressing the industry's complex issues. From organization effectiveness to financial structuring to risk management, it helps to know the industry's trusted business partner. Black & Veatch brings it all together.



BLACK & VEATCH
building a **world** of difference™

ENERGY WATER INFORMATION GOVERNMENT

For custom strategies, proven processes and high-value results, contact:

Anna White

Black & Veatch • 11401 Lamar Avenue • Overland Park, KS 66211 USA

Tel: 913-458-4322

Stormwater@bv.com

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ATTACHMENT I-2



City of San Clemente Clean Ocean Program & Fee **Frequently Asked Questions**

What is the Clean Ocean Program?

It is the City's effort to prevent stormwater and urban runoff pollution from entering the storm drain system and being discharged at the beach.

Why does the City need a Clean Ocean Program?

- To protect the environment (water quality in local channels and coastal waters);
- To protect public health and safety (from bacteria and other pollution that could reach the beach);
- To protect local quality of life (local business/tourism, "beach town" reputation, etc.); and
- To meet State Water Code and Federal Clean Water Act permit requirements issued to South Orange County cities by the State.

Who developed the Clean Ocean Program?

The City prepared an Urban Runoff Management Plan (URMP), which included participation and feedback from the community as well as the City's Coastal Advisory Committee (local citizens appointed by the City Council to consider and provide advice on coastal and water quality issues). The URMP guides the Clean Ocean Program, and outlines activities and projects to meet the State and Federal water quality requirements and protect local water quality.

What does the Clean Ocean Program include?

- *Runoff treatment projects*
 - Poche Beach: A treatment system was constructed and is maintained to filter and kill bacteria in the runoff before it reaches the beach. Construction was completed in March of 2009. The system treats up to 1.1 million gallons per day. Weekly water quality tests indicate that the UV treatment removes between 95% - 99% of the bacteria in the storm drain runoff before it discharges to the beach. The current water quality grade at Poche Beach is an A+.
 - North Beach: A system was constructed to divert dry weather runoff away from North Beach and send it to the City's Water Reclamation Plant for treatment. The system started operating on June 1, 2009. It diverts and filters about 350,000 gallons per day. The current water quality grade at North Beach is an A+.
 - Underground storm drain units were installed to remove trash, oil & grease and sediment from runoff before it gets to the beach. Six units have been installed. They are located near Calafia Beach, in the Pier Bowl area, at the west ends of El Portal, at the end of Linda Lane and at Mariposa. In 2013, 35 cubic yards of material was captured and removed by these units. This is material that would have otherwise have ended up in the ocean.
- *Pollution prevention activities*
 - Street Sweeping: the City sweeps public residential streets twice per month and major streets and business areas about 3 times per week. Over 22,000 tons of material has been collected over the last ten several years, enough to fill 550 large (40 cubic yard) trash bins.
 - Catch Basin Inspection and Cleaning: the City inspects at least 2,205 catch basins annually, cleaning them as needed. In 2013, 2,432 catch basins were cleaned and a total of 914 cubic feet of material was removed.
 - Water Quality Testing: water samples from over 20 locations throughout town are sampled each year to help identify potential problem areas and monitor quality progress over time. Flow measurements are also taken to help measure progress in reducing urban runoff flows.
 - Special Studies: the City consulted with scientists to conduct an in depth investigation to find sources of bacteria in the Poche Beach watershed. A year long study which included molecular

City of San Clemente Clean Ocean Program & Fee **Frequently Asked Questions**

marker testing culminated in focused recommendations and a strategic plan for reducing bacteria at Poche Beach. The final report of the study is located on the Clean Ocean Program website at www.sccleanocean.org.

- **Commercial, Industrial and Construction Site Inspections:** Inspections of businesses, industrial facilities and construction sites are conducted to make sure these sites are using proper Best Management Practices (BMPs) to prevent pollution from entering the storm drain system and reaching the beach. Over 9,000 inspections have been completed in the last 10 years.
- **Spill Cleanups and Storm Drain Maintenance:** A 24/7 hotline number (**366-1553**) is in place to respond to and cleanup spills or investigate reported illegal discharges. In addition, the City performs ongoing maintenance to ensure proper function of the storm drain system and inspects all public catch basins annually and removes materials that might be discharge into the system.
- **Enforcement of Anti-pollution Ordinances:** Dedicated officials enforce water quality laws to identify and correct violations. Depending on the severity of the violation, enforcement may include verbal warnings, written correction orders, and/or fines of \$100, \$200, or \$500 per violation.
- **Public Outreach and Education:** Efforts promote awareness of stormwater and urban runoff pollution impacts, and ways the public can help prevent this pollution from happening in the first place.

What is the cost of implementing the Clean Ocean Program?

The cost to implement the program is about \$2.2 million per year.

What is the cost of not implementing the Clean Ocean Program?

The City could be liable for large fines if the State finds that the City is not meeting the requirements of the stormwater permit regulations. Also, there are potential economic impacts (tourism, real estate values, etc.) if the City does not work to protect its healthy beach town reputation.

How is the Clean Ocean Program funded?

By a Clean Ocean utility fee charged to property owners. The fee is collected as a line item on the monthly utility bill for owners that get water service from the City. The fee is charged monthly but collected via a separate twice-yearly bill to San Clemente property owners that get water service from other providers (e.g. South Coast Water District or Santa Margarita Water District).

Why do property owners get charged the Clean Ocean Fee?

Developed and graded properties contribute runoff to the storm drain system (which includes pipes, channels, drain inlets and street gutters). This runoff contains or picks up pollution before it enters the storm drain, which the City must then address. Since providing storm drain and water quality services is like other utility services provided by the City (e.g. drinking water and sewer service), it is appropriate that property owners pay for the cost of this service.

How long will the continued fee be in effect? When will it end?

If approved by San Clemente property owners, the existing Clean Ocean Fee would be continued for an additional six and one-half (6.5) years, and would expire on June 30, 2020.

How much will the fee increase over the next 6.5 years?

The continued Clean Ocean Fee would be fixed and would not increase over the entire period.

Why are property owners voting on this fee?

**City of San Clemente Clean Ocean Program & Fee
Frequently Asked Questions**

Under the provisions of California Proposition 218, property owners must approve new property fees adopted by cities.

What is the change from the existing to the proposed Clean Ocean Fee?

Single Family Residential Monthly Fee		
	Current Fee	Proposed New Fee
Private street	\$ 4.39	\$ 5.10
Public street	\$ 5.02	\$ 6.23

Multi-Family Residential Monthly Fee		
	Current Fee (per residential unit)	Proposed New Fee (per residential unit)
Private street	\$3.51	\$4.08
Public street	\$4.01	\$4.98

Non-Residential (Commercial, Industrial, Business Park) Monthly Fee		
	Current Fee (per acre or fraction thereof)	Proposed New Fee (per acre or fraction thereof)
Private street	\$43.90	\$51.00
Public street	\$50.20	\$62.30
Note: Almost all non-residential streets within the City are public streets.		

Undeveloped, Graded Property Monthly Fee				
	Current Fee		Proposed New Fee	
	<i>2 acres or less</i>	<i>Each acre over 2 add:</i>	<i>2 acres or less</i>	<i>Each acre over 2 add:</i>
Private street	\$2.20	\$0.44	\$2.55	\$0.51
Public street	\$2.51	\$0.50	\$3.12	\$0.62
Note: There is no clean ocean fee charge for undeveloped, ungraded parcels.				

Note: Properties on private streets are charged a lower rate since the City doesn't provide street sweeping service on private streets.

How is the fee calculated?

The fee is based on a parcel's expected contribution of runoff, which is determined by an estimate of the impervious area on that parcel. Impervious areas include such things as buildings and pavement, which prevent or restrict storm water from getting into the soil and increase runoff from a parcel.

Why is the existing Clean Ocean Fee being proposed to be continued?

The fee funds a stormwater quality program that the State requires the City to implement. Since the fee was last approved, the State revised and adopted a new stormwater permit for the south Orange County area that contains more rigorous requirements. Also, the State recently adopted new requirements for bacteria pollution for which the City must comply.

What happens if continuation of the existing Clean Ocean Fee is not approved?

If the Clean Ocean Fee is not continued, the City will need to support the Clean Ocean Program with some other funding source. The most likely source would be the General Fund, which would result in about \$2 million each year that would not be available for other needed projects and programs within the City.

**City of San Clemente Clean Ocean Program & Fee
Frequently Asked Questions**

How and when will the vote occur?

All record owners of property within the City that are directly subject to the proposed fee will receive an official mail-in ballot with a postage paid addressed return envelope. The ballots will be mailed to property owners on October 25, 2013. Return ballots are due on December 10, 2013.

How do I cast my vote?

Simply fill out the ballot and mail or deliver it to the San Clemente City Clerk by the due date noted on the ballot.

How do I get more information?

More information about the proposed fee continuation is available on the City's website at www.sccleanocean.org. You may also call the Environmental Programs Section at (949) 361-8204 or send an email to cleanwater@san-clemente.org.

What's the difference between storm drains and sewers – doesn't it all get treated?

Like most other cities, the City of San Clemente owns and operates a storm drain system, which is the network of channels and pipes that collect stormwater and urban runoff and discharges it into the ocean. Unlike sewer systems that send sewage to a treatment plant before being discharged, most storm drain systems, including the City's, were built to collect and convey runoff to prevent flooding but not to treat urban water runoff. Therefore, any pollutants that runoff carries into the storm drain system are discharged untreated along the City's shoreline.

Do other cities have a Clean Ocean Program?

They may call it something else, but all cities in the urbanized areas of Southern California are required by the State to implement stormwater and urban runoff programs to prevent discharges of pollution to creeks, rivers and the ocean.

How do we know that the Clean Ocean Program is working?

- The City records amounts of trash picked up by street sweepers and removed from underground treatment devices.
- Larger treatment projects include monitoring to compare water quality before and after treatment.
- The City tracks the number of enforcement actions and inspections to document these efforts.

Why should San Clemente property owners pay to clean up pollution from upstream cities?

Unlike most cities in Southern California, San Clemente's city boundary is very similar to the local watershed boundary. This means that San Clemente is a self-contained watershed, and that there are no upstream cities that contribute pollution through our local watershed. So the pollution in our storm drains comes from San Clemente properties, and not from out-of-town areas.

How can I help?

To learn about simple tips to help prevent urban runoff pollution, please visit www.sccleanocean.org or www.ocwatersheds.com.

To learn about potential volunteer opportunities (e.g. beach cleanups), please visit www.scwatersheds.com.

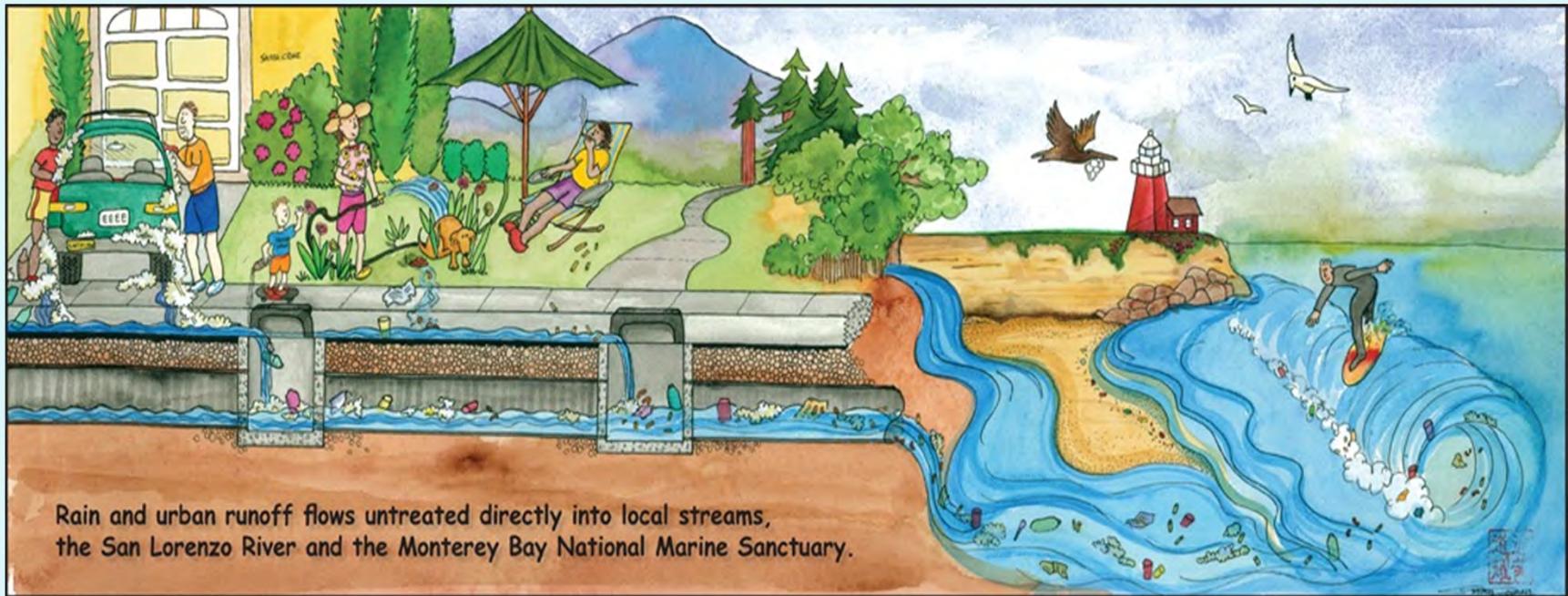
ATTACHMENT I-3

City Storm Water Program and Measure E: Clean River, Beaches and Ocean Fund

FY 2015 Highlights

Dedicated funding for programs
to prevent pollution from reaching our waterways
and beaches

Urban Runoff



Rain and urban runoff flows untreated directly into local streams, the San Lorenzo River and Monterey Bay

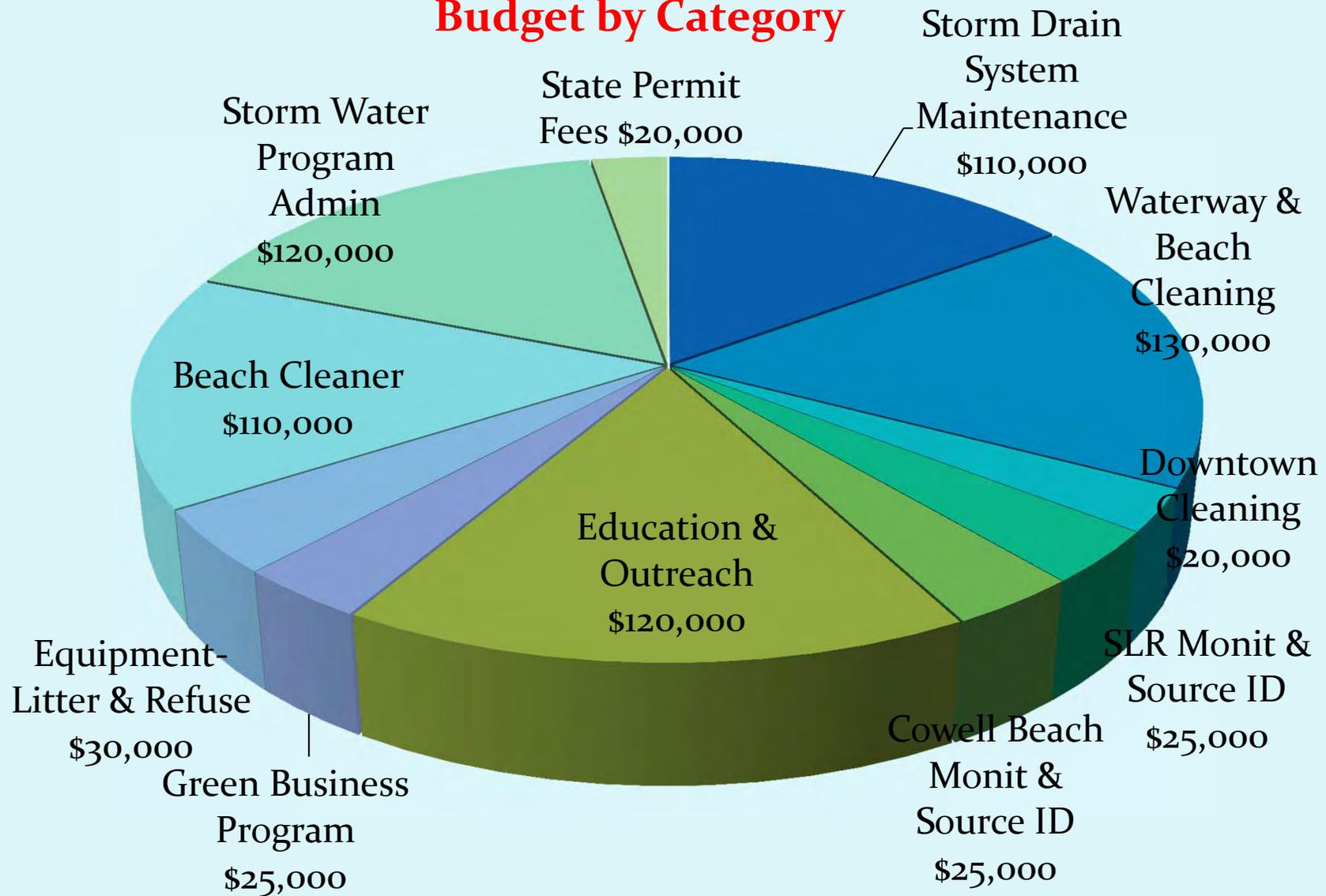
FY 2015 Expenses

- Storm Drain System Maintenance: \$110,000
- Waterway & Beach Cleaning: \$130,000
- Downtown Cleaning: \$20,000
- San Lorenzo River Monitoring & Source ID: \$25,000
- Cowell Beach Monitoring & Source ID: \$25,000
- Education & Outreach: \$120,000
- Green Business Program: \$25,000
- Equipment: Litter & Refuse: \$30,000
- Beach Cleaner: \$110,000*
- Storm Water Program Staff: \$120,000
- State Permit Fees=\$20,000

Revenue: \$630,000 Expenses: \$740,000

FY 2015 Expenses

Budget by Category



Municipal Operations

Focus on cleaning:

To keep debris & pollutants from flowing into the San Lorenzo River and Monterey Bay

- Storm drain pipelines
- Pump Stations
- River Toe Ditches
- Street Catch basins



Municipal Operations

City Crews clean:

- Storm drain pipelines-9 miles
- River pump stations-5 vaults



Municipal Operations

Storm Drain System Inspection & Cleaning:

- Extensive catch basin inspection & cleaning program. All downtown catch basins plus outlying areas inspected & cleaned.
 - Labor costs
 - Vactor Operation
 - Debris Disposal
 - Televising storm drain lines



Cost: \$110,000

Waterway, River Levee & Beach Cleaning

Ongoing Maintenance Efforts:

- San Lorenzo River
 - Parks Temp Staff-\$70,000
 - Contracted cleanups-\$25,000
 - Subtotal: \$95,000
- Cowell & Main Beaches
 - Wharf Temp Staff \$35,000

Cost: \$130,000



Beach Cleaning

Beach Cleaning Machine for Cowell & Main Beaches



Cherrington Beach Cleaner
Cost: \$110,000

Waterway, River Levee & Beach Cleaning

Parks Rangers Temp Staff-cleanups & restoration efforts



Cost=\$70,000

Municipal Operations

Downtown Cleaning: Hand Sweeping-Hope Services



Cost=\$20,000

Municipal Operations

Downtown Cleaning: Alleyways



Cleaned by contractors

River Levee & Beach Volunteer Cleanups

Save Our Shores:

- San Lorenzo River-Adopt a Levee cleanups
- San Lorenzo River-4 seasonal cleanups
- Annual Coastal Cleanup Day-beach & river cleanups
- July 4th & 5-beach outreach & cleanups
- Disposal of debris

Cost=\$25,000



Education & Outreach Program

School Programs:

- O'Neil Sea Odyssey-Field trip & class 4-5th grades
- Save The Whales-K-12th Grade class presentations
- Save Our Shores-Middle & High School assemblies and classes
- ZunZun-Musical Assemblies K-6th grades



Cost=\$35,000

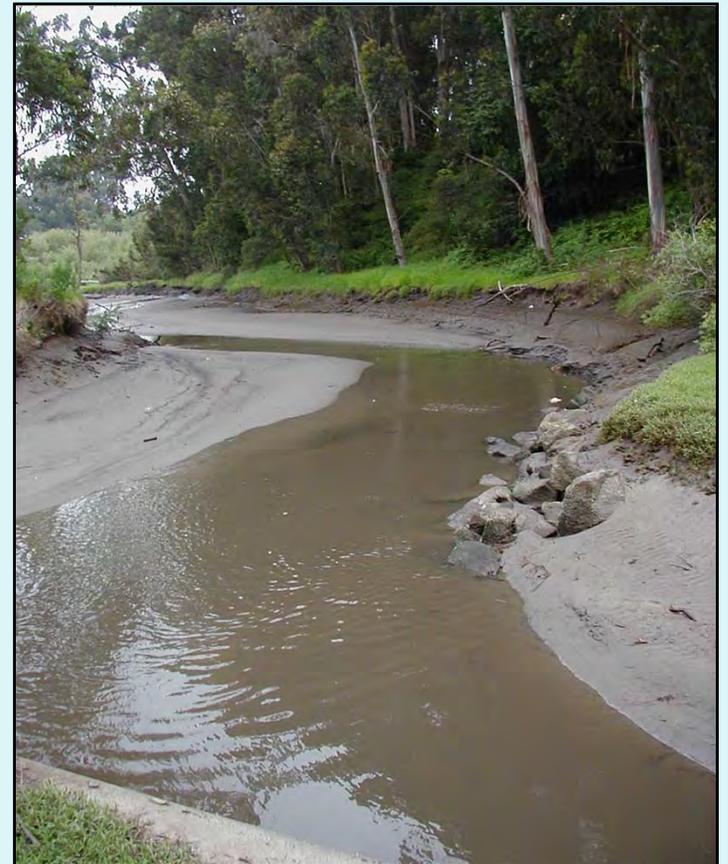
Education & Outreach Program

Volunteer Monitoring & Stewardship:

- CWC Snapshot Day
- CWC San Lorenzo River Alliance



Cost=\$15,000



Education & Outreach Program

Residential Outreach:

- Arana Gulch Watershed Coordinator
- EA-Our Water Our World: pesticides & herbicides
- EA-Green Gardner Program
- RCD-Low Impact Development
- SW agencies-Region-wide TV ads

Cost=\$15,000



Education & Outreach Program

Business Outreach & Recognition:

- City Clean Ocean Business Program
- Monterey Bay Green Business Program
- Green Gardner/
Landscaping Program

Cost=\$30,000



Education & Outreach Program

Litter & Illegal Dumping:

Catch Basin Labeling (SOS)



Cost=\$10,000



Cigarette Butt
“Bait Tank”
containers

San Lorenzo River Pollution Prevention

Litter & Illegal Dumping

- Trash/Recycling and Cigarette Butt containers on SLR levee & other areas



Cost=\$15,000

SLR Watershed Monitoring

State Total Maximum Daily Load Limits: San Lorenzo River

- **TMDL: Bacteria and Sediment**
- State requires monitoring, remedial measures & reports
- Monitoring of SLR, Branciforte & Carbonera Creeks by City Lab & Env Compliance Program
- Results indicate birds and sediment are primary sources of elevated bacteria levels in SLR
- City is an active partner in the SLRA led by Coastal Watershed Council (staff time, funding, specialized lab work, data sharing)



Cost= \$25,000 (Lab)

Cowell Beach

- **City participates in Cowell Beach Working Group**
- **City & County both monitor Cowell Beach**
- **Results show low bacteria levels during winter months**
- **Sewer source unlikely since levels not high year round**



In 2014, City added caffeine test as indicator of sewage (none found so far)
In 2015, City conducted a preliminary bacteria gradient study

New State Requirements

Outfall Inventory and Sampling

- Staff checked 236 storm drain outfalls
- 26 outfalls had flows during summer and were sampled
- Results showed 1 suspect outfall which led staff to identify a cracked storm drain



New State Requirements

Construction: Erosion Control

- Grading ordinance revised June 2014: Projects need to submit erosion & sediment control plans
- Increased PW and Building staff oversight of construction projects



New State Requirements

Development: Low-Impact Design

- New (2014) requirements to collect & infiltrate (sink) storm runoff on property
- Applies to private developments, retrofits, and City projects
- *Examples of LID techniques:*

Pervious Pavement



Bio-retention



Drainage Swale



Rain Barrel



Low-Impact Development on Recent Private Projects

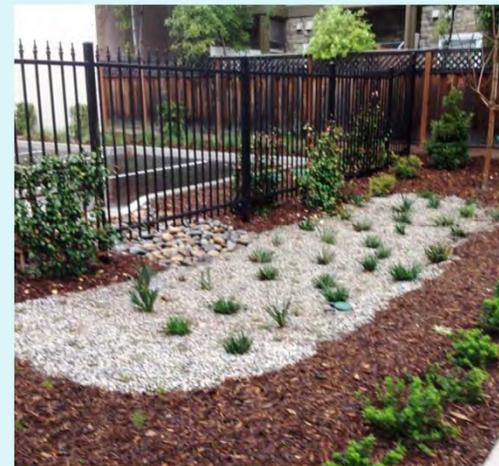
Madrone Street (Sports Authority)



Frederick Street (Multi-family)



West Cliff Drive (Multi-family)



Low-Impact Development on Recent City Projects

Kaiser Permanente Arena



Wharf Roundabout (not vegetated yet)



Arana Gulch Multi-Use Trail



Tannery Arts New Parking Lot



Grants & Projects

State Prop 84 Grant: Low Impact Development Design & Build Parking Lot #9

- Goal to reduce runoff & pollutant loads to River
- LID to sink rain runoff and divert pollutants into soil



Construction completed August 2015

Grants & Projects

State Prop 84 Grant: Low Impact Development Parking Lot #9

- Sloping & curb cuts to bio-swales redirect 75% of lot runoff



Grants & Projects

Bio-swales installed to sink rain runoff & filter pollutants



Vegetated bio-swale with curb cuts

Grants & Projects

Bio-swales installed to sink rain runoff & filter pollutants



Vegetated bio-swale with curb cuts

Grants & Projects

State Prop 84 Grant: Low Impact Development Design & Build Parking Lot #9

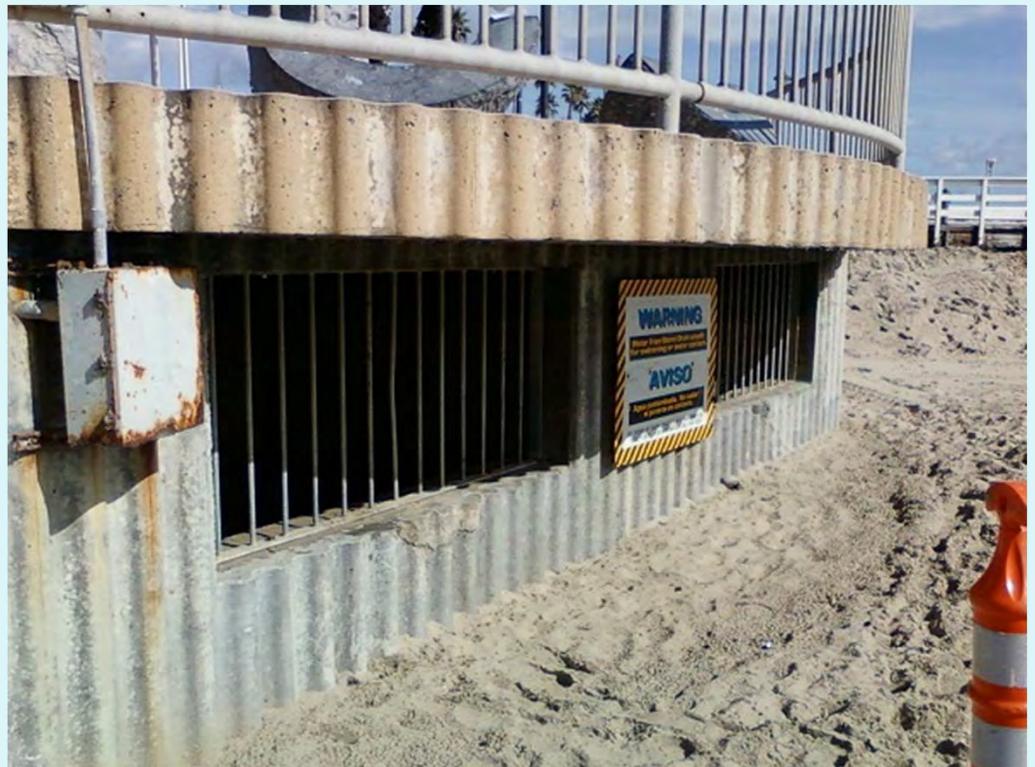


- Lot repaved as part of project
- Match \$40,000 from FY14 budget

Grants & Projects

State Clean Beaches Initiative Grant & CIP Project

- Neary Lagoon Storm Drain Improvement Project
- Goal: Reduce bacteria levels at Cowell Beach
- Storm drain pipes exit at Cowell Beach-buried under sand in summer



Neary Lagoon Beach Outlet Vault

Grants & Projects



Neary Lagoon

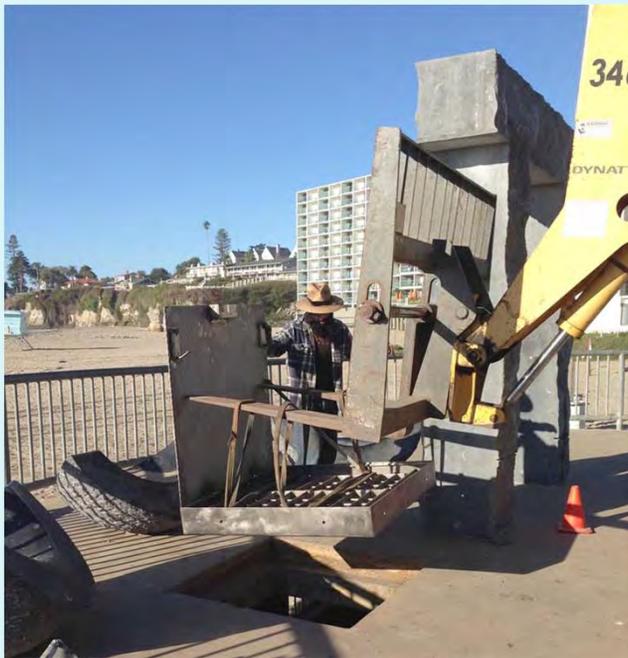
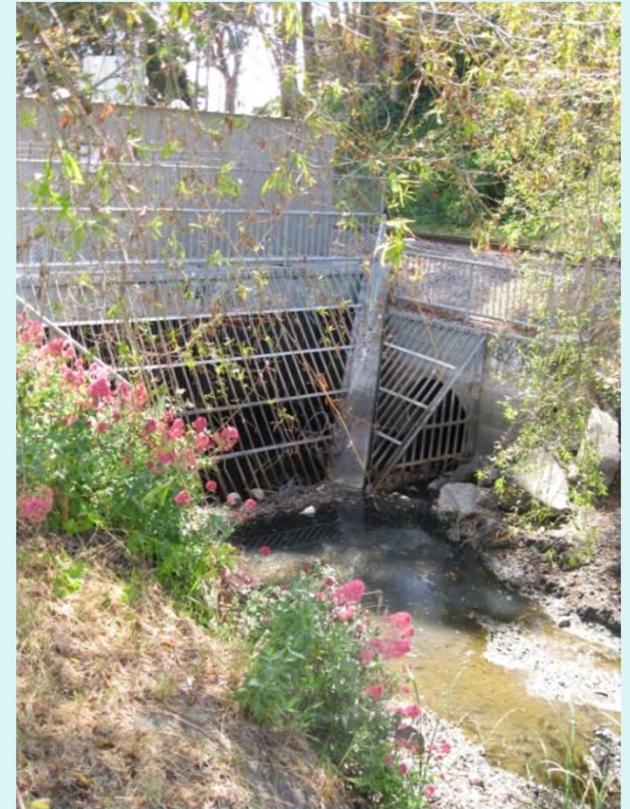
**Gates closed in Summer &
opened in Winter**



Installed Spring 2014

Grants & Projects

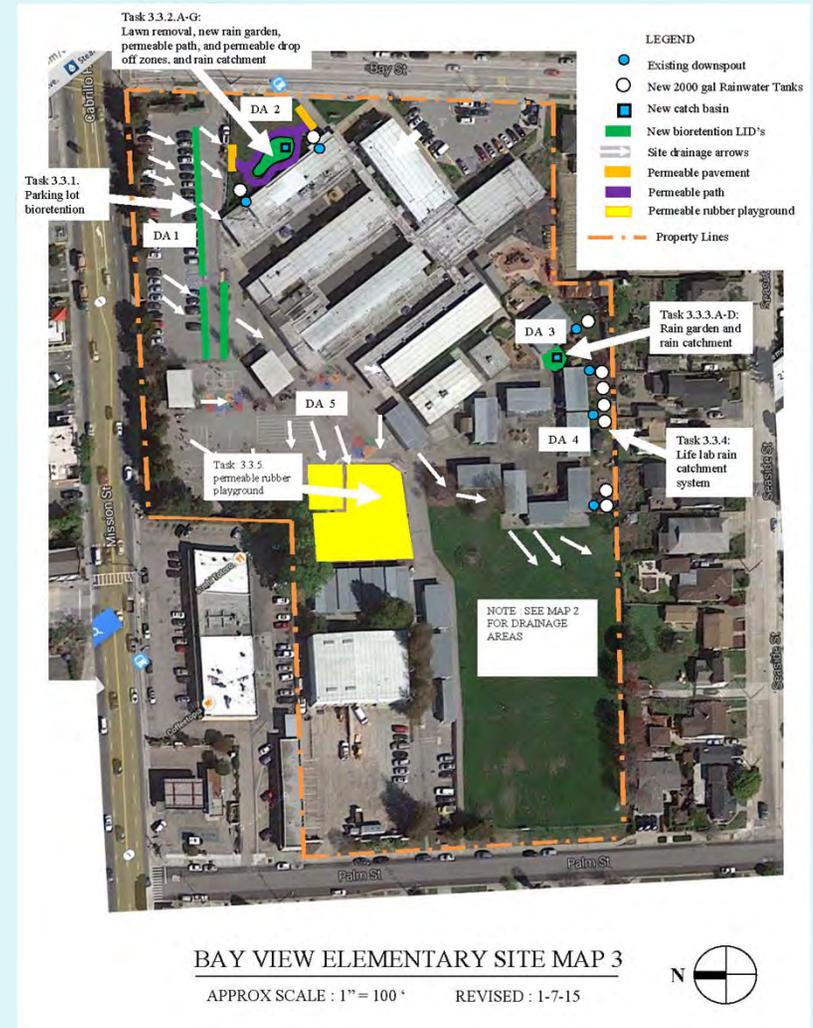
- New hatch at beach outlet vault
- Temp steel plate on gravity pipe opening at beach during summer
- Neary pump station & storm drain lines now cleaned late Spring & Fall



Grants & Projects

State DROPS Grant: Low Impact Design for Schools

- City partnered w/Santa Cruz City Schools and UCSC IDEASS
- \$486,000 Grant Awarded to SC City Schools for Bay View Elementary
- Retrofit LID project: Bio-swales, pervious playground, and rain water catchment/cisterns
- City cost \$15,000 (FY16) towards large rain garden and educational signage



The End



ATTACHMENT I-4

News

Palo Alto proceeds with storm water management fee increase

By **JACQUELINE LEE** | jlee1@bayareanewsgroup.com |

PUBLISHED: August 30, 2016 at 2:48 pm | UPDATED: August 31, 2016 at 7:56 am

PALO ALTO — Money from a proposed increase in storm water management fees would be spent more on operating costs than capital improvements, Palo Alto City Council decided on Monday, reversing a decision made earlier this year.

The council previously approved a resolution calling for a monthly fee of \$13.65, up from \$13.03.

The breakdown of the increased bill was going to be \$6.62 as the base amount and \$7.03 for capital improvements. Now, the allocation is reversed so that \$7.48 is the base and \$6.17 is for improvements.

City staff told council members that initial calculations were off because they were based on fiscal year 2016, rather than 2017, and more money is needed for operating costs.

A public protest hearing on the rate hike is set for Oct. 24. Property owners can file written opposition to the fee increase until then. If a majority does so, then the council has to terminate the fee increase process.

If there is no majority opposition, then the city will conduct a mail ballot election on the fee increase between Jan. 11 and Feb. 28.

If approved, the new fees would go into effect June 1 and generate about \$6.9 million in revenue annually for the next 15 years.

In early 2015, the city identified about \$37 million worth of capital improvements that are needed.

Property owners currently pay about \$12.63 per month in storm drain bills.

Current fees will expire in June. If no action is taken to approve updated fees, then the rates will revert to \$4.25, an amount property owners approved in 2005, which city leaders say is not enough to maintain operations.

Email Jacqueline Lee at jlee1@bayareanewsgroup.com or call her at 650-391-1334; follow her at twitter.com/jleenews.

Jacqueline Lee Jacqueline Lee is a reporter covering Palo Alto for the Bay Area News Group. Lee is an LA native and alum of USC Annenberg.

 [Follow Jacqueline Lee @jleenews](https://twitter.com/jleenews)

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ATTACHMENT I-5



Environment

Home > Environment > Utility Services > Stormwater > Storm Sewer Service Charge

Commercial Sewer Service Charge

Residential Sewer Service Charge

Contact Us

City of San José
 Revenue Management –
 Sewer Billing Unit

200 East Santa Clara Street
 4th Floor
 San José, CA 95113

Phone: (408) 535-7055

Storm Sewer Service Charge

Storm Sewer Service Charge Rate

The Storm Sewer Service Charge rate structure charges users of the storm sewerage system in San José based on the relative quality and quantity of stormwater runoff contributed by residential, commercial, institutional, and industrial properties. The rate structure apportions the costs of storm sewer service to properties in proportion to their relative contribution of flow and pollution to the storm sewer system.

Rates are computed to recover projected costs of the following:

- Stormwater pollution control and permit compliance
- Management, operation, maintenance, and rehabilitation of the storm sewer system
- Improvements to the storm sewer system
- Street sweeping
- Administrative services

Storm Sewer Service Charge rates are reviewed and adjusted annually, as cost and service demand levels change. The current rate structure for storm sewerage services described below became effective July 1, 2011, with San José City Council adoption of Resolution No. 75857 on June 14, 2011. The rates are structured for the estimated cost recovery requirements and the service demand levels of Fiscal Year 2011-12. View the current [residential rates](#) and [commercial rates](#).

For Fiscal Years 2013-14, 2014-15, and 2015-16, no rate increases were adopted. Rates maintain at the same level as Fiscal Year 2011-12.

If you have questions regarding rates for storm sewerage service, please call us at (408) 535-7055.

San José City Hall

200 E. Santa Clara St.
 San José, CA 95113
 408 535-3500 Main
 408 294-9337 TTY
 Directions



Select Language ▼

The City of San José is committed to open and honest government and strives to consistently meet the community's expectations by providing excellent service, in a positive and timely manner, and in the full view of the public.

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ATTACHMENT I-6

Sewer and Storm Water Fees

The charts below provide information on Sewer Fees and Storm Water Fees in the City of Alameda.

SEWER SERVICE FEE, CITY OF ALAMEDA

	FY2016	FY2017	FY2018	FY2019	FY2020
		% Increase 3.0%	% Increase 3.0%	% Increase 3.0%	% Increase 3.0%
Single Family (\$/month)	\$23.93	\$24.65	\$25.39	\$26.15	\$26.93
Multi-Family (\$/month)	\$21.54	\$22.19	\$22.86	\$23.55	\$24.26
Commercial Fixed Charge (\$/month) (includes first 730 cubic feet)	\$21.54	\$22.19	\$22.86	\$23.55	\$24.26
Flow-Based Rate (\$ per Hundred cubic feet)	\$2.96	\$3.05	\$3.14	\$3.23	\$3.33

STORM WATER FEE, CITY OF ALAMEDA

The Fee is based on the amount of pollution that the City estimates enters the municipal storm water system as a result of the installation or maintenance of impervious surfaces.

2,000 square feet of impervious surface = 1 Impervious Surface Unit (ISU)

The Fee is calculated according to the following formula:

Number of Impervious Surface Units (ISU)

multiplied by

Fee per Equivalent Residential Unit (ERU)

	Storm Water Fee
<p>Typical Single Family Residential Parcel</p> <p>A typical residential parcel has 5,000 square feet of surface area. 40 percent, or 2,000 square feet, is comprised of impervious surface (1 ISU).</p>	<p>\$56.15</p> <p>(1 Equivalent Residential Unit fee)</p>
<p>Condominium (per unit)</p> <p>A typical condo unit has 600 square feet of impervious surface area (0.3 ISU).</p>	<p>\$16.85</p> <p>(0.3 x 1 ERU)</p>

Other parcels with Impervious Surfaces are subject to the Fee based upon stated formula Fee: Number of ISUs multiplied by Fee per ERU.

DECLARATION OF SERVICE BY EMAIL

I, the undersigned, declare as follows:

I am a resident of the County of Sacramento and I am over the age of 18 years, and not a party to the within action. My place of employment is 980 Ninth Street, Suite 300, Sacramento, California 95814.

On September 27, 2017, I served the:

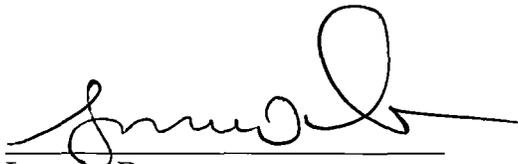
- **SWRCB and SDRWQCB Comments on the Test Claim filed September 22, 2017**

*California Regional Water Quality Control Board, San Diego Region,
Order No. R9-2010-0016, 11-TC-03*

County of Riverside, Riverside County Flood Control and Water Conservation District,
Cities of Murrieta, Temecula, and Wildomar, Co-Claimants

By making it available on the Commission's website and providing notice of how to locate it to the email addresses provided on the attached mailing list.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on September 27, 2017 at Sacramento, California.



Lorenzo Duran
Commission on State Mandates
980 Ninth Street, Suite 300
Sacramento, CA 95814
(916) 323-3562

COMMISSION ON STATE MANDATES

Mailing List

Last Updated: 9/21/17

Claim Number: 11-TC-03

Matter: California Regional Water Quality Control Board, San Diego Region, Order No. R9-2010-0016

Claimants: City of Murrieta
City of Temecula
City of Wildomar
County of Riverside
Riverside County Flood Control and Water Conservation District

TO ALL PARTIES, INTERESTED PARTIES, AND INTERESTED PERSONS:

Each commission mailing list is continuously updated as requests are received to include or remove any party or person on the mailing list. A current mailing list is provided with commission correspondence, and a copy of the current mailing list is available upon request at any time. Except as provided otherwise by commission rule, when a party or interested party files any written material with the commission concerning a claim, it shall simultaneously serve a copy of the written material on the parties and interested parties to the claim identified on the mailing list provided by the commission. (Cal. Code Regs., tit. 2, § 1181.3.)

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ATTACHMENT I-7

MEASURE CW

The Clean Water, Clean Beach Parcel Tax

During the November 8, 2016 Special Municipal Election, Culver City residents voted on Measure CW, the Clean Water, Clean Beach Parcel Tax. The results are as follows: YES - 73.82%; NO - 26.18%.

Funds raised by Measure CW will be used for improvements in water quality in Ballona Creek, Marina del Rey, Santa Monica Bay, and the Pacific Ocean. Measure CW required approval by 2/3 of those voting on the measure to pass.

Need for Measure CW

Dangerous bacteria, pesticides, toxic chemicals, oil and grease, trash and other pollutants are deposited on our roadways and flow into Ballona Creek, Marina del Rey, and the ocean through our storm drains, by rain, and other runoff water. These pollutants harm fish and wildlife, cause illness and infections for swimmers and surfers, and make beaches unsafe and unsightly for families and visitors. The State and Regional Water Quality Control Boards have implemented very strict pollution reduction regulations for storm water runoff. These regulations require the City of Culver City to develop and implement programs to reduce and prevent water pollution.

Purpose of Measure CW

Measure CW establishes an annual Clean Water, Clean Beaches Parcel Tax in the City of Culver City.

Measure CW was placed on the ballot by the City Council of the City of Culver City to create a dedicated source of funding to pay for water quality programs that will prevent pollution from reaching our waterways, beaches and the Ballona Creek Estuary. Measure CW required approval by 2/3 of those voting on the measure.

Cost of Measure CW

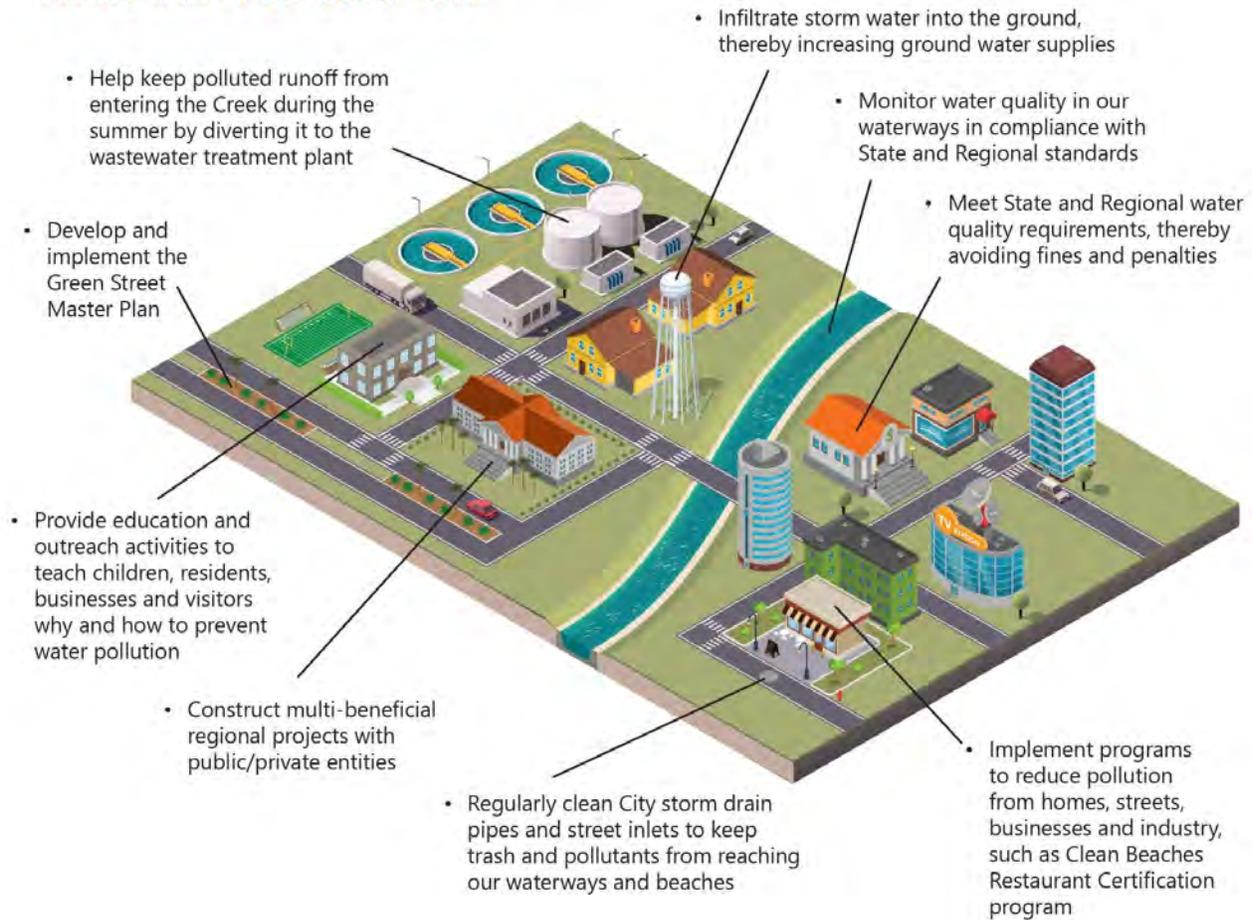
- \$99 annually per single family residential parcel
- \$69 annually per multi-family residential dwelling unit
- \$1,096 annually per acre of land or portion thereof for non-residential

Each parcel owner of a non-residential property will be taxed \$1,096 per acre of land (or portion thereof) annually. The \$1,096 will be pro-rated for non-residential parcels less than one acre. For example, a non-residential parcel of one-half acre will be taxed \$548. Land owners are taxed, not individual businesses located on the non-residential property. For larger parcels with multiple tenants, the land owner will receive one bill based on the size of the parcel, not the tenants.

Tax-exempt parcels will not be charged. Charges will first appear on the tax statements in fall 2017.

Measure CW is expected to generate about \$2 million per year. All Measure CW money will be used here in Culver City to reduce water pollution.

What will it be used for?



Use of Measure CW Funds

Measure CW funds will be placed in a special Clean Water, Clean Beaches Fund, and funds must be used exclusively for reducing and preventing water pollution and managing storm water and urban runoff. The Financial Advisory Committee will oversee how the funds are spent.

[What you need to know about Measure CW.](#)

[View the quick Fact Guide on Measure CW.](#)

Click below for important information on Measure CW

- [Full Ballot Measure Text](#)
- [Argument in Favor](#)
- [Impartial Analysis](#)

Click Below for the Enhanced Watershed Management Programs and Coordinated Integrated Monitoring Plans

Ballona Creek

Enhanced Watershed Management Program for the Ballona Creek Watershed

Coordinated Integrated Monitoring Program (CIMP) for the Ballona Creek Watershed

Marina Del Rey

Marina del Rey Enhanced Watershed Management Program Plan

Marina del Rey Coordinated Integrated Monitoring Program

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ATTACHMENT J-1



What is Integrated Pest Management (IPM)?

Integrated pest management, or IPM, is a process you can use to solve pest problems while minimizing risks to people and the environment. IPM can be used to manage all kinds of pests anywhere—in urban, agricultural, and wildland or natural areas.

Definition of IPM

IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.

What is a pest?

Pests are organisms that damage or interfere with desirable plants in our fields and orchards, landscapes, or wildlands, or damage homes or other structures. Pests also include organisms that impact human or animal health. Pests may transmit disease or may be just a nuisance. A pest can be a plant (weed), vertebrate (bird, rodent, or other mammal), invertebrate (insect, tick, mite, or snail), nematode, pathogen (bacteria, virus, or fungus) that causes disease, or other unwanted organism that may harm water quality, animal life, or other parts of the ecosystem.

How does IPM work?

IPM focuses on long-term prevention of pests or their damage by managing the ecosystem

With IPM, you take actions to keep pests from becoming a problem, such as by growing a healthy crop that can withstand pest attacks, using disease-resistant plants, or caulking cracks to keep insects or rodents from entering a building.

Rather than simply eliminating the pests you see right now, using IPM means you'll look at environmental factors that affect the pest and its ability to thrive. Armed with this information, you can create conditions that are unfavorable for the pest.

In IPM, monitoring and correct pest identification help you decide whether management is needed

Monitoring means checking your field, landscape, forest, or building—or other site—to identify which pests are present, how many there are, or what damage they've caused. Correctly identifying the pest is key to knowing whether a pest is likely to become a problem and determining the best management strategy.

After monitoring and considering information about the pest, its biology, and environmental factors, you can decide whether the pest can be tolerated or whether it is a problem that warrants control. If control is needed, this information also helps you select the most effective management methods and the best time to use them.

IPM programs combine management approaches for greater effectiveness

The most effective, long-term way to manage pests is by using a combination of methods that work better together than separately. Approaches for managing pests are often grouped in the following categories.

Biological control

Biological control is the use of natural enemies—predators, parasites, pathogens, and competitors—to control pests and their damage.

Invertebrates, plant pathogens, nematodes, weeds, and vertebrates have many natural enemies.

(<http://www2.ipm.ucanr.edu>) MENU



UC IPM (<http://www2.ipm.ucanr.edu>) is a peer-reviewed journal of IPM management, reproduction, dispersal, and survival. For example, changing irrigation practices can reduce pest problems, since too much water can increase root disease and weeds.

Mechanical and physical controls

Mechanical and physical controls kill a pest directly, block pests out, or make the environment unsuitable for it. Traps for rodents are examples of mechanical control. Physical controls include mulches for weed management, steam sterilization of the soil for disease management, or barriers such as screens to keep birds or insects out.

Chemical control

Chemical control is the use of pesticides. In IPM, pesticides are used only when needed and in combination with other approaches for more effective, long-term control. Pesticides are selected and applied in a way that minimizes their possible harm to people, nontarget organisms, and the environment. With IPM you'll use the most selective pesticide that will do the job and be the safest for other organisms and for air, soil, and water quality; use pesticides in bait stations rather than sprays; or spot-spray a few weeds instead of an entire area.

IPM is based on scientific research

Hear UC IPM scientist Pete Goodell talk about the scientific basis for IPM.  (http://ucanr.edu/sites/OrchardIPM/Video_Library_875/Viewpoints_from_researchers/Pete_Goodell/) (7 min)

IPM programs

These IPM principles and practices are combined to create IPM programs. While each situation is different, six major components are common to all IPM programs:

1. Pest identification
2. Monitoring and assessing pest numbers and damage
3. Guidelines for when management action is needed
4. Preventing pest problems
5. Using a combination of biological, cultural, physical/mechanical and chemical management tools
6. After action is taken, assessing the effect of pest management

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ATTACHMENT J-2

The American Presidency Project

John T. Woolley & Gerhard Peters • Santa Barbara, California

[return to original document](#)

• Richard Nixon

Special Message to the Congress Outlining the 1972 Environmental Program

February 8, 1972

To the Congress of the United States:

From the very first, the American spirit has been one of self-reliance and confident action. Always we have been a people to say with Henry "I am the master of my fate . . . the captain of my soul"—a people sure that man commands his own destiny. What has dawned dramatically upon us in recent years, though, is a new recognition that to a significant extent man commands as well the very destiny of this planet where he lives, and the destiny of all life upon it. We have even begun to see that these destinies are not many and separate at all—that in fact they are indivisibly one.

This is the environmental awakening. It marks a new sensitivity of the American spirit and a new maturity of American public life. It is working a revolution in values, as commitment to responsible partnership with nature replaces cavalier assumptions that we can play God with our surroundings and survive. It is leading to broad reforms in action, as individuals, corporations, government, and civic groups mobilize to conserve resources, to control pollution, to anticipate and prevent emerging environmental problems, to manage the land more wisely, and to preserve wildness.

In messages to the Congress during 1970 and 1971 I proposed comprehensive initiatives reflecting the earliest and most visible concerns of the environmental awakening. The new cast of the public mind had to be translated into new legislation. New insights had to have new governmental forms and processes through which to operate. Broadly-based problems—such as air pollution, water pollution and pesticide hazards had to be dealt with first.

The necessary first steps in each of these areas have now been taken, though in all of them the work is far from completed. Now, as we press on with that work in 1972, we must also come to grips with the basic factors which underlie our more obvious environmental problems—factors like the use of land and the impact of incentives or disincentives built into our economic system. We are gaining an increasingly sophisticated understanding of the way economic, institutional, and legal forces shape our surroundings for good or ill; the next step is learning how to turn such forces to environmental benefit.

Primary responsibility for the actions that are needed to protect and enhance our environment rests with State and local government, consumers, industry, and private organizations of various kinds—but the Federal Government must provide leadership. On the first day of this decade I stated that "it is literally now or never" for true quality of life in America. Amid much encouraging evidence that it can and will be "now," we must not slacken our pace but accelerate it. Environmental concern must crystallize into permanent patterns of thought and action. What began as environmental awakening must mature finally into a new and higher environmental way of life. If we flag in our dedication and will, the problems themselves will not go away. Toward keeping the momentum of awareness and action, I pledge my full support and that of this Administration, and I urgently solicit the continuing cooperation of the Congress and the American people.

TWO YEARS' AGENDA

FROM CONSIDERATION TO ACTION

In my 1971 environmental message, just one year ago today, I sent to the Congress a comprehensive program designed to clean up the problems of the past, and to deal with emerging problems before they become critical. These proposals included:

Regulation of toxic substances

Comprehensive improvement in pesticide control authority

Noise control

Preservation of historic buildings

Power plant siting

Regulation of environmental effects of surface and underground mining

Ocean dumping regulation

More effective control of water pollution through a greatly expanded waste treatment grant program and strengthened standard-setting and enforcement authorities

A National Land Use Policy Act
Substantial expansion of the wilderness system
Expanded international cooperation.

To date, most of the legislation on this list has been the subject of congressional hearings; most of it has attracted heartening interest and support; but none of it has yet received final congressional action. Last year was, quite properly, a year of consideration of these measures by the Congress. I urge, however, that this be a year of action on all of them, so that we can move on from intention to accomplishment in the important needs they address. Passage of these measures and creation of the unified Department of Natural Resources which I also proposed in 1971—by this 92nd Congress—will be essential if we are to have an adequate base for improving environmental quality.

BUILDING ON THE BASE

As that base is being established, we must move ahead to build wisely and rapidly upon it. I shall outline today a plan for doing that, with initiatives and actions in the following areas:

--Tightening pollution control

A Toxic Wastes Disposal Control Act

Legislation to control sediment from construction activities

An emissions charge to reduce sulfur oxide air pollution

Clean energy research and energy conservation measures

--Making technology an environmentally

Integrated pest management

Stepped-up research on noise control

Stepped-up research on air pollution effects and measurement

--Improving land use

Expansion and strengthening of the National Land Use Policy Act

Protection of wetlands

--Protecting our natural heritage

A ban on use of poisons for predator control on public lands

A stronger law to protect endangered species of wildlife

Big Cypress National Fresh Water Reserve

National Recreation Areas around New York Harbor and the Golden Gate

Conversion of 20 additional Federal properties to recreational use

18 new Wilderness Areas
Regulation of off-road vehicles on Federal lands

--Expanding international cooperation on the environment

Establishment of a United Nations

Fund for the Environment

Further measures to control marine pollution

--Protecting children from lead-based paint

--Enlisting the young

President's Environmental Merit Awards Program for high schools
Youth opportunities in the Department of Agriculture Field Scout program.

TIGHTENING POLLUTION CONTROL

The legislative framework for dealing with our major air pollution problems has become law, and I have made comprehensive recommendations regarding water pollution control. But several problems remain to be addressed which are difficult to deal with under the general pollution control authorities.

DISPOSAL OF TOXIC WASTES

Increasingly strict air and water pollution control laws and their more effective enforcement have led to greater reliance on land--both surface and underground--for disposal of waste products from the toxic substances being used in ever greater volume and variety in our society. Without adequate controls, such waste disposal may cause contamination of underground and surface waters leading to direct health hazards.

--I propose a Toxic Wastes Disposal Act, under which the Environmental Protection Agency would establish Federal guidelines and requirements for State programs to regulate disposal on or under the land of those toxic wastes which pose a hazard to health. The act would provide for Federal enforcement action if a State should fail to establish its own program.

SEDIMENT CONTROL

Sediment, small particles of soil which enter the water, is the most pervasive water pollution problem which does not come primarily from municipal or industrial sources. Heavy loads of sediment interfere with many beneficial uses of water, such as swimming and water supply, and can change the entire character of an aquatic environment. Many of our great waterways are afflicted with this problem. In our urban areas, a significant amount of sediment comes from construction. However, if proper construction practices are followed, sediment runoff from this source can be greatly reduced.

--I propose legislation calling upon the States to establish, through appropriate local and regional agencies, regulatory programs to control sediment affecting water quality from earth-moving activities such as building and road construction.

The Environmental Protection Agency, together with other Federal agencies, would develop Federal guidelines for appropriate control measures. Federal enforcement would take place in situations where a State failed to implement such a program.

SULFUR OXIDES EMISSIONS CHARGE

In my 1971 Environmental Message, I announced plans to ask for imposition of a charge on sulfur oxides emissions, one of the air pollutants most damaging to human health and property, and vegetation. The Council on Environmental Quality, the Treasury Department and the Environmental Protection Agency have now completed their studies on this measure and have developed the details of an emission charge proposal.

--I propose a charge on sulfur emitted into the atmosphere from combustion, refining, smelting, and other processes.

This charge would begin in 1976 and apply in all regions where the air quality does not meet national standards for sulfur oxides during 1975. The charge would be 15¢ per pound on sulfur emitted in regions where the primary standards--which are designed to be protective of public health--have not been met within the deadline for achievement prescribed in the Clean Air Act. In regions where air quality met the primary standard but exceeded the secondary national standard--designed to protect property, vegetation, and aesthetic values--a charge of \$.10 per pound of sulfur emitted would apply. Areas which reduce emissions sufficiently to meet both primary and secondary air quality standards would be exempt from the emission charge.

This charge is an application of the principle that the costs of pollution should be included in the price of the product. Combined with our existing regulatory authority, it would constitute a strong economic incentive to achieve the sulfur oxides standards necessary to protect health, and then further to reduce emissions to levels which protect welfare and aesthetics.

CLEAN ENERGY GENERATION AND

CONSERVATION

Ours is an energy-based economy, and energy resources are the basis for future economic progress. Yet the consumption of energy-producing fuels contributes to many of our most serious pollution problems. In order to have both environmental quality and an improving standard of living, we will need to develop new clean energy sources and to learn to use energy more efficiently.

Our success in meeting energy needs while preventing adverse environmental effects from energy generation and transmission will depend heavily on the state of available technology. In my message to the Congress on energy of last June, I announced a series of steps to increase research on clean and efficient energy production. But further action is needed.

--As part of my new commitment to augment Federal research and development and target it more effectively on solving domestic problems, I have requested in the 1973 budget an additional \$88 million for development of a broad spectrum of new technologies for producing clean energy.

In addition to carrying forward the priority efforts I have already announced the liquid metal fast breeder reactor, pipeline quality gas from coal, and sulfur oxide control technology--the budget provides funds for new or increased efforts on fusion power, solar energy, magneto-hydrodynamics, industrial gas from coal, dry cooling towers for power plant waste heat, large energy storage batteries and advanced underground electric transmission lines. These new efforts relate to both our immediate and our future energy problems, and are needed to assure adequate supplies of clean energy.

My message on energy also announced several steps that would be taken by the Federal Government to use energy more efficiently and with less environmental harm. One of these steps was issuance by the Secretary of Housing and Urban Development of revised standards for insulation in new federally insured houses. The new standards for single-family structures, which have now been issued through the Federal Housing Administration, reduce the maximum permissible heat loss by about one-third for a typical home. The fuel savings which will result from the application of these new standards will, in an average climate, exceed in one year the cost of the additional insulation required.

--I am now directing the Secretary of Housing and Urban Development to issue revised insulation standards for apartments and other multifamily structures not covered by the earlier revision. The new rules will cut maximum permissible heat loss by 40%.

The savings in fuel costs after a 5-year period will on the average more than offset the additional construction costs occasioned by these revised standards.

These stricter insulation standards are only one example of administrative actions which can be taken by the Federal Government to eliminate wasteful use of energy. The Federal Government can and must provide leadership by finding and implementing additional ways of reducing such waste.

--I have therefore instructed the Council on Environmental Quality and the Office of Science and Technology, working with other Federal agencies, to conduct a survey to determine what additional actions might be taken to conserve energy in Federal activities.

This survey will look at innovative ways to reduce wasteful consumption of energy while also reducing total costs and undesirable environmental impact.

RECYCLING

Recycling--the technique which treats many types of solid wastes not as pollutants but as recoverable and reusable "resources out of place"--is an important part of the answer to the Nation's solid waste burden. Last year, at my direction, the General Services Administration began reorienting government procurement policies to set a strong Federal example in the use of recycled products.

--Because Federal tax policy should also offer recycling incentives, the Treasury Department is clarifying the availability of tax exempt treatment industrial revenue bond financing for the construction of recycling facilities built by private concerns to recycle their own wastes.

THE ENVIRONMENTAL TRANSITION

Many environmental problems are influenced by the way our economy operates. Conversely, efforts to improve environmental quality have an impact on the economy. Our national income accounting does not explicitly recognize the cost of pollution damages to health, materials, and aesthetics in the computation of our economic well-being. Many goods and services fail to

bear the full costs of the damages they cause from pollution, and hence are underpriced.

Environmental quality requirements will affect many of our industries by imposing new costs on production. We know that these impacts fall unevenly on industries, new and old firms, and on communities, but little concrete data has been available. Contract studies have recently been performed for the Council on Environmental Quality, the Environmental Protection Agency, and the Department of Commerce, under the policy guidance of the Council of Economic Advisers. These initial studies suggest that pollution control costs will result in some price increases, competitive trade disadvantages, and employment shifts. The major impact of these costs will be on older, and usually smaller plants.

As long as we carefully set our environmental goals to assure that the benefits we achieve are greater than the social and economic costs, the changes which will occur in our economy are desirable, and we as a Nation will benefit from them.

MAKING TECHNOLOGY AN ENVIRONMENTAL ALLY

The time has come to increase the technological resources allocated to the challenges of meeting high-priority domestic needs. In my State of the Union Message last month, I announced an expanded Federal research and development commitment for this purpose. There is great potential for achievement through technology in the fight against pollution and the larger drive for quality in our environment.

The temptation to cast technology in the role of ecological villain must be resisted--for to do so is to deprive ourselves of a vital tool available for enhancing environmental quality. As Peter Drucker has said, "the environment is a problem of [the] success"¹ of technological society, by no means a proof of its failure. The difficulties which some applications of technology have engendered might indeed be rectified by turning our backs on the 20th century, but only at a price in privation which we do not want to pay and do not have to pay. There is no need to throw out the baby with the bath water. Technology can and must be wisely applied so that it becomes environmentally self-corrective. This is the standard for which we must aim.

¹ Peter F. Drucker, "The Age of Discontinuity: Guidelines to Our Changing Society" (Harper and Row, 1969).

INTEGRATED PEST MANAGEMENT

Chemical pesticides are a familiar example of a technological innovation which has provided important benefits to man but which has also produced unintended and unanticipated harm. New technologies of integrated pest management must be developed so that agricultural and forest productivity can be maintained together with, rather than at the expense of, environmental quality. Integrated pest management means judicious use of selective chemical pesticides in combination with nonchemical agents and methods. It seeks to maximize reliance on such natural pest population controls as predators, sterilization, and pest diseases. The following actions are being taken:

--I have directed the Department of Agriculture, the National Science Foundation, and the Environmental Protection Agency to launch a large-scale integrated pest management research and development program. This program will be conducted by a number of our leading universities.

--I have directed the Department of Agriculture to increase field testing of promising new methods of pest detection and control. Also, other existing Federal pesticide application programs will be examined for the purpose of incorporating new pest management techniques.

--I have directed the Departments of Agriculture and of Health, Education, and Welfare to encourage the development of training and certification programs at appropriate academic institutions in order to provide the large number of crop protection specialists that will be needed as integrated pest management becomes more fully utilized.

--I have authorized the Department of Agriculture to expand its crop field scout demonstration program to cover nearly four million acres under agricultural production by the upcoming growing season.

Through this program many unnecessary pesticide applications can be eliminated, since the scouts will be used to determine when pesticide applications are actually needed.

In my message on the environment last February, I proposed a comprehensive revision of our pesticide control laws--a revision which still awaits final congressional action. Also essential to a sound national pesticide policy are measures to ensure that agricultural workers are protected from adverse exposures to these chemicals.

--I am directing the Departments of Labor and Health, Education, and Welfare to develop standards under the Occupational Safety and Health Act to protect such workers from pesticide poisoning.

NOISE CONTROL RESEARCH

Scientific findings increasingly confirm what few urban dwellers or industrial workers need to be told--that excessive noise can constitute a significant threat to human well-being. The Congress already has before it a comprehensive noise control bill, which I proposed a year ago. A quieter environment cannot simply be legislated into being. We shall also need to develop better methods to achieve our goal.

--I have requested in my 1973 budget a \$23 million increase in research and development funds for reducing noise from airplanes. I have also requested new funds for research and development for reducing street traffic noise.

RESEARCH ON AIR POLLUTION EFFECTS

AND MEASUREMENT

Our pollution control efforts are based largely on the establishment of enforceable standards of environmental quality. Initial standards have often been based on incomplete knowledge because the necessary information has not been available. Also, the lack of adequate instruments to measure pollution and of models of how pollutants are dispersed has made it difficult to know exactly how much pollution must be controlled in a particular area. We need added research and development to make more precise judgments of what standards should be set and how we can most practically achieve our goals.

--I have requested in my 1973 budget an additional \$12 million to increase research on the health effects of air pollution, on regional air pollution modeling, and on improved pollution instrumentation and measurement.

IMPROVING LAND USE

In recent years we have come to view our land as a limited and irreplaceable resource. No longer do we imagine that there will always be more of it over the horizon--more woodlands and shorelands and wetlands--if we neglect or overdevelop the land in view. A new maturity is giving rise to a land ethic which recognizes that improper land use affects the public interest and limits the choices that we and our descendants will have.

Now we must equip our institutions to carry out the responsibility implicit in this new outlook. We must create the administrative and regulatory mechanisms necessary to assure wise land use and to stop haphazard, wasteful, or environmentally damaging development. Some States are moving ahead on their own to develop stronger land-use institutions and controls. Federal programs can and should reinforce this encouraging trend.

NATIONAL LAND USE POLICY ACT

The National Land Use Policy Act, which I proposed to the Congress last year, would provide Federal assistance to encourage the States, in cooperation with local governments, to protect lands which are of critical environmental concern and to control major development. While not yet enacted, this measure has been the subject of much useful debate.

--I propose amendments to this pending National Land Use Policy legislation which would require States to control the siting of major transportation facilities, and impose sanctions on any State which does not establish an adequate land use program.

Under these amendments, the State programs established pursuant to the act would not only have to embody methods for controlling land use around key growth-inducing developments such as highways, airports, and recreational facilities; the States would also have to provide controls over the actual siting of the major highways and airports themselves. The change recognizes the fact that these initial siting decisions, once made, can often trigger runaway growth and adverse environmental effects.

The amendments would further provide that any State that had not established an acceptable land use program by 1975 would be subject to annual reductions of certain Federal funds. Seven percent of the funds allocated under sections of the Airport and Airways Development Act, the Federal-Aid Highway Act including the Highway Trust Fund, and the Land and Water Conservation Fund, would be withheld in the first year. An additional 7 percent would be withheld for each additional year that a State was without an approved land use program. Money thus withheld from noncomplying States would be allocated among States which did have acceptable programs.

These strong new amendments are necessary in view of the significant effect that Federal programs, particularly transportation programs, have upon land use decisions.

PROTECTION OF WETLANDS

The Nation's coastal and estuarine wetlands are vital to the survival of a wide variety of fish and wildlife; they have an important function in controlling floods and tidal forces; and they contain some of the most beautiful areas left on this continent. These same lands, however, are often some of the most sought-after for development. As a consequence, wetland acreage has been declining as more and more areas are drained and filled for residential, commercial, and industrial projects.

My National Land Use Policy Act would direct State attention to these important areas by defining wetlands among the "environmentally critical areas" which it singles out for special protection, and by giving priority attention to the coastal zones. I propose to supplement these safeguards with new economic disincentives to further discourage unnecessary wetlands development.

--I propose legislation to limit applicability of certain Federal tax benefits when development occurs in coastal wetlands.

MANAGEMENT OF PUBLIC LANDS

During 1971, I acted to strengthen the environmental requirements relating to management and use of the Nation's vast acreage of federally-owned public lands administered by the Department of the Interior. I proposed new legislation to establish an overall management policy for these public lands, something which we have been without for far too long. This legislation, still pending before the Congress, would direct the Secretary of the Interior to manage our public lands in a manner that would protect their environmental quality for present and future generations. The policy which it would establish declares the retention of the public lands to be in the national interest except where disposal of particular tracts would lead to a significant improvement in their management, or where the disposal would serve important public objectives which cannot be achieved on non-public lands.

PROTECTING OUR NATURAL HERITAGE

Wild places and wild things constitute a treasure to be cherished and protected for all time. The pleasure and refreshment which they give man confirm their value to society. More importantly perhaps, the wonder, beauty, and elemental force in which the least of them share suggest a higher right to exist--not granted them by man and not his to take away. In environmental policy as anywhere else we cannot deal in absolutes. Yet we can at least give considerations like these more relative weight in the seventies, and become a more civilized people in a healthier land because of it.

PREDATOR CONTROL

Americans today set high value on the preservation of wildlife. The old notion that "the only good predator is a dead one" is no longer acceptable as we understand that even the animals and birds which sometimes prey on domesticated animals have their own value in maintaining the balance of nature.

The widespread use of highly toxic poisons to kill coyotes and other predatory animals and birds is a practice which has been a source of increasing concern to the American public and to the federal officials responsible for the public lands.

Last year the Council on Environmental Quality and the Department of the Interior appointed an Advisory Committee on Predator Control to study the entire question of predator and related animal control activities. The Committee found that persistent poisons have been applied to range and forest lands without adequate knowledge of their effects on the ecology or their utility in preventing losses to livestock. The large-scale use of poisons for control of predators and field rodents has resulted in unintended losses of other animals and in other harmful effects on natural ecosystems. The Committee concluded that necessary control of coyotes and other predators can be accomplished by methods other than poisons.

Certainly, predators can represent a threat to sheep and some other domesticated animals. But we must use more selective methods of control that will preserve ecological values while continuing to protect livestock.

--I am today issuing an Executive Order [11643] barring the use of poisons for predator control on all public lands. (Exceptions will be made only for emergency situations.) I also propose legislation to shift the emphasis of the current direct Federal predator control program to one of research and technical and financial assistance to the States to help them control predator populations by means other than poisons.

ENDANGERED SPECIES

It has only been in recent years that efforts have been undertaken to list and protect those species of animals whose continued existence is in jeopardy. Starting with our national symbol, the bald eagle, we have expanded our concern over the extinction of these animals to include the present list of over 100. We have already found, however, that even the most recent act to protect endangered species, which dates only from 1969, simply does not provide the kind of management tools needed to act early enough to save a vanishing species. In particular, existing laws do not generally allow the Federal Government to control shooting, trapping, or other taking of endangered species.

--I propose legislation to provide for early identification and protection of endangered species. My new proposal would make the taking of endangered species a Federal offense for the first time, and would permit protective measures to be undertaken before a species is so depleted that regeneration is difficult or impossible.

MIGRATORY SPECIES

The protection of migratory species, besides preserving wildlife values, exemplifies cooperative environmental effort among the United States, Canada, and Mexico. By treaties entered into among these three countries, migratory species are protected. New species may be added by common agreement between the United States and Mexico.

--I have authorized the Secretary of State, in conjunction with the Secretary of the Interior, to seek the agreement of the Mexican Government to add 33 new families of birds to the protected list.

Included in the proposal are eagles, hawks, falcons, owls, and many of the most attractive species of wading birds. I am hopeful that treaty protection can be accorded them in the near future.

BIG CYPRESS NATIONAL FRESH WATER

RESERVE

After careful review of the environmental significance of the Big Cypress Swamp in Florida, particularly of the need for water from this source to maintain the unique ecology of Everglades National Park, I directed the Secretary of the Interior to prepare legislation to create the Big Cypress National Fresh Water Reserve. This legislation, which has now been submitted to the Congress, will empower the Federal Government to acquire the requisite legal interest in 547,000 acres of Big Cypress.

NEW PARKLANDS AT THE GATEWAYS

The need to provide breathing space and recreational opportunities in our major urban centers is a major concern of this Administration. Two of the Nation's major gateways to the world--New York City and San Francisco--have land nearby with exceptional scenic and recreational potential, and we are moving to make that land available for people to enjoy. In May of 1971, I proposed legislation to authorize a Gateway National Recreation Area in New York and New Jersey. This proposal would open to a metropolitan region of more than 14 million people a National Recreation Area offering more than 23,000 acres of prime beaches, wildlife preserves, and historical attractions including the nation's oldest operating lighthouse.

On our western shore lies another area uniquely appropriate for making recreational and scenic values more accessible to a metropolitan community.

--I propose legislation to establish a Golden Gate National Recreation Area in and around San Francisco Bay.

This proposal would encompass a number of existing parks, military reservations, and private lands to provide a full range of recreation experiences. Altogether, the area would encompass some 24,000 acres of fine beaches, rugged coasts, and readily accessible urban parklands, extending approximately 30 miles along some of America's most beautiful coastline north and south of Golden Gate Bridge. Angel and Alcatraz Islands in the bay would be within the boundaries of the National Recreation Area, as would a number of properties on the mainland which afford magnificent views of the city, the bay and the ocean. As part of this plan, I am directing that the Presidio at San Francisco be opened for dual military and civilian recreational uses.

CONVERTING FEDERAL PROPERTIES TO

PARKS

Among the most important legacies that we can pass on to future generations is an endowment of parklands and recreational areas that will enrich leisure opportunities and make the beauties of the earth and sea accessible to all Americans. This is the object of our Legacy of Parks program, initiated early in 1971. As part of this program, I directed the Property Review Board to give priority to potential park and recreation areas in its search for alternative uses of federally held real property. The results of this search so far have been most encouraging. To the original 40 properties which I announced in my Environmental Message of 1971 as being well suited for park use, another 111 prospects have been added. And from this total of 151 prospective parklands, 63 have already been made available.

--Today I am pleased to announce that 20 more parcels of Federal land are being made available for park and recreation use.

These newest parcels, combined with those which have been announced over the past year, provide a legacy of 83 parklands for America which comprise 14,585 acres in 31 States and Puerto Rico. The estimated fair market value of these properties is over \$56 million. In the months to come, every effort will be made to extend this legacy to all 50 States. The green spaces and natural retreats that we tend to take for granted will not be available for future enjoyment unless we act now to develop and protect them.

WILDERNESS AREAS

One of the first environmental goals I set when I took office was to stimulate the program to identify and recommend to the Congress new wilderness areas. Although this program was behind schedule at that time, I am now able to report that the September, 1974 statutory deadline for reviews can and will be met.

The Wilderness Act of 1964 set aside 54 areas, consisting of about 9.1 million acres, as the nucleus of our wilderness system. Since then, 33 new areas totalling almost 1.2 million acres within National Forests, National Parks, and National Wildlife Refuges have been added to the system. Thirty-one areas totalling about 3.6 million acres, including 18 areas submitted by this Administration, have been proposed to the Congress but have yet to be acted upon. One of the most significant elements of this process has been the active participation by the public in all of its phases. At public wilderness hearings held all across the country, fair consideration has been given to all interests and points of view, with constructive citizen involvement in the decision-making process.

--I am today proposing 18 new wilderness areas which, when approved, will add another 1.3 million acres to the wilderness system.

Eight of these proposals are within the National Forests, four are within National Park areas, and six are in National Wildlife Refuges.

Of these areas, 1.2 million acres would be in the following National Forests: Blue Range National Forest, Arizona and New Mexico; Agua Tibia and Emigrant National Forests, California; Eagles Nest and Weminuche National Forests, Colorado; Mission Mountains National Forest, Montana; Aldo Leopold National Forest, New Mexico; and Glacier National Forest, Wyoming.

A total of 40,000 acres would be in our National Park system in the following locations: Black Canyon of the Gunnison National Monument, Colorado; Bryce Canyon National Park, Utah; Chiricahua National Monument, Arizona; Colorado National Monument, Colorado.

Finally, a total of 87,000 acres would be in areas administered by the Fish and Wildlife Services of the Department of the Interior in the following locations: St. Marks, National Wildlife Refuge, Florida; Wolf Island, National Wildlife Refuge, Georgia; Moosehorn National Wildlife Refuge, Maine; San Juan Islands, National Wildlife Refuge, Washington; Cape Romain, National Wildlife Refuge, South Carolina; and Bosque del Apache, National Wildlife Refuge, New Mexico.

The year 1972 can bring some of the greatest accomplishment in wilderness preservation since passage of the Wilderness Act in 1964. I urge prompt and systematic consideration by the Congress of these 18 new proposals and of the \$1 currently pending before it. Approval of all 49 additions would bring the system up to a total of over 15 million acres.

Unfortunately, few of these wilderness areas are within easy access of the most populous areas of the United States. The major purpose of my Legacy of Parks program is to bring recreation opportunities closer to the people, and while wilderness is only one such opportunity, it is a very important one. A few of the areas proposed today or previously are in the eastern sections of the country, but the great majority of wilderness areas are found in the West. This of course is where most of our pristine wild areas are. But a greater effort can still be made to see that wilderness recreation values are preserved to the maximum extent possible, in the regions where most of our people live.

--I am therefore directing the Secretaries of Agriculture and the Interior to accelerate the identification of areas in the Eastern United States having wilderness potential.

OFF-ROAD VEHICLES

A recent study by the Department of the Interior estimated that Americans own more than 5 million off-road recreational vehicles--motorcycles, minibikes, trail bikes, snowmobiles, dune-buggies, all-terrain vehicles, and others. The use of these vehicles is dramatically on the increase: data show a three-fold growth between 1967 and 1971 alone.

As the number of off-road vehicles has increased, so has their use on public lands. Too often the land has suffered as a result. Increasingly, Federal recreational lands have become the focus of conflict between the newer motorized recreationist and the traditional hiker, camper, and horseback rider. In the past, Federal land-management agencies have used widely varying approaches to dealing with this conflict. The time has come for a unified Federal policy toward use of off-road vehicles on Federal lands.

--I have today signed an Executive Order [11644] directing the Secretaries of Agriculture, Interior, Army and the Board of Directors of the Tennessee Valley Authority to develop regulations providing for control over the use of off-road vehicles on Federal lands.

They will designate areas of use and non-use, specify operating conditions that will be necessary to minimize damage to the natural resources of the Federal lands, and ensure compatibility with other recreational uses, taking into account noise and other factors.

EXPANDING INTERNATIONAL COOPERATION ON THE ENVIRONMENT

We are now growing accustomed to the view of our planet as seen from space--a blue and brown disk shrouded in white patches of clouds. But we do not ponder often enough the striking lesson it teaches about the global reach of environmental imperatives. No matter what else divides men and nations, this perspective should unite them. We must work harder to foster such world environmental consciousness and shared purpose.

UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT

To cope with environmental questions that are truly international, we and other nations look to the first world conference of governments ever convened on this subject: the United Nations Conference on the Human Environment, to be held in Stockholm, Sweden, in June of this year. This should be a seminal event of the international community's attempt to cope with these serious, shared problems of global concern that transcend political differences.

But efforts to improve the global environment cannot go forward without the means to act.

--To help provide such means, I propose that a voluntary United Nations Fund for the Environment be established, with an initial funding goal of \$100 million for the first 5 years.

This Fund would help to stimulate international cooperation on environmental problems by supporting a centralized coordination point for United Nations activities in this field. It would also help to bring new resources to bear on the increasing number of worldwide problems through activities such as monitoring and cleanup of the oceans and atmosphere.

--If such a Fund is established, I will recommend to the Congress that the United States commit itself to provide its [air share of the Fund on a matching basis over the first 5 years.

This level of support would provide start-up assistance under mutually agreed upon terms. As these programs get underway, it may well be that the member nations will decide that additional resources are required. I invite other nations to join with us in this commitment to meaningful action.

CONTROL OF MARINE POLLUTION

Ocean pollution is clearly one of our major international environmental problems. I am gratified that in the past year the Congress has taken several steps to reduce the risks of oil spills on the high seas. However, further congressional action is needed to ratify several pending international conventions and to adopt implementing legislation for the various oil-spill conventions which have been ratified or which are awaiting approval.

Action on these recommendations will complete the first round of international conventions to deal with marine pollution. We have taken initiatives in three international forums to develop a second and more sophisticated round of agreements in this area. We are preparing for a 1973 Intergovernmental Maritime Consultative Organization (IMCO) Conference to draft a convention barring intentional discharges to the sea of oil and hazardous substances from ships. In conjunction with the Law of the Sea Conference scheduled for 1973, we are examining

measures to control the effects of developing undersea resources. And, in the preparatory work for the 1972 U.N. Conference on the Human Environment, progress has been made on an agreement to regulate the ocean dumping of shore-generated wastes, and further work in this area has been scheduled by IMCO. We hope to conclude conventions in each of these areas by 1973.

PROTECTING CHILDREN FROM LEAD BASED PAINT

To many Americans, "environment" means the city streets where they live and work. It is here that a localized but acutely dangerous type of "pollution" has appeared and stirred mounting public concern.

The victims are children: the hazard is lead-based paint. Such paint was applied to the walls of most dwellings prior to the 1950's. When the paint chips and peels from the walls in dilapidated housing, it is frequently eaten by small children. This sometimes results in lead poisoning which can cause permanent mental retardation and occasionally death. We can and must prevent unnecessary loss of life and health from this hazard, which particularly afflicts the poorest segments of our population.

To help meet the lead-paint threat, the Department of Health, Education, and Welfare will administer grants and technical assistance to initiate programs in over 50 communities to test children in highrisk areas for lead concentrations. In addition, these programs will support the development of community organization and public education to increase public awareness of this hazard. Other Federal agencies are also active in the effort to combat lead-based paint poisoning. ACTION and other volunteers will assist city governments to help alleviate lead paint hazards. The Department of Housing and Urban Development is engaged in research and other actions to detect and eliminate this hazard.

The resources of the private sector should also be utilized through local laws requiring owners of housing wherever possible to control lead paint hazards.

ENLISTING THE YOUNG

The starting point of environmental quality is in the hearts and minds of the people. Unless the people have a deep commitment to the new values and a clear understanding of the new problems, all our laws and programs and spending will avail little. The young, quick to commit and used to learning, are gaining the changed outlook fastest of all. Their enthusiasm about the environment spreads with a healthy contagion: their energy in its behalf can be an impressive force for good.

Four youth participation programs of mutual benefit to the young and the Nation are now planned or underway:

Last October, I initiated the Environmental Merit Awards Program. This program, directed by the Environmental Protection Agency in cooperation with the U.S. Office of Education, awards national recognition to successful student projects leading to environmental understanding or improvement. Qualifications for the awards are determined by a local board consisting of secondary school students, faculty, and representatives of the local community. Already more than 2,000 high schools, representing all 50 States, have registered in the program.

The Department of Agriculture's expanded field scout demonstration program, designed to permit more effective pest control with less reliance on chemical pesticides, will employ thousands of high school and college students. These young people will be scouting cotton and tobacco pests in the coming growing season, and the program will be expanded to other crops in future years.

The Environmental Protection Agency has recently initiated in its Seattle regional office a pilot program using young people to assist the agency in many of its important tasks, including monitoring. EPA is working with State and local pollution control agencies to identify monitoring needs. ACTION and the youth training programs are providing the manpower. If this initial program proves successful, the concept will be expanded.

ACTION volunteers and young people employed through the Neighborhood Youth Corps, Job Corps, and college work-study programs will work with city governments to help alleviate lead paint hazards, gaining experience in community health work as they give urgently needed aid to inner-city families.

Young people working on environmental projects, learning the skills necessary for a particular job, must also understand how their work relates to the environmental process as a whole. Thus, all of these activities must be supplemented by continued improvement in many aspects of environmental education to help all of our citizens, both young and old, develop a better awareness of man's relation to his environment. In my first Environmental Quality Report, I stressed the importance of improving the Nation's "environmental literacy." This goal remains as important as ever, and our progress toward it must continue.

ONE DESTINY

Our destiny is one: this the environmental awakening has taught America in these first years of the seventies. Let us never forget, though, that it is not a destiny of fear, but of promise. As I stated last August in transmitting the Second Annual Report of the Council on Environmental Quality: "The work of environmental improvement is a task for all our people. . . . The achievement of that goal will challenge the creativity of our science and technology, the enterprise and adaptability of our industry, the responsiveness and sense of balance of our political and legal institutions, and the resourcefulness and the capacity of this country to honor those human values upon which the quality of our national life must ultimately depend." We shall rise to the challenge of solving our environmental problems by enlisting the creative energy of all of our citizens in a cause truly worthy of the best that each can bring to it.

While we share our environmental problems with all the people of the world, our industrial might, which has made us the leader among nations in terms of material well-being, also gives us the responsibility of dealing with environmental problems first among the nations. We can be proud that our solutions and our performance will become the measure for others climbing the ladder of aspirations and difficulties; we can set our sights on a standard that will lift their expectations of what man can do.

The pursuit of environmental quality will require courage and patience. Problems that have been building over many years will not yield to facile solutions. But I do not doubt that Americans have the wit and the will to win--to fulfill our brightest vision of what the future can be.

RICHARD NIXON
THE WHITE HOUSE,
February 8, 1972.

Citation: Richard Nixon: "Special Message to the Congress Outlining the 1972 Environmental Program", February 8, 1972. Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*. <http://www.presidency.ucsb.edu/ws/?pid=3731>.

ATTACHMENT J-3

[The American Presidency Project](#)

John T. Woolley & Gerhard Peters • Santa Barbara, California

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• Jimmy Carter

Memorandum From the President on Integrated Pest Management

August 2, 1979

Memorandum for the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Defense, the Secretary of Health, Education & Welfare, the Secretary of Housing and Urban Development, the Secretary of the Interior, the Secretary of Labor, the Secretary of Transportation, the Administrator of the Environmental Protection Agency, the Administrator of the General Services Administration, the Chairman of the Council on Environmental Quality

In my Environmental Message of August 2, 1979, I recognized that integrated pest management (IPM) has both economic and environmental benefits and should be encouraged in both research and operational programs of federal agencies. Therefore, I am directing that each of your agencies:

- Modify as soon as possible your existing pest management, research, control, education, and assistance programs to support and adopt IPM strategies wherever practicable within the limits of existing resources.
- Review your pest management research, control, education, and assistance programs to assess the potential for increased emphasis on integrated pest management.
- Report actions taken to implement IPM strategies and the results of this review and assessment to the IPM coordinating committee in six months.

I am establishing an interagency IPM Coordinating Committee to assure implementation of this directive and to oversee further development and implementation of integrated pest management practices. The Committee shall be chaired by the Council on Environmental Quality. Your agency should appoint one representative to serve on this Committee who is an Assistant Secretary, Assistant Administrator, or the equivalent. The Committee is to report to me by June 30, 1980 on progress made by federal agencies in the advancement of IPM and on any institutional barriers thereto.

The Committee may request any Executive agency to furnish such information, advice, and service as may be useful for the fulfillment of the Committee's functions. Each of your agencies shall cooperate with and furnish support to the Committee as needed to carry out its functions.

Please give these assignments your immediate attention.

JIMMY CARTER

Citation: Jimmy Carter: "Memorandum From the President on Integrated Pest Management", August 2, 1979. Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*. <http://www.presidency.ucsb.edu/ws/?pid=32691>.

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ATTACHMENT J-4

History of the UC IPM Program

Annual reports (<http://www.ipm.ucanr.edu/IPMPROJECT/annualreports.html>) | **Strategic plan** (<http://www.ipm.ucanr.edu/IPMPROJECT/strategy.html>)

Program review (<http://www.ipm.ucanr.edu/IPMPROJECT/programreview.html>)

Building on a growing movement within and outside the University to promote integrated pest management research and extension, in 1979 the California Legislature funded the University of California to establish the Statewide IPM Program.

This history of the UC IPM Program, written by Jim Lyons (director or acting director of the program on four distinct occasions), details the setting in which the idea for an IPM program arose, describes how the program developed, and chronicles major milestones. It takes the program through mid-2003.



UC Statewide IPM Program
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History documents (PDF)

All chapters ([ucipmhistory.pdf](#)) **All appendices** ([ucipmappendices.pdf](#)) or in parts, by chapter:

- **Prologue** ([ucipmpart1prologue.pdf](#))
- **The Beginning: July 1, 1979 to June 30, 1980** ([ucipmpart2beginning.pdf](#))
- **The Formative years: July 1, 1980 to June 30, 1986** ([ucipmpart3formative.pdf](#))
- **Transition: July 1, 1986 to June 30, 1990** ([ucipmpart4transition.pdf](#))
- **The Second Ten Years and Beyond** ([ucipmpart5second10.pdf](#))
- **Appendices** ([ucipmappendices.pdf](#))
 - I: February 14, 1975, A Research Proposal: An Integrated Control Program for Kearney Field Station
 - II: February 1978, Report of the Advisory Committee for the Development and Implementation of a Statewide Integrated Pest Management Program in California
 - III: April 9, 1979, Integrated Pest Management (IPM) A Proposal to Reduce Pest Damage During Food Production
 - IV: IPM Language as Approved by the Legislature and the Governor
 - V: December 11, 1979, Attendees: Advisory Committee Meeting
 - VI: December 1980, Legislative Budget Report
 - VII: March 1982, Report of the UC IPM Project Evaluation Committee
 - VIII: 1994 Ad Hoc IPM Research Program Review: Letters
 - IX: January 10, 2001, A Review: Statewide Special Programs and Projects in the Pest Management Area
 - X: November 2002, By Laws: Statewide IPM Program
 - XI: Technical Committee Membership by Year
 - XII: UC Statewide IPM Project Staff by Year
 - XIII: UC IPM Program Publications

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Agriculture and Natural Resources, University of California

ATTACHMENT J-5

**QuickFacts****Los Angeles County, California**

QuickFacts provides statistics for all states and counties, and for cities and towns with a **population of 5,000 or more**.

Table

ALL TOPICS	Los Angeles County, California
Population estimates, July 1, 2016, (V2016)	10,137,915
 PEOPLE	
Population	
Population estimates, July 1, 2017, (V2017)	NA
Population estimates, July 1, 2016, (V2016)	10,137,915
Population estimates base, April 1, 2010, (V2016)	9,818,700
Population estimates base, April 1, 2010, (V2017)	NA
Population, percent change - April 1, 2010 (estimates base) to July 1, 2017, (V2017)	NA
Population, percent change - April 1, 2010 (estimates base) to July 1, 2016, (V2016)	3.3%
Population, Census, April 1, 2010	9,818,605
Age and Sex	
Persons under 5 years, percent, July 1, 2016, (V2016)	6.2%
Persons under 5 years, percent, April 1, 2010	6.6%
Persons under 18 years, percent, July 1, 2016, (V2016)	22.2%
Persons under 18 years, percent, April 1, 2010	24.5%
Persons 65 years and over, percent, July 1, 2016, (V2016)	12.9%
Persons 65 years and over, percent, April 1, 2010	10.9%
Female persons, percent, July 1, 2016, (V2016)	50.7%
Female persons, percent, April 1, 2010	50.7%
Race and Hispanic Origin	
White alone, percent, July 1, 2016, (V2016) (a)	71.0%
Black or African American alone, percent, July 1, 2016, (V2016) (a)	9.1%
American Indian and Alaska Native alone, percent, July 1, 2016, (V2016) (a)	1.5%
Asian alone, percent, July 1, 2016, (V2016) (a)	15.1%
Native Hawaiian and Other Pacific Islander alone, percent, July 1, 2016, (V2016) (a)	0.4%
Two or More Races, percent, July 1, 2016, (V2016)	3.0%
Hispanic or Latino, percent, July 1, 2016, (V2016) (b)	48.5%
White alone, not Hispanic or Latino, percent, July 1, 2016, (V2016)	26.5%
Population Characteristics	
Veterans, 2012-2016	292,006
Foreign born persons, percent, 2012-2016	34.5%
Housing	
Housing units, July 1, 2016, (V2016)	3,520,627
Housing units, April 1, 2010	3,445,076
Owner-occupied housing unit rate, 2012-2016	45.7%
Median value of owner-occupied housing units, 2012-2016	\$465,000
Median selected monthly owner costs -with a mortgage, 2012-2016	\$2,284
Median selected monthly owner costs -without a mortgage, 2012-2016	\$533
Median gross rent, 2012-2016	\$1,264
Building permits, 2016	20,591
Families & Living Arrangements	
Households, 2012-2016	3,281,845
Persons per household, 2012-2016	3.01
Living in same house 1 year ago, percent of persons age 1 year+, 2012-2016	87.9%
Language other than English spoken at home, percent of persons age 5 years+, 2012-2016	56.7%
Education	
High school graduate or higher, percent of persons age 25 years+, 2012-2016	77.7%
Bachelor's degree or higher, percent of persons age 25 years+, 2012-2016	30.8%

Health	
With a disability, under age 65 years, percent, 2012-2016	6.2%
Persons without health insurance, under age 65 years, percent	▲ 12.5%
Economy	
In civilian labor force, total, percent of population age 16 years+, 2012-2016	64.3%
In civilian labor force, female, percent of population age 16 years+, 2012-2016	57.7%
Total accommodation and food services sales, 2012 (\$1,000) (c)	22,965,135
Total health care and social assistance receipts/revenue, 2012 (\$1,000) (c)	67,261,267
Total manufacturers shipments, 2012 (\$1,000) (c)	163,829,606
Total merchant wholesaler sales, 2012 (\$1,000) (c)	199,804,798
Total retail sales, 2012 (\$1,000) (c)	121,389,378
Total retail sales per capita, 2012 (c)	\$12,184
Transportation	
Mean travel time to work (minutes), workers age 16 years+, 2012-2016	30.4
Income & Poverty	
Median household income (in 2016 dollars), 2012-2016	\$57,952
Per capita income in past 12 months (in 2016 dollars), 2012-2016	\$29,301
Persons in poverty, percent	▲ 16.3%
 BUSINESSES	
Businesses	
Total employer establishments, 2015	265,112
Total employment, 2015	4,007,163
Total annual payroll, 2015 (\$1,000)	212,873,593
Total employment, percent change, 2014-2015	1.9%
Total nonemployer establishments, 2015	1,022,938
All firms, 2012	1,146,701
Men-owned firms, 2012	601,676
Women-owned firms, 2012	439,513
Minority-owned firms, 2012	631,218
Nonminority-owned firms, 2012	481,643
Veteran-owned firms, 2012	69,608
Nonveteran-owned firms, 2012	1,044,750
 GEOGRAPHY	
Geography	
Population per square mile, 2010	2,419.6
Land area in square miles, 2010	4,057.88
FIPS Code	06037

Value Notes

▲ This geographic level of poverty and health estimates is not comparable to other geographic levels of these estimates

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the QI left of each row in TABLE view to learn about sampling error.

The vintage year (e.g., V2017) refers to the final year of the series (2010 thru 2017). *Different vintage years of estimates are not comparable.*

Fact Notes

- (a) Includes persons reporting only one race
- (b) Hispanics may be of any race, so also are included in applicable race categories
- (c) Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

Value Flags

- Either no or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the interval of an open ended distribution.
- D Suppressed to avoid disclosure of confidential information
- F Fewer than 25 firms
- FN Footnote on this item in place of data
- NA Not available
- S Suppressed; does not meet publication standards
- X Not applicable
- Z Value greater than zero but less than half unit of measure shown

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Poverty Estimates, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

ATTACHMENT J-6



Construction Site Best Management Practices (BMP) Manual

CTSW-RT-17-314.18.1
May 2017

California Department of Transportation
Division of Environmental Analysis, Stormwater Program
1120 N Street
Sacramento, California 95814
<http://www.dot.ca.gov/hg/env/stormwater/index.htm>

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For individuals with sensory disabilities, this document is available in alternate formats upon request.

Please call or write to:

Stormwater Liaison, Caltrans Division of Environmental Analysis

MS 27, P.O. Box 942874, Sacramento, CA 94274-0001

(916) 653-8896 Voice or dial 711 to use a relay service.

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List of Abbreviations

ASBS	Areas of Special Biological Significance	NTU	Nephelometric Turbidity Units
ATS	Active Treatment System	NWS	National Weather Service
BAT	Best Available Technology	OHSD	Office of Hydraulics and Stormwater Design
BCT	Best Conventional Technology	O&M	Operation and Maintenance
BMP	Best Management Practice	PRDs	Permit Registration Documents
Caltrans	State of California, Department of Transportation	QSD	Qualified SWPPP Developer
CASQA	California Stormwater Quality Association	QSP	Qualified SWPPP Practitioner
CEQA	California Environmental Quality Act	RE	Resident Engineer
CCS	Cellular Confinement System	REAP	Rain Event Action Plan
CFR	Code of Federal Regulations	RECP	rolled erosion control products
CGP	Construction General Permit	RW	Receiving Water
CPESC	Certified Professional in Erosion and Sediment Control	RWQCB	Regional Water Quality Control Board
CSBMP	Construction Site Best Management Practices	SDS	Safety Data Sheet
CWA	Clean Water Act	SAP	Sampling and Analysis Plan
DFW	Department of Fish and Wildlife	SMARTS	Storm Water Multiple Application Reporting and Tracking System
DSA	Disturbed Soil Area	SS	Settleable Solids
DTSC	Department of Toxic Substance Control	SSC	Suspended Sediment Concentration
DEA	Division of Environmental Analysis	SSPs	Standard Special Provisions
DWQ	Division of Water Quality	SWMP	Stormwater Management Program
EPA	Environmental Protection Agency	SWPPP	Stormwater Pollution Prevention Plan
ESA	Environmentally Sensitive Area	SWRCB	State Water Resources Control Board
HQ	Headquarters	TMDL	Total Maximum Daily Load
IC/ID	Illegal Connection/Illicit Discharge	TSS	Total Suspended Solids
IH	Information Handout	USACOE	U.S. Army Corps of Engineers
LRP	Legally Responsible Person	USGS	United States Geological Service
LTCGP	Lake Tahoe Hydrologic Unit Construction General Permit	H:V	Horizontal versus Vertical
MEP	Maximum Extent Practicable	WDID	Waste Discharger Identification Number
MS4	Municipal Separate Storm Sewer System	WDR	Waste Discharge Requirement
NAL	Numeric Action Level	WQS	Water Quality Certification
NEL	Numeric Effluent Limitation	WQS	Water Quality Standards
NOAA	National Oceanic and Atmospheric Administration	WPC Manager	Water Pollution Control Manager
NOI	Notice of Intent	WPCD	Water Pollution Control Drawing
NPDES	National Pollutant Discharge Elimination System	WPCP	Water Pollution Control Program
		WPCS	Water Pollution Control Schedule

Section 1

Introduction

1.1 Overview

This Construction Site Best Management Practices (CSBMP) Manual (Manual) provides guidance on the selection and implementation of Best Management Practices (BMPs) into construction projects within the Caltrans right-of-way.

The primary objective of this CSBMP Manual is to provide the overall process for selecting, installing, and maintaining temporary BMPs in Caltrans construction projects. The CSBMP Manual provides a general background of stormwater documents and references to other stormwater manuals, includes a flowchart showing applicable BMP triggers for each of the six Construction Site BMP categories, and detailed guidance for the selection, installation, and required maintenance for individual BMPs. The Manual ties into the Caltrans 2015 Standard Specifications applicable to BMP installation and maintenance frequency,

This Manual is organized as follows:

- **Section 1 – Introduction** provides a background on regulations and stormwater permits, and relevant stormwater guidance documents and websites.
- **Section 2 – Caltrans Construction Stormwater Program Requirements** provides a description of general documents prepared for or related to the construction phase of the project, instructions for the selection and implementation of Construction Site BMPs and details the minimum BMP inspections required for construction sites.
- **Section 3 – Temporary Soil Stabilization BMPs** provides an overview of the Soil Stabilization BMP category and a listing and working details for Caltrans Construction Site BMPs for Temporary Soil Stabilization.
- **Section 4 – Temporary Sediment Control BMPs** provides an overview of the Sediment Control BMP category and a listing and working details for Caltrans Construction Site BMPs for Temporary Sediment Control.
- **Section 5 - Wind Erosion Control BMPs** provides an overview of the Wind Erosion BMP category and a listing and working details for Caltrans Construction Site BMPs for Wind Erosion Control.
- **Section 6 - Tracking Control BMPs** provides an overview of the Tracking Control BMP category and a listing and working details for Caltrans Construction Site BMPs for Tracking Control.
- **Section 7 - Non-Stormwater Management BMPs** provides an overview of the Non- Stormwater Management BMP category and a listing and working details for Caltrans Construction Site BMPs for Non-Stormwater Management.
- **Section 8 - Waste Management and Material Pollution Control BMPs** provides an overview of the Waste Management and Materials Pollution Control BMP category and a listing and working details for Caltrans Construction Site BMPs for Waste Management and Materials Pollution Control.
- **Appendix A** – provides definitions of terms used throughout this Manual.
- **Appendix B** – provides guidance on the selection of temporary soil stabilization controls.
- **Appendix C** – provides guidance on the requirements for the implementation of Active Treatment System (ATS) to comply with the CGP or the LTCGP.

1.2 Regulations and Stormwater Permits

1.2.1 Federal Regulations

The Clean Water Act is a Federal regulation that deals in part with controlling discharges of pollutants from Municipal Separate Storm Sewer Systems (MS4s), construction sites, and industrial activities as part of the National Pollutant Discharge Elimination System (NPDES) permit process. In 1990, the Environmental Protection Agency (EPA) promulgated federal stormwater regulations requiring municipal, construction and industrial stormwater discharges to comply with an NPDES permit.

In California, the EPA delegated its authority to issue NPDES permits to the State Water Resources Control Board (SWRCB). The State Board has nine regional water quality control boards across the State. Figure 1-1 presents a depiction of the nine regional board boundaries in relation to the Caltrans Districts.

1.2.2 Caltrans NPDES Statewide Permit and NPDES Construction General Permits

On July 15, 1999, the SWRCB issued the first “NPDES Permit, Statewide Stormwater Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation (Caltrans)” (NPDES No. CAS000003) hereby called “Caltrans Permit.” The Caltrans Permit requires the preparation and implementation of the Caltrans Statewide Stormwater Management Plan (SWMP). The SWMP describes how Caltrans plans to implement the Caltrans Permit requirements and describes Caltrans’ program addressing stormwater pollution control related to various activities, including planning, design, construction, maintenance, and operation of roadways and facilities.

The Caltrans Permit regulates stormwater discharges from Caltrans properties, facilities, and activities, and requires that Caltrans’ construction program comply with the requirements of the “NPDES General Permit, WDRs for Discharges of Stormwater Runoff Associated with Construction Activity” (NPDES No. CAS000002) (Construction General Permit) issued by the SWRCB.

Both the Caltrans Permit and the Construction General Permit (CGP) have been reissued since 2009. The current Caltrans Permit Order 2012-0011-DWQ became effective July 1, 2013 and requires construction projects with one acre or more of soil disturbance to comply with the CGP Order 2009-009-DWQ and amendments thereto. There are a small number of Caltrans projects that are situated in the Lake Tahoe Regional Board area; those projects are subject to the Lake Tahoe Construction General Permit (LTCGP) Order No.R6T-1016-0010. The CGP and the LTCGP require SWPPP projects to upload the authorized SWPPP and all other relevant documents and data to the State Board’s Stormwater Multiple Application and Report Tracking System (SMARTS).

1.2.3 Other NPDES Permits

There are other Permits that might be applicable to Caltrans construction projects depending on the specific activities. Any construction project might trigger the Statewide Industrial Permit coverage if there is a proposed batch plant or other industrial activities as outlined below. In addition, if there is any dewatering being proposed, there are specific Regional Permits that might be applicable.

1.2.3.1 Industrial Permit

Industrial Activities are not covered under the Caltrans Permit. The Statewide Permit for Stormwater Discharges Associated with Industrial Activities (IGP) (Order 2014-0057-DWQ) regulates nine broad categories of industrial activities. There are certain activities that might occur ancillary to construction projects; for those operations, the industrial permit is triggered. Caltrans contracts include language requiring the Contractor to implement BMPs and seek coverage as required under the IGP.

1.2.3.2 Dewatering Permit

Dewatering discharge requirements vary among the nine regional boards. Caltrans has developed a Dewatering Manual that should be referred to determine appropriate requirements for the individual construction site. The Dewatering Manual can be accessed via the website link included in Table 1-4.

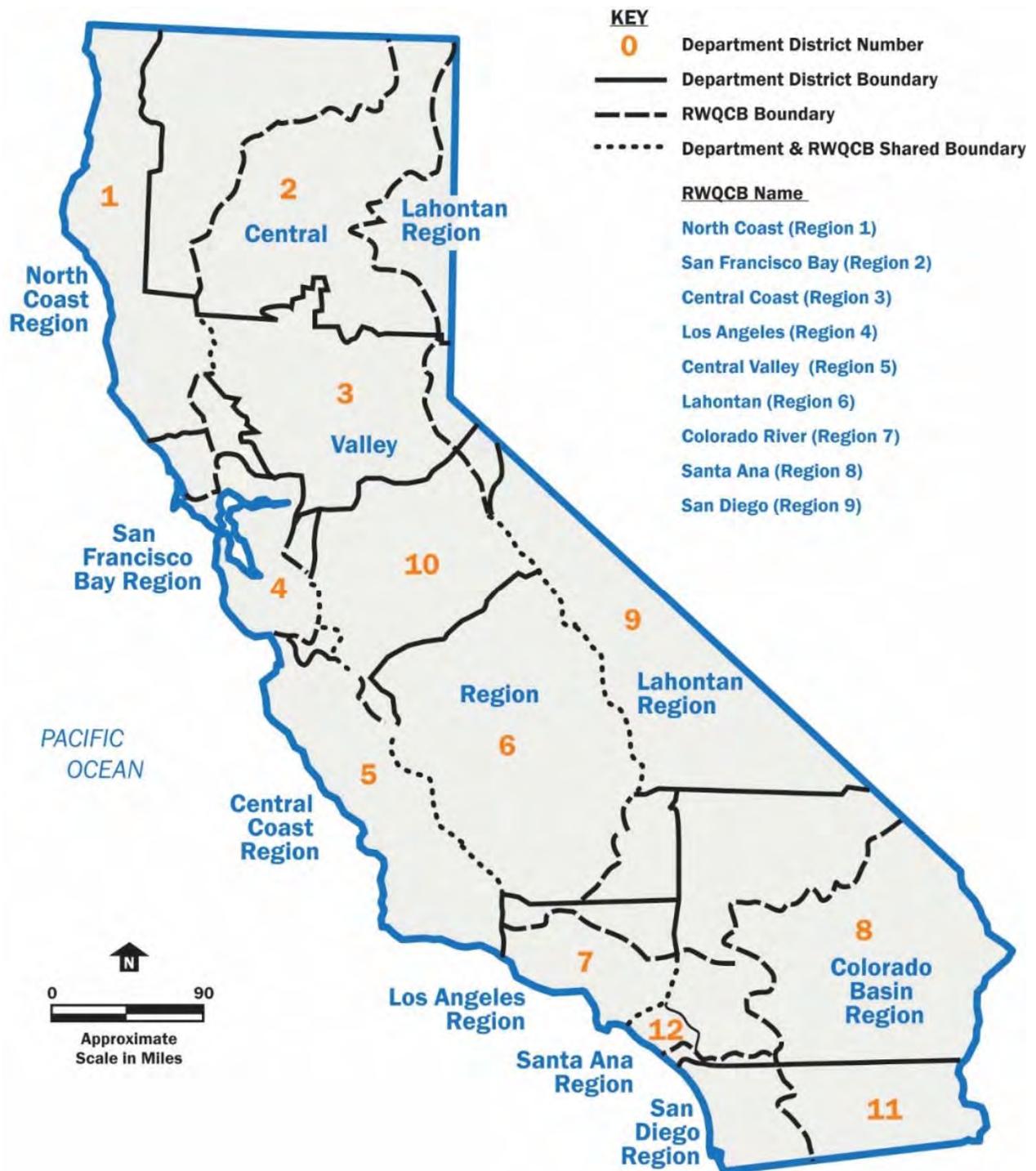


Figure 1-1. Map of California with Regional Water Quality Control Boards and Caltrans Districts

1.3 Caltrans Stormwater Manuals and Websites

Caltrans has devised a comprehensive stormwater program to comply with Caltrans Permit requirements. In addition to the 2016 SWMP, Caltrans has developed several stormwater guidance manuals that are available on their website for staff, consultants and anyone in the public to use to implement appropriate BMPs.

Table 1-3 presents a list of the primary reference material to be used for determining applicable permit requirements and specific compliance mechanisms developed by Caltrans. This Manual is intended to be used in conjunction with the SWPPP/WPCP Preparation Manual as both are directly related to water pollution control when performing construction operations within Caltrans projects and/or rights of way.

Table 1-3. Relevant Caltrans Stormwater Documents, Manuals and their Purpose¹

Date	Document	Purpose
July 2016	Caltrans Stormwater Management Plan (SWMP)	Describes how Caltrans plans to implement the Caltrans Permit requirements. The SWMP describes Caltrans' program and addresses stormwater pollution control related to various activities, including planning, design, construction, maintenance, and operation of roadways and facilities.
February 2016	Stormwater Quality Handbooks: Project Planning and Design Guide (PPDG)	Guides project planning staff in preparing and selecting appropriate Best Management Practices for inclusion into Contract Plans. Includes step-by-step guidance for documenting the selection and implementation of BMPs.
	Appendix E - Stormwater Data Report (SWDR)	Document prepared by the Project Engineer or Landscape Architect which forms basis for ensuring compliance with the Caltrans Permit requirements for the Design Division. Determination of SWPPP/WPCP applicability based on DSA and BMP line items included as part of the Contract Plans.
June 2016	Stormwater Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual	Guides Contractors and Caltrans staff through the process of preparing a SWPPP and WPCP. This manual provides detailed step-by-step procedures, instructions, sample text and a template that Contractors must use to prepare the SWPPP/WPCP. Templates conform to CGP requirements based on risk level, LTCGP requirements including deviations from CGP language, and Caltrans requirements for preparing WPCPs.
August 2013	Construction Site Monitoring Program Guidance Manual	This manual presents guidance for Caltrans staff and Contractors to use in the planning and implementation of stormwater monitoring programs at construction sites. Describes and provides guidance on developing Sampling and Analysis Plans, standard operating procedures for pH and turbidity sampling and other requirements of the CGP and LTCGP.
July 2003	Guidance for Temporary Soil Stabilization	The main purpose of this document is to help direct the planning, selection, and implementation of Caltrans-approved temporary soil stabilization BMPs.
July 2014	Field Guide to Construction Site Dewatering	The purpose of this Dewatering Guide is to inform and guide intended users in selecting, implementing, and monitoring construction site dewatering operations.
September 2008	Erosion Prediction Procedure Manual	Describes the method established and approved by headquarters (HQ) Office of Hydraulics and Stormwater Design (OHSD) for the prediction of erosion rates before, during, and after construction of Caltrans projects to meet the erosion and sediment control requirements identified in the Caltrans Permit, the CGP and the LTCGP.

Table 1-4 presents website links for Caltrans Manuals, procedures and other documents along with other websites that can be used to either gain a deeper understanding of stormwater requirements or as

¹ There may be other relevant Manuals that pertain to specific enforcement or general criteria, see Table 1-4 for additional Manuals and links

guidance when preparing stormwater documents and selecting appropriate temporary construction site BMPs.

Table 1-4. Stormwater Related Websites

Table 1-4. Stormwater Related Websites		
	Description	Websites
EPA Agency	U.S. Environmental Protection Agency (EPA)	http://www.epa.gov
Laws/ Regulations	Code of Federal Regulations (CFR)	http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR
NPDES Permits	Caltrans NPDES Statewide Stormwater Permit (Caltrans Permit)	http://www.swrcb.ca.gov/water_issues/programs/stormwater/caltrans.shtml http://www.swrcb.ca.gov/water_issues/programs/stormwater/gen_caltrans.shtml
	Construction General Permit (CGP)	http://www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml
	Lake Tahoe Construction General Permit (LTCGP)	http://www.waterboards.ca.gov/lahtontan/water_issues/programs/storm_water/docs/r6t_2016_0010_cgp_combined.pdf
	Industrial General Permit (IGP)	http://www.swrcb.ca.gov/water_issues/programs/stormwater/industrial.shtml
Caltrans Stormwater Program	Caltrans Statewide Stormwater Program – HQ DEA (contains links such as SWMP, Annual Report)	http://www.dot.ca.gov/hq/env/stormwater/index.htm
State Water Resources Control Board	State Water Resources Control Board website, particularly Stormwater Multiple Application and Report Tracking System (SMARTS)	https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.xhtml
Caltrans Stormwater Manuals	Division of Construction - Stormwater Quality Link. Contains links to resources for developing SWPPP, WPCP, Construction Site Dewatering and other Manuals and resources.	http://www.dot.ca.gov/hq/construc/stormwater/
	Caltrans Construction Stormwater Quality Manuals and Handbooks	http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm
Caltrans SSP and Stormwater Costs Estimating Guidance	Caltrans Construction Contract Standards Specifications, Plans, Standard Special Provisions (SSPs) ²	http://www.dot.ca.gov/hq/esc/oe/specs_html/index.html
	Caltrans Cost estimating guidance	http://www.dot.ca.gov/hq/oppd/costest/costest.htm

² Contract Documents could include specific project requirements such as specific monitoring requirements under CWA 401 or 404 Permit or others included in the Informational Handout.

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Section 2

Caltrans Construction Stormwater Management Program Requirements

2.1 Stormwater Pollution Prevention Plan and Water Pollution Control Program

Caltrans requires Contractors to prepare and implement a program to effectively control water pollution during the construction of all projects (see Standard Specification Section 13 Water Pollution Control). Projects resulting in one acre or more of disturbed soil area (DSA) are subject to the CGP or the LTCGP depending on the project location. Caltrans Standard Specifications require that for these projects, Contractors prepare and submit a SWPPP.

If two or more small projects [less than one acre of soil disturbance] in the same corridor are part of a larger common plan of development [one acre or more], then these small projects are also subject to the requirements of the CGP or the LTCGP to develop and implement a SWPPP. There also might be instances where a SWPPP is required even when there is less than one acre of DSA, if it is determined that the project poses a significant water quality risk; this determination will be made by the District/Regional NPDES Coordinator or the Construction Stormwater Coordinator or if mandated by the RWQCB or SWRCB or another regulatory agency. Potential examples when this might occur could be work over a 303d waterbody, water implosions, etc.

Caltrans requires that a WPCP addressing control measures be prepared and implemented by the construction Contractor for projects resulting in soil disturbance of less than one acre. The specific requirements and detailed instructions are included in Section 4 of the SWPPP/WPCP Preparation Manual. These general requirements are included in the Construction BMP Applicability Flowchart, Figure 2-1 of this Manual.

Projects that have a DSA between one and less than five acres may qualify for a rainfall erosivity waiver under the CGP if the rainfall erosivity factor (R factor) is less than a value of five. The R factor takes into account project location, length of construction period, and time of year so projects that begin and complete construction within a short period are likely to qualify for a rainfall erosivity waiver. To calculate the R value, refer to Section 1.4.2.1 of the SWPPP/WPCP Preparation Manual, a link to the manual is provided in Table 1-4.

Projects that qualify for a rainfall erosivity waiver do not need to prepare a SWPPP but are required to submit proper documentation via SMARTS (to be exempted from the CGP) as well as prepare and implement a site-specific Water Pollution Control Program (WPCP).

2.2 Construction BMP Applicability

The flowchart presented in Figure 2-1 guides the user as to whether the project triggers a SWPPP or a WPCP and where to find additional information, if needed. The flowchart also includes general questions to determine applicability of BMP categories that are described in Sections 3-8 of this Manual.

The steps described below correspond to the steps shown in Figure 2-1.

Step 1 - Start

The Contractor, the Water Pollution Control (WPC) Manager, the Qualified SWPPP Developer (QSD) or the Qualified SWPPP Practitioner (QSP) should use Figure 2-1, the guidance provided in this section, and the SWPPP/WPCP Preparation Manual to determine the project's entire BMP selection and applicability for the duration of the construction phase.

Step 2 - Is a Construction project being proposed?

A construction project is defined as any activity, including, but not limited to, clearing, grading, grubbing, or excavation. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility is not deemed a construction activity that requires a SWPPP or a WPCP.

If the project qualifies as a construction project, proceed to step 3.

If the project does not meet the definition of construction, then the project is subject to Maintenance BMPs, refer to the Caltrans July 2016 SWMP or the Caltrans Maintenance Staff Guide.

Step 3 - Will the project create one acre or more of Disturbed Soil Area?

If the construction project will disturb more than one acre of soil, it is subject to either the CGP or the LTCGP depending on its location and must prepare and maintain an up to date SWPPP during the entire duration of the project.

If the project disturbs less than an acre of soil, the project must have a WPCP prepared and implemented, see Section 4 of the SWPPP/WPCP Preparation Manual for specific instructions.

Step 4 - Can the construction project qualify for a Rainfall Erosivity Waiver?

If a project will be a short duration and is more than one acre but less than five acres of soil disturbance, it might qualify for an EPA rainfall erosivity waiver as discussed in Section 1.4.2 of the SWPPP/WPCP Preparation Manual.

If you answered yes, the project does not need coverage under the CGP but it still requires some paperwork to be filed via SMARTS. In addition, a WPCP must be prepared and implemented.

If you answered no, then project is subject to SWPPP requirements. See Section 3 of the SWPPP/WPCP Preparation Manual for further guidance on preparing a SWPPP.

Step 5 - Are any soil areas expected to be exposed and need stabilization as part of the project or is there a need to stabilize concentrated flow conveyances?

Any project subject to CGP or LTCGP is required to implement appropriate controls year-round. If the project has exposed soil areas or unlined conveyances, the WPC Manager or QSP must be diligent in ensuring appropriate BMPs are implemented. See Section 3 of this Manual for specific BMP factsheets and proceed to Step 6. For further guidance on proper selection and costs, see Appendix B of this Manual.

If there are no soil areas needing stabilization and no unstable conveyances, then proceed to Step 6.

Step 6 - Will the project require temporary controls to intercept/slowdown onsite or offsite flows?

If the project has areas where offsite flows are coming onto the project area, flows must be conveyed and the WPC Manager or QSP must ensure that no materials or contaminants including soil are being carried by the offsite flows. Onsite flows must be conveyed via lined or vegetated channels to reduce potential for turbid flows. See Section 4 of this Manual for specific BMP factsheets to control sediment-laden runoff.

Step 7 - Will the project require a dust control plan or is there a potential for dust control BMPs to be applicable?

Utilize Section 5 of this Manual for specific BMP factsheets if the contract documents require the preparation and implementation of a Dust Control Plan or if there is a potential for dust to be generated at any time during the duration of the construction project.

Step 8 - Will the project require tracking controls in any area within project limits?

Any areas where construction vehicles are entering or exiting the project must be stabilized to prevent tracking of sediment or other materials. See Section 6 of this Manual for specific BMP factsheets for tracking control. Additionally, SC-7, Street Sweeping should be evaluated and implemented either standalone or in combination to ensure compliance with all permits and contract documents.

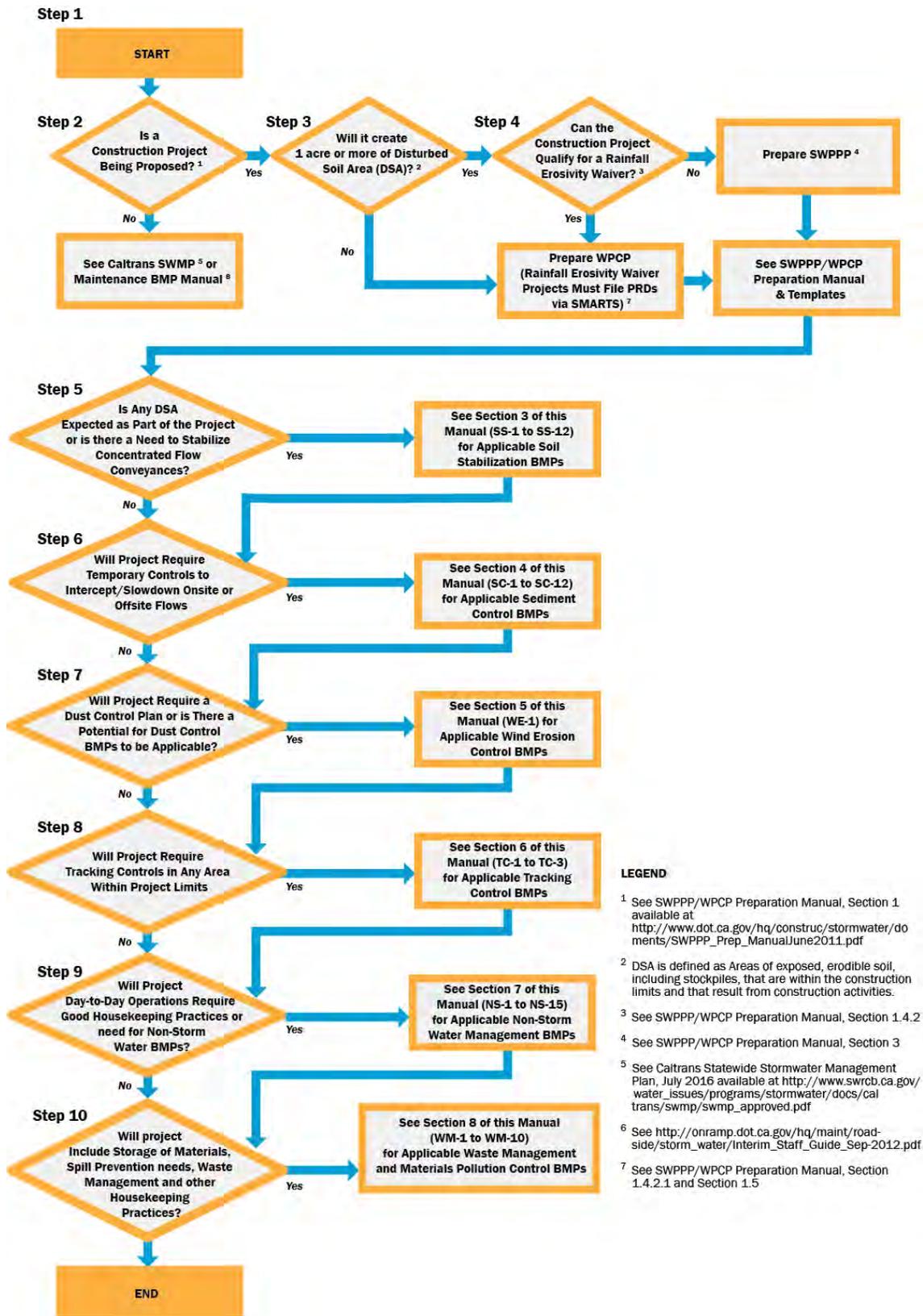
Step 9 - Will the project day to day operations require good housekeeping practices or have a need for non-stormwater BMPs?

Section 7 of this Manual includes a list of source control BMPs that prevent pollution by limiting or reducing potential pollutants at their source before they come in contact with stormwater.

Step 10 - Will the project include storage of materials, spill prevention needs, waste management or other housekeeping practices?

All materials or wastes either stored or generated during the construction phase must be properly stored and disposed of. Section 8 of this Manual includes lists of BMPs that must be utilized at the Contractor's yard, where the materials are stored, or where construction activities are being conducted to ensure proper usage, containment, and disposal of materials and waste products.

END - Specific BMP factsheets should be reviewed and the Project's SWPPP or WPCP text and tables along with the Water Pollution Control Drawings (WPCDs) should be modified to ensure appropriate controls are implemented year-round



- LEGEND**
- ¹ See SWPPP/WPCP Preparation Manual, Section 1 available at http://www.dot.ca.gov/hq/construc/stormwater/documents/SWPPP_Prep_ManualJune2011.pdf
 - ² DSA is defined as Areas of exposed, erodible soil, including stockpiles, that are within the construction limits and that result from construction activities.
 - ³ See SWPPP/WPCP Preparation Manual, Section 1.4.2
 - ⁴ See SWPPP/WPCP Preparation Manual, Section 3
 - ⁵ See Caltrans Statewide Stormwater Management Plan, July 2016 available at http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/caltrans/swmp/swmp_approved.pdf
 - ⁶ See http://onramp.dot.ca.gov/hq/maint/roadside/storm_water/Interim_Staff_Guide_Sep-2012.pdf
 - ⁷ See SWPPP/WPCP Preparation Manual, Section 1.4.2.1 and Section 1.5

Figure 2-2. Construction Site BMP Applicability Flowchart

2.3 Minimum Construction BMPs

This section provides the minimum construction BMPs required for a project subject to the CGP or the LTCGP or one that requires the preparation and implementation of a WPCP. It is important to note that the requirements of this Section are minimum requirements, and that Caltrans contracts may impose more stringent requirements. Working details of Construction Site BMPs are presented in Sections 3 through 8 of this Manual.

Construction Site BMPs (also sometimes called temporary control practices or BMPs) are best conventional technology/best available technology (BCT/BAT)-based BMPs that are consistent with the BMPs and control practices required under the CGP and the LTCGP. Caltrans Construction Site BMPs are divided into six categories as shown in Table 2-1.

Stormwater pollution control requirements are intended to be implemented on a year-round basis at an appropriate level. The requirements must be implemented in a proactive manner during all seasons while construction is ongoing. Appropriate water pollution control includes the implementation of an effective combination of both soil stabilization and sediment controls, implementation of wind erosion, tracking controls, non-stormwater and waste management, and material pollution BMPs. Some BMPs can be implemented as a stand-alone device while others can be combined to improve effectiveness and compliance.

Section 2 of the SWPPP/WPCP Preparation Manual describes in detail specific requirements under the applicable CGP. The CGP and LTCGP both require minimum controls and require BMPs based on the projects' calculated risk level to apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths.

Table 2-1. Construction Site BMPs			
ID	BMP Name	Minimum Requirement	
		CGP	LTCGP
Temporary Soil Stabilization			
SS-1	Scheduling	X	X
SS-2	Preservation of Existing Vegetation	X	X
SS-3	Hydraulic Mulch	X ¹	X ¹
SS-4	Hydroseeding		
SS-5	Soil Binders		
SS-6	Straw Mulch		
SS-7	Temporary Cover and Rolled Erosion Control Products (RECP)		
SS-8	Wood Mulching		
SS-9	Earth Dikes/Drainage Swales & Lined Ditches	-	-
SS-10	Outlet Protection/Velocity Dissipation Devices ²	X	X
SS-11	Slope Drains	-	-
SS-12	Streambank Stabilization	-	-
Temporary Sediment Control			
SC-1	Silt Fence	X ¹	X ¹
SC-2	Sediment/Desilting Basin	-	-

Table 2-1. Construction Site BMPs			
ID	BMP Name	Minimum Requirement	
		CGP	LTCGP
SC-3	Sediment Trap/Curb Cutback	-	-
SC-4	Check Dam	-	-
SC-5	Fiber Rolls	X ¹	X ¹
SC-6	Gravel Bag/Earthen Berm		
SC-7	Street Sweeping	X	-
SC-8	Sandbag Barrier	X	X
SC-9	Straw Bale Barrier	X ¹	X ¹
SC-10	Temporary Drainage Inlet Protection	X	X
SC-11	Compost Sock	X ¹	X ¹
SC-12	Flexible Sediment Barrier		
Wind Erosion Control			
WE-1	Wind Erosion Control	X	X
Tracking Control			
TC-1	Temporary Construction Entrance/Exit	X	X
TC-2	Temporary Construction Roadway	-	-
TC-3	Temporary Entrance/Outlet Tire Wash	-	-
Non-Stormwater Management			
NS-1	Water Conservation Practices	-	-
NS-2	Dewatering Operations	-	X ³
NS-3	Paving, Sealing, Sawcutting and Grinding Operations	X	X
NS-4	Temporary Stream Crossing	-	-
NS-5	Clear Water Diversion	-	-
NS-6	Illegal Connection and Illicit Discharge Detection and Reporting	X	X
NS-7	Potable Water/Irrigation	-	-
NS-8	Vehicle and Equipment Cleaning	X	X
NS-9	Vehicle and Equipment Fueling	X	X
NS-10	Vehicle and Equipment Maintenance	X	X
NS-11	Pile Driving Operations	-	-
NS-12	Concrete Curing	-	-
NS-13	Material and Equipment Use Over Water	-	-
NS-14	Concrete Finishing	-	-
NS-15	Structure Demolition/Removal Over or Adjacent to Water	-	-

Table 2-1. Construction Site BMPs			
ID	BMP Name	Minimum Requirement	
		CGP	LTCGP
Waste Management and Materials Pollution Control			
WM-1	Material Delivery and Storage	X	X
WM-2	Material Use	X	X
WM-3	Stockpile Management	X	X
WM-4	Spill Prevention and Control	X	X
WM-5	Solid Waste Management	X	X
WM-6	Hazardous Waste Management	X	X
WM-7	Contaminated Soil Management	X	X
WM-8	Concrete Waste Management	X	X
WM-9	Sanitary and Septic Waste Management	X	X
WM-10	Liquid Waste Management	X	X

¹ Can be selected as a standalone BMP or a combination of temporary soil stabilization BMPs is selected depending on site conditions, minimum requirement is met when the individual BMP or the combination is properly implemented.

² Only applicable when outlet protection/velocity dissipation is required.

³ When dewatering is expected, must have a dewatering and/or diversion plan as required under LTCGP Section N.

2.4 BMP Inspection Frequency

The SWPPP or WPCP implemented on Caltrans construction projects includes specific visual monitoring requirements to comply with the CGP, LTCGP, and/or Caltrans Permit. All BMPs deployed on construction sites must be inspected on a frequency as described below. Improperly installed or damaged BMPs must be corrected immediately, or by a later date and time if requested by the Contractor and approved by the Resident Engineer (RE) in writing. Corrections must be made before the onset of forecasted rain events. Inspections of Construction Site BMPs are to be conducted at a minimum as follows:

- Prior to a forecast storm event
- After a qualified rain event that causes runoff from the construction site
- At 24-hour intervals during extended rain events
- Weekly throughout the duration of the construction project

Table 2-2 shows the monitoring requirements for projects subject to CGP or LTCGP. The SWPPP/WPCP Preparation Manual includes more details on what each inspection should include.

Table 2-2. Monitoring Requirements for CGP and LTCGP

Risk Level		Visual Inspections					Sampling		
		Quarterly Non-stormwater Discharge	Pre-Storm			Post Storm			
			Baseline	REAP	Daily Storm BMP	Post Storm	Non-visible Pollutant	Stormwater Discharge	Receiving Water
CGP	1	X	X		X	X	X		
	2	X	X	X	X	X	X	X	
	3	X	X	X	X	X	X	X	X
LTCGP	N/A	X	X	X	X	X	X	X	X



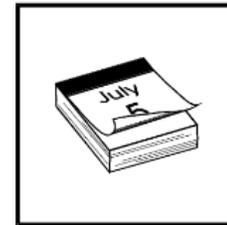
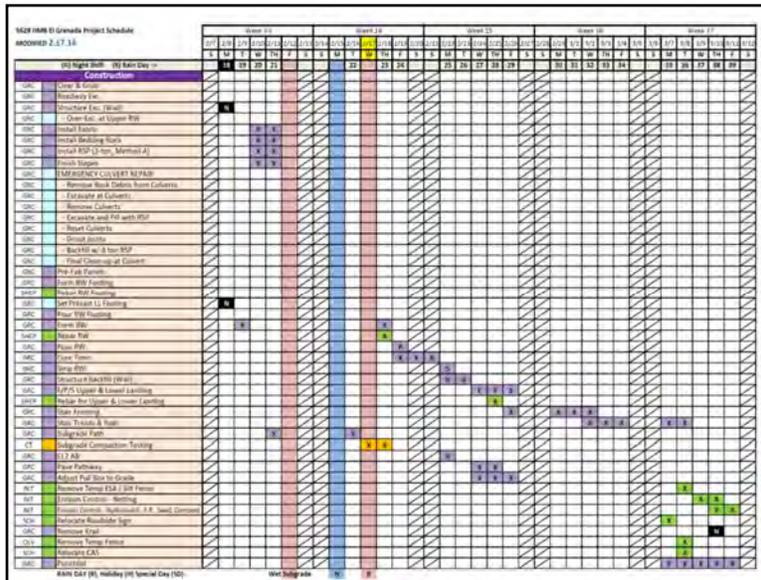
Section 3

Temporary Soil Stabilization BMP

3.1 Temporary Soil Stabilization

Temporary soil stabilization consists of preparing the soil surface and applying one of the BMPs shown in Table 3-1, or combination thereof, to disturbed soil areas. Temporary soil stabilization must be applied to disturbed soil areas of construction projects in conformance with contract documents and this Manual. Refer to Appendix B for additional guidance on the selection of temporary soil stabilization controls.

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BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input checked="" type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose This BMP involves developing, for every project, a schedule that includes sequencing of construction activities with the implementation of construction site BMPs such as temporary soil stabilization and temporary sediment control measures. The purpose is to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking, and to perform the construction activities and control practices in accordance with the planned schedule.

Appropriate Applications Construction sequencing should be scheduled to minimize land disturbance during the wetter months for all projects. In addition, any construction windows required by regulatory permits, and any winter suspension work should be described in the schedule. Appropriate BMPs must be implemented year-round.

Limitations Environmental constraints such as nesting season prohibitions reduce the full capabilities of this BMP.

Standards and Specifications **General Requirements**

- Developing a schedule and planning the project operations to minimize erosion and the potential to discharge pollutants to stormwater are the very first steps in an effective stormwater program. The construction schedule must be incorporated into the SWPPP or WPCP. Refer to Section 8 and 13 of the Standard Specifications.

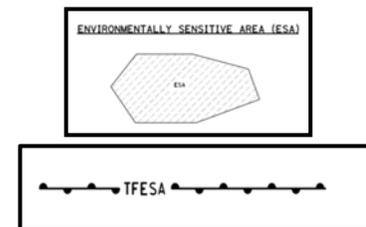
- The schedule should clearly show when work activities that could pollute stormwater with sediment or other contaminants would occur (e.g., grading, move-in, move-out, stockpiling, pile driving), and when soil stabilization, sediment control, and other BMPs associated with each phase of construction would be implemented.
- The schedule should include details on the implementation and deployment of:
 - Temporary and permanent soil stabilization BMPs
 - Temporary sediment control BMPs
 - Tracking control BMPs
 - Wind erosion control BMPs
 - Non-stormwater BMPs and
 - Waste management and materials pollution control BMPs
- The schedule should also include dates for significant long-term operations or activities that may have planned non-stormwater discharges such as dewatering, sawcutting, grinding, drilling, boring, crushing, blasting, painting, hydro-demolition, mortar mixing, bridge cleaning, etc.
- The construction schedule should reflect requirements for in-water work and other construction activity with potential to disturb water and biological resources contained in regulatory agency permits and approvals (RWQCB 401 WQC, USACE 404 permit, DFG 1602 permit, etc.).

Recommendations

- Schedule work to minimize soil disturbing activities during predicted rain events. Consider rescheduling activities for dry periods to minimize maintenance requirements.
- Develop the sequencing and timetable for the start and completion of each item such as site clearing and grubbing, grading, excavation, paving, pouring foundations, installing utilities, etc., to minimize the active construction area.
- Schedule major grading operations during dryer months when practical.
- Stabilize inactive areas within 15 days from the cessation of soil-disturbing activities or one day prior to the onset of precipitation, whichever occurs first. Must consider manufacturers recommendation for the selected soil stabilization BMP to ensure they meet the minimum dry time required. See Appendix B of this Manual for additional guidance.
- Monitor the weather forecast for storm events, which are storms that produce or are forecasted to produce at least 0.1 inch of precipitation within a 24-hour period. When rainfall is predicted, adjust the construction schedule to allow the implementation of soil stabilization, sediment controls, and, if applicable, sediment treatment controls on all disturbed areas prior to the onset of rain.

- Ensure ample supply of BMP materials are on site in order to quickly mobilize and implement required BMPs, particularly ahead of rain events when materials may be in short supply or back order.
 - Be prepared year-round to deploy soil stabilization and sediment control practices. Erosion may be caused during dry seasons by unseasonal rainfall, wind, and vehicle tracking. Keep the site stabilized year-round, and retain and maintain sediment trapping devices in operational condition.
 - Sequence trenching activities so that most open portions are closed before new trenching begins. Trenched material should be stored on the upstream side of the trenches.
 - Incorporate staged seeding and re-vegetation of graded slopes as work progresses.
 - Consider the early planting and establishment of permanent vegetation in the schedule to maximize plant establishment success and minimize irrigation and continuous maintenance needs.
 - Apply permanent erosion control to areas deemed substantially complete during the project's defined seeding window.
- Maintenance and Inspection
- Verify that work is progressing in accordance with the schedule. If progress deviates, take corrective actions.
 - Keep the schedule up to date and ensure it is consistent with the contractor's three-week look ahead, or other routine schedule submitted to the RE under the contract.
 - Amend the schedule when changes are warranted or when directed by the RE.
- SWPPP or WPCP
- A Water Pollution Control Schedule (WPCS) must include construction operations and BMP implementation for the entire duration of the project. The WPCS is to be included as an attachment and discussed in section 500.7 of the SWPPP or Section 30.5 of the WPCP.

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BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose Preservation of existing vegetation is the identification and protection of desirable vegetation that provides erosion and sediment control benefits.

- Appropriate Applications**
- Preserve existing vegetation at areas on a site where no construction activity is planned or will occur at a later date. This BMP is very applicable for multi-year or multiple location projects, where existing vegetation can be preserved until the area becomes active.
 - On a year-round basis, temporary fencing shall be provided prior to the commencement of clearing and grubbing operations or other soil-disturbing activities in areas.
 - Clearing and grubbing operations should be staged to preserve existing vegetation.
 - Areas where natural vegetation exists and is designated for preservation. Such areas often include steep slopes, watercourse, and building sites in wooded areas.
 - Areas where local, state, and federal government require preservation, such as vernal pools, wetlands, marshes, certain oak trees, etc.
 - Clearly marking and leaving a buffer area around these unique areas during construction will help to preserve these areas as well as take advantage of natural erosion prevention and sediment trapping.
 - During clearing and grubbing do not injure standing trees, plants, and improvements shown in the plans to be protected.
 - For any trenching or tunneling. Trenching shall be as far away from tree trunks as possible, usually outside of the tree drip line or canopy. Curve trenches around trees to avoid large roots or root concentrations. If roots are encountered, consider tunneling under them.

- When trenching and/or tunneling near or under trees to be retained, tunnels shall be at least 8 in below the ground surface, and not below the tree center to minimize impact on the roots. Tree roots shall not be left exposed to air; they shall be covered with soil as soon as possible, protected, and kept moistened with wet burlap or peat moss until the tunnel and/or trench can be completed.

- Limitations
- Protection of existing vegetation requires planning, and may limit the area available for construction activities.
 - For sites with diverse topography, it is often difficult and expensive to save existing trees while grading the site satisfactory for the construction project.

Standards and Specifications **General Requirements**

- Specifications for preservation of existing vegetation can be found in Standard Specifications Section 5-1.36A.
- Section 14 “Environmental Stewardship” of the Standard Specifications specifies the requirements related to environmental compliance and resource management, including requirements related to Environmentally Sensitive Areas (ESAs).
- Refer to Section 16-2.03 of the Standard Specifications for “High-Visibility Fences” used to delineate ESAs.
- Refer to 16-2.04 of the Standard Specifications for “Temporary Construction Mats” used to protect wetlands and other areas.

Schedule

- Preservation of existing vegetation must be provided prior to the commencement of clearing and grubbing operations or other soil-disturbing activities in areas identified on the plans to be preserved, including areas designated as ESAs.
- Preservation of existing vegetation should conform to scheduling requirements set forth in the special provisions.

Design and Layout

- Mark areas to be preserved with temporary fencing (Type ESA). The temporary fencing must be made of high visibility fabric secured with 6 foot (minimum) posts. Refer to Section 16-2.03B of the Standard Specifications for more information on temporary high-visibility fence materials.
- Fence posts can be either wood or steel, at the Contractor’s discretion, as appropriate for the intended purpose. The post spacing must be 8 feet center-to-center (maximum) and embedded at least 16 inches into the ground to completely support the fence in an upright position.
- See Standard Plan T65 for “Temporary Fence (Type ESA).”

Installation

- Construction materials, equipment storage, and parking areas should be located where they will not cause damage to vegetation designated for preservation. This could include: keeping equipment away from trees to prevent trunk and root damage, considering the impact of grade changes to existing vegetation

and the root zone, and minimizing disturbed areas by avoiding stands of trees and shrubs and following existing contours to reduce cutting and filling for temporary roads.

- Maintain existing irrigation systems.
 - Employees and subcontractors must be instructed to honor protective devices. No heavy equipment, vehicular traffic, or storage piles of any construction materials is permitted within the drip line of any tree to be retained. Removed trees should not be felled, pushed, or pulled into any retained trees. Fires should not be permitted within 100 ft of the drip line of any retained trees. Any fires must be of limited size, and must be kept under continual surveillance. No toxic or construction materials (including paint, acid, nails, gypsum board, chemicals, fuels, and lubricants) should be stored within 50 feet of the drip line of any retained trees, nor disposed of in any way which would injure vegetation.
 - After all other work is complete, fences and barriers must be removed last. This is because protected trees may be destroyed by carelessness during the final cleanup and landscaping.
- Maintenance and Inspection
- During the entire construction phase, the limits of disturbance must remain clearly marked to avoid damage to the existing vegetation during site cleanup and stabilization. Irrigation or maintenance of existing vegetation must conform to the requirements in the landscaping plan. If damage to protected trees still occurs, maintenance guidelines described below must be followed:
 - Serious tree injuries must be attended to by an arborist.
 - During construction, the District Environmental Branch must be contacted to ensure that ESAs are protected and any environmental regulations are followed.
 - Existing Vegetated Areas to be Preserved must be clearly demarcated in the WPCDs.
- SWPPP or WPCP
- Preservation of Existing Vegetation must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

Preservation of Existing Vegetation

SS-2

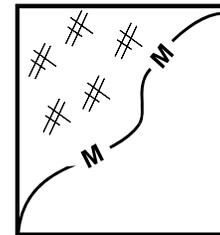
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STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS [TEMPORARY FENCE (TYPE ESA)]

NO. SCALE





Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** Hydraulic mulch consists of applying a mixture of natural fibers and a stabilizing compound with hydroseeding equipment to temporarily protect exposed soil from erosion by raindrop impact or wind. This is one of five temporary soil stabilization alternatives to consider.
- Appropriate Applications**
- Hydraulic mulch is applied to disturbed areas requiring temporary protection until permanent vegetation is established, or disturbed areas that must be re-disturbed following an extended period of inactivity.
- Limitations**
- Wood fiber hydraulic mulches are generally short-lived (only last a part of a growing season) and require (24 hours or more) time to dry before rainfall occurs to be effective.
 - Paper mulches are not permitted.
 - Avoid use in areas where the mulch would be incompatible with immediate future earthwork activities and would have to be removed.
 - Cellulose fiber mulches alone may not perform well on steep slopes or in coarse soils.
- Standards and Specifications**
- General Requirements**
- See Standard Specifications Section 13-5.03D to 13-5.03G for placing various types of hydraulic mulch.
 - Standard Specifications Section 21-2.02D and 21-2.02E contain material specifications for fiber and tackifier, respectively.

- A certificate of compliance, as required under Standard Specifications Section 21-2.01C(4), is required for tackifier and bonded fiber matrix (BFM).
- Hydraulic matrices require time to dry before rainfall occurs to be effective. Refer to the manufacturer's specifications for drying times.
- Avoid mulch over-spray onto the traveled way, sidewalks, lined drainage channels, and existing vegetation.
- Selection of hydraulic mulches by the Contractor must be approved by a licensed professional.
- Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking should only be used where other methods are impractical.

Temporary Hydraulic Mulch

- Temporary hydraulic mulch contains mixtures of fiber and tackifier that is applied to soil with hydraulic spray equipment.
- Fiber for temporary hydraulic mulch must be at least 50 percent wood fiber. The remaining percentage must be cellulose fiber, alternate fiber, or a combination of these fibers.
- Temporary hydraulic mulch application rates must follow the manufacturer's recommendations. If not provided, apply at a rate of 2,000 lb/ac.
- Tackifier should be applied per the manufacturer's instructions for the slope, soil, and wind conditions

Temporary BFM Hydraulic Mulch

- BFM contains 100% wood fiber and tackifier, sometimes combined with seed and fertilizer that is applied to soil hydraulically.
- BFM applications rates must follow the manufacturer's recommendations. If not provided, apply at a rate of 3,500 lb/ac.
- Tackifier used for BFM must be:
 - Bonded to the fiber or prepackaged with the fiber by the manufacturer
 - Contain a minimum of 10 percent of the combined weight of the dry fiber, activating agents, and additives
 - Organic, high viscosity colloidal polysaccharide with activating agents or a blended hydrocolloid-based binder

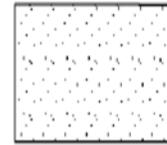
Temporary Cementitious Binder Hydraulic Mulch

- Temporary cementitious binder hydraulic mulch is a mixture of fiber and a cementitious binder that is applied to soil with hydraulic spray equipment.
- Application rates of temporary cementitious binder hydraulic mulch must be according to the manufacturer's specifications. If not provided, apply at a rate of 2,000 lb/ac and cementitious binder at 4,000 lb/ac.

Maintenance and Inspections

- Additional standards for cementitious binder are provided in Section 13-5.03G.
- Additional guidance on the selection of soil stabilization BMPs can be found in Appendix B of this Manual.
- A certificate of compliance under Standard Specifications Section 21-2.01C(4) for the applicable BMP must be submitted to the RE prior to application to ensure proper mix is being used.
- It is recommended that a small test area/mock-up occurs prior to large area application to verify sufficient cover for the approved mix.
- Maintain an unbroken, temporary mulched ground cover throughout the period of construction when the soils are not being reworked. Inspect before expected rain storms and repair any damaged ground cover and re-mulch exposed areas of bare soil.
- After any rainfall event, the Contractor is responsible for maintaining all slopes to prevent erosion.
- Areas where Hydraulic Mulch will be implemented must be shown in the WPCDs and match site conditions.
- Hydraulic Mulch, Temporary BFM Hydraulic Mulch or Temporary Cementitious Hydraulic Mulch must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

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BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose Hydroseeding typically consists of applying a mixture of wood, fiber, seed, fertilizer, and stabilizing emulsion with hydromulch equipment, which temporarily protects exposed soils from erosion by water and wind.

Appropriate Applications

- Hydroseeding is applied on disturbed soil areas requiring temporary protection until permanent vegetation is established or disturbed soil areas that must be re-disturbed following an extended period of inactivity.

- Can be used in conjunction with other rolled erosion control products.

Limitations

- Hydroseeding may be used alone only when there is sufficient time in the season to ensure adequate vegetation establishment and erosion control. Otherwise, hydroseeding must be used in conjunction with a soil binder or mulch, such as SS-5 “Soil Binders” and SS-6 “Straw Mulch.”

- Steep slopes are difficult to protect with temporary seeding.
- Temporary seeding may not be appropriate in dry periods without supplemental irrigation.
- Temporary vegetation may have to be removed before permanent vegetation is applied.
- Temporary vegetation is not appropriate for short-term inactivity.
- Hydroseeding should not be used in areas subject to heavy traffic.
- Could trigger non-visible sampling if the appropriate application timeframe (before a rain event) and manufacturer recommendations are not followed.

Standards and Specifications **General Requirements**

- Refer to Standard Specifications Section 13-5.03I “Temporary Hydroseed.”

- To select appropriate hydroseeding mixtures, an evaluation of site conditions shall be performed with respect to:
 - Soil conditions
 - Site topography
 - Season and climate
 - Vegetation types
 - Maintenance requirements
 - Sensitive adjacent areas
 - Water availability
 - Plans for permanent vegetation
- Selection of hydroseeding mixtures must be approved by the licensed professional.
- Seed mix must comply with Standard Specifications Section 21-2.02F “Seed,” and the project’s special provisions.
- Seed may be dry applied to small areas not accessible by hydroseeding equipment if authorized.
- Seeds must not contain seeds of prohibited noxious weeds and more than 1.0% total weed seed by weight. Seeds must be delivered to the project site with each species in separate, unopened containers with the seed tag attached. Measure individual seed species and mix in the presence of the RE.
- Fiber must be at least 50 percent wood fiber. The remaining percentage must be cellulose fiber, alternate fiber, or a combination of these fibers.
- Commercial fertilizer must conform to the requirements of the California Food and Agricultural Code. Fertilizer can be pelleted or granular form.

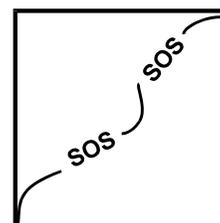
Application Procedures

- Prior to application, roughen the slope, fill area, or area to be seeded with the furrows trending along the contours. Rolling with a crimping or punching type roller or track walking is required on all slopes prior to hydroseeding. Track walking should only be used where other methods are impractical.
- Add water to hydroseed materials as recommended by the manufacturer and mix sufficiently to ensure an even application. A dispersing agent may be added to the mixture if authorized.
- Equipment must have a built-in continuous agitation and discharge system capable of producing a homogeneous mixture and a uniform application rate. The tank must have a minimum capacity of 1,000 gallons. A smaller tank can be used if authorized by the RE.
- Apply temporary hydroseed at the following rates:
 - Apply seed at rates specified in the project’s erosion control plans.
 - Apply fiber at 2,000 lb/ac.

Maintenance and Inspection

- Apply tackifier according to manufacturer’s recommendations for the slope, soil, and wind conditions.
- Apply materials in locations, rates, and number of applications shown and as follows:
- Start application within 60 minutes after adding seed to the tank.
- Apply in successive passes as necessary to achieve the specified application rate.
- Apply all hydroseed materials shown for a single area within 72 hours.
- If hydroseed materials are applied to areas covered by Rolled Erosion Control Products (RECP), apply hydroseed materials to the RECP as follows:
 - Verify the RECP is in uniform contact with the slope surface.
 - Spray materials into the RECP perpendicular to the slope and integrate well.
 - Do not displace or damage the RECP.
 - After the final application, do not allow pedestrians or equipment on the treated areas.
 - Follow-up applications shall be made as needed to cover weak spots, and to maintain adequate soil protection.
 - Avoid over-spray onto the traveled way, sidewalks, lined drainage channels, and existing vegetation.
- Additional guidance on the selection of soil stabilization BMPs can be found in Appendix B of this Manual.
- All seeded areas must be inspected for failures and re-seeded, fertilized, and mulched within the planting season, using not less than half the original application rates. Any temporary revegetation efforts that do not provide adequate cover must be reapplied at a scheduled recommended by the licensed professional.
- A certificate of compliance under Standard Specifications Section 21-2.01C(4) for the applicable BMP must be submitted to the RE prior to application to ensure proper mix is being used.
- It is recommended that a small test area/mock-up occurs prior to large area application to verify sufficient cover for the approved mix.

- After any rain event, the Contractor is responsible for maintaining all slopes to prevent erosion.
 - Areas where Hydroseeding will be implemented must be shown in the WPCDs. Application timeframes (dates) must be included in the WPCS.
 - Must ensure correct application rates and passes (different directions) take place to ensure adequate coverage.
- SWPPP
or WPCP
- Hydroseeding must be discussed in Section 500.3.2 of SWPPP or Section 30.2 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input checked="" type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** Soil binders consist of applying and maintaining a soil stabilizer to exposed soil surfaces. Soil binders are materials applied to the soil surface to temporarily prevent water-induced erosion of exposed soils on construction sites. Soil binders also provide temporary dust, wind, and soil stabilization (erosion control) benefits. This is one of five temporary soil stabilization alternatives to consider.
- Appropriate Applications** Soil binders are typically applied to disturbed areas requiring short-term temporary protection. Because soil binders can often be incorporated into the work, they may be a good choice for areas where grading activities will soon resume. Application on stockpiles to prevent water and wind erosion.
- Limitations**
- Soil binders are temporary in nature and may need reapplication.
 - Soil binders require a minimum curing time until fully effective, as prescribed by the manufacturer. Soil binders may need reapplication after a storm event.
 - Soil binders will generally experience spot failures during heavy rainfall events. If runoff penetrates the soil at the top of a slope treated with a soil binder, it is likely that the runoff will undercut the stabilized soil layer and discharge at a point further down slope.
 - Soil binders do not hold up to pedestrian or vehicular traffic across treated areas.
 - Soil binders may not penetrate soil surfaces made up primarily of silt and clay, particularly when compacted.
 - Some soil binders may not perform well with low relative humidity. Under rainy conditions, some agents may become slippery or leach out of the soil.
 - May not cure if low temperatures occur within 24 hours of application.

Standards and Specifications

General Considerations

- Site-specific soil types will dictate appropriate soil binders to be used.
- A soil binder must be environmentally benign (non-toxic to plant and animal life), easy to apply, easy to maintain, economical, and shall not stain paved or painted surfaces, refer to Standard Specifications Section 13,18 and 21.
- Some soil binders are compatible with existing vegetation.
- Performance of soil binders depends on temperature, humidity, and traffic across treated areas.
- Avoid over-spray onto the traveled way, sidewalks, lined drainage channels, and existing vegetation.
- Storm water quality runoff sampling is required for many soil binders. Per table 5-1, footnote 7, of the 2013 Construction Site Monitoring Program Guidance Manual the following copolymers/polymers do not discharge pollutants and water quality sampling and analysis is not required Super Tak, M-binder, Fish Stik, Pro40dc, Fisch-Bond, Soil Master WR and EarthGuard.

Soil Binders Applications

After selecting an appropriate soil binder, the untreated soil surface must be prepared before applying the soil binder. The untreated soil surface must contain sufficient moisture to assist the agent in achieving uniform distribution. In general, the following steps shall be followed:

- Follow manufacturer’s recommendations for application rates, pre-wetting of application area, and cleaning of equipment after use.
- Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where rolling is impractical.
- Consider the drying time for the selected soil binder and apply with sufficient time before anticipated rainfall. Soil binders shall not be applied during or immediately before rainfall.
- Avoid over-spray onto the traveled way, sidewalks, lined drainage channels, sound walls, and existing vegetation.
- Soil binders shall not be applied to frozen soil, areas with standing water, under freezing or rainy conditions, or when the air temperature is below 4°C (40°F) during the curing period.
- More than one treatment is often necessary, although the second treatment may be diluted or have a lower application rate.
- Generally, soil binders require a minimum curing time of 24 hours before they are fully effective. Refer to manufacturer’s instructions for specific cure times.

- For liquid agents:
 - Crown or slope ground to avoid ponding.
 - Uniformly pre-wet ground at 0.03 to 0.3 gal/yd² or according to manufacturer’s recommendations.
 - Apply solution under pressure. Overlap solution 6 to 12 in.
 - Allow treated area to cure for the time recommended by the manufacturer; typically, at least 24 hours.
 - In low humidities, reactivate chemicals by re-wetting with water at 0.1 to 0.2 gal/yd².

Selecting a Soil Binder

Properties of common soil binders used for erosion control are provided in Table 1 and Appendix B. Use Table 1 to select an appropriate soil binder.

Table 1
Properties of Soil Binders for Erosion Control

Chemicals	Plant Material Based (Short Lived)	Plant Material Based (Long Lived)	Polymeric Emulsion Blends	Cementitious-Based Binders
Relative Cost	Low	Low	Low	Low
Resistance to Leaching	High	High	Low to Moderate	Moderate
Resistance to Abrasion	Moderate	Low	Moderate to High	Moderate to High
Longevity	Short to Medium	Medium	Medium to Long	Medium
Minimum Curing Time before Rain	9 to 18 hours	19 to 24 hours	0 to 24 hours	4 to 8 hours
Compatibility with Existing Vegetation	Good	Poor	Poor	Poor
Mode of Degradation	Biodegradable	Biodegradable	Photodegradable/ Chemically Degradable	Photodegradable/ Chemically Degradable
Labor Intensive	No	No	No	No
Specialized Application Equipment	Water Truck or Hydraulic Mulcher	Water Truck or Hydraulic Mulcher	Water Truck or Hydraulic Mulcher	Water Truck or Hydraulic Mulcher
Liquid/Powder	Powder	Liquid	Liquid/Powder	Powder
Surface Crusting	Yes, but dissolves on rewetting	Yes	Yes, but dissolves on rewetting	Yes
Clean-Up	Water	Water	Water	Water
Erosion Control Application Rate	Varies ⁽¹⁾	Varies ⁽¹⁾	Varies ⁽¹⁾	4,500 to 13,500 kg/ha

(1) Dependant on product, soil type, and slope inclination

Factors to consider when selecting a soil binder include the following:

- Suitability to situation - Consider where the soil binder will be applied; determine if it needs a high resistance to leaching or abrasion, and whether it needs to be compatible with any existing vegetation. Determine the length of time soil stabilization will be needed, and if the soil binder will be placed in an area where it will degrade rapidly. In general, slope steepness is not a discriminating factor for the listed soil binders.
- Soil types and surface materials - Fines and moisture content are key properties of surface materials. Consider a soil binder's ability to penetrate, likelihood of leaching, and ability to form a surface crust on the surface materials.
- Frequency of application - The frequency of application can be affected by subgrade conditions, surface type, climate, and maintenance schedule. Frequent applications could lead to high costs. Application frequency may be minimized if the soil binder has good penetration, low evaporation, and good longevity. Consider also that frequent application will require frequent equipment clean-up.

After considering the above factors, the soil binders in Table 1 will be generally appropriate as follows:

Plant-Material Based (Short Lived)

-*Guar*: Guar gum based tackifier must be derived from the ground endosperm of the guar plant, *Cyanmopsis tetragonolobus*. It must be treated with dispersing agents for easy mixing.. It shall be diluted at the rate of 1 to 5 lb per 100 gallons of water, depending on application machine capacity. Recommended minimum application rates are as follows:

Application Rates for Guar Soil Stabilizer

Slope (V:H):	Flat	1:4	1:3	1:2	1:1
Kg/Ha:	45	50	56	67	78
lb/ac	40	45	50	60	70

-*Psyllium*: Psyllium is composed of the finely ground muciloid coating of plantago seeds that is applied as a dry powder or in a wet slurry to the surface of the soil. It dries to form a firm but rewettable membrane that binds soil particles together but permits germination and growth of seed. Psyllium requires 12 to 18 hours drying time. Psyllium shall be applied at a rate of 80 to 200 lb/ac, with enough water in solution to allow for a uniform slurry flow.

-Starch: Starch is non-ionic, water soluble granular cornstarch. The material is mixed with water and applied at the rate of 150 lb/ac. Approximate drying time is 9 to 12 hours.

Plant-Material Based (Long Lived)

-Pitch and Rosin Emulsion: Generally, a non-ionic pitch and rosin emulsion has a minimum solids content of 48%. The rosin shall be a minimum of 26% of the total solids content. The soil stabilizer shall be non-corrosive, water-dilutable emulsion that upon application cures to a water insoluble binding and cementing agent. For soil erosion control applications, the emulsion is diluted and shall be applied as follows:

For clayey soil: 5 parts water to 1 part emulsion

For sandy soil: 10 parts water to 1 part emulsion

Application can be by water truck or hydraulic seeder with the emulsion/product mixture applied at the rate specified by the manufacturer. Approximate drying time is 19 to 24 hours.

Polymeric Emulsion Blends

-Acrylic Copolymers and Polymers: Polymeric soil stabilizers shall consist of a liquid or solid polymer or copolymer with an acrylic base that contains a minimum of 55% solids. The polymeric compound shall be handled and mixed in a manner that will not cause foaming or shall contain an anti-foaming agent. The polymeric emulsion shall not exceed its shelf life or expiration date; manufacturers shall provide the expiration date. Polymeric soil stabilizer shall be readily miscible in water, non-injurious to seed or animal life, non-flammable, shall provide surface soil stabilization for various soil types without totally inhibiting water infiltration, and shall not re-emulsify when cured. The applied compound shall air cure within a maximum of 36 to 48 hours. Liquid copolymer shall be diluted at a rate of 10 parts water to 1 part polymer and applied to soil at a rate of 1,175 gal/ac.

-Liquid Polymers of Methacrylates and Acrylates: This material consists of a tackifier/sealer that is a liquid polymer of methacrylates and acrylates. It is an aqueous 100% acrylic emulsion blend of 40% solids by volume that is free from styrene, acetate, vinyl, ethoxylated surfactants or silicates. For soil stabilization applications, it is diluted with water in accordance with manufacturer's recommendations, and applied with a hydraulic seeder at the rate of 20 gal/ac. Drying time is 12 to 18 hours after application.

-Copolymers of Sodium Acrylates and Acrylamides: These materials are non-toxic, dry powders that are copolymers of sodium acrylate and acrylamide. They are mixed with water and applied to the soil surface for erosion control at rates that are determined by slope gradient:

Slope Gradient (V:H)	kg/ha (lb/ac)
Flat to 1:5	3-5
1:5 to 1:3	5-10
1:2 to 1:1	10-20

-Poly-Acrylamide and Copolymer of Acrylamide: Linear copolymer polyacrylamide is packaged as a dry-flowable solid. When used as a stand-alone stabilizer, it is diluted at a rate of 1 lb/100 gal of water and applied at the rate of 5 lb/ac.

-Hydro-Colloid Polymers: Hydro-Colloid Polymers are various combinations of dry-flowable poly-acrylamides, copolymers and hydro-colloid polymers that are mixed with water and applied to the soil surface at rates of 53 to 62 lb/ac. Drying times are 0 to 4 hours.

Cementitious-Based Binders

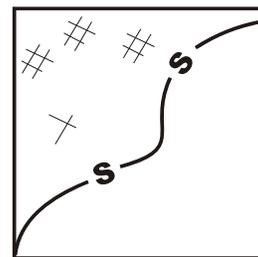
-Gypsum: This is a formulated gypsum-based product that readily mixes with water and mulch to form a thin protective crust on the soil surface. It is composed of high purity gypsum that is ground, calcined and processed into calcium sulfate hemihydrate with a minimum purity of 86%. It is mixed in a hydraulic seeder and applied at rates 4,000 to 12,000 lb/ac. Drying time is 4 to 8 hours.

- Additional guidance on the selection of soil stabilization BMPs can be found in Appendix B of this Manual.

- Maintenance and Inspection
 - Reapplying the selected soil binder may be needed for proper maintenance. High traffic areas shall be inspected daily, and lower traffic areas shall be inspected weekly.
 - A certificate of compliance under Standard Specifications Section 21-2.01C(4) must be submitted to the RE prior to application.
 - It is recommended that a small test area/mock-up occurs prior to large area application to verify sufficient cover for the approved mix.
 - After any rainfall event, the Contractor is responsible for maintaining all slopes to prevent erosion.
 - Maintain an unbroken, temporary stabilized area while DSAs are inactive. Repair any damaged stabilized area and re-apply soil binder to exposed areas.
 - Cleaning of equipment must be done in a designated area that can collect the water to prevent triggering of non-visible and non-stormwater requirements.

- SWPPP or WPCP
 - Soil Binders must be discussed in Section 500.3.2 of the SWPPP or Section 30.2 of the WPCP.

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose Straw mulch consists of placing a uniform layer of straw and incorporating it into the soil with a studded roller, or anchoring it with a tackifier or Rolled Erosion Control Product (RECP). This is one of the temporary soil stabilization alternatives to consider.

Appropriate Applications

- Straw mulch is typically used for soil stabilization as a temporary surface cover on disturbed areas until soils can be prepared for revegetation and permanent vegetation is established.
- Also typically used in combination with temporary and/or permanent seeding strategies to enhance plant establishment.

Limitations

- Availability of erosion control contractors and straw may be limited prior to the rain events due to high demand.
- There is a potential for introduction of weed-seed and unwanted plant material.
- Straw mulch applied by hand is more time intensive and potentially costly.
- May have to be removed prior to permanent seeding or soil stabilization.
- “Punching” of straw does not work in sandy soils, must use a tackifier.

Standards and Specifications

General Requirements

- Straw and tackifier must conform to Standard Specifications Sections 21-2.02H, 21.2-03G and 21-2.02E.
- Submit a certificate of compliance for straw before application. If weed-free straw is used, the certificate of compliance must include the certificate of quarantine compliance.
- Straw must be derived from wheat, rice, or barley.
- A tackifier is the preferred method for anchoring straw mulch to the soil on slopes.
- Selected tackifier must be environmentally benign (non-toxic to plants and animal life) and does not pose a threat to water quality.
- Crimping, “punch” roller-type rollers, or track-walking may also be used to incorporate straw mulch into the soil on slopes. Track walking shall only be used where other methods are impractical.
- Avoid placing straw onto the traveled way, sidewalks, lined drainage channels, sound walls, and existing vegetation.
- Straw mulch with tackifier should not be applied during or immediately before a rain event.

Application Procedures

- Apply loose straw at the rate indicated either by machine or by hand distribution.
- The straw mulch must be evenly distributed on the soil surface.
- Straw may be anchored in place by incorporating it into soil or using a tackifier. Additionally, in small areas and/or steep slopes, straw mulch can also be held in place using Rolled Erosion Control Product. Refer to BMP SS-7, “Temporary Cover and Rolled Erosion Control Products.”
- If a tackifier will be used to anchor the straw mulch in lieu of incorporation, roughen embankment or fill areas by rolling with a crimping or punching-type roller. Track walking should only be used where rolling is impractical.
- A tackifier acts to glue the straw fibers together and to the soil surface. Factors influencing tackifier selection include longevity and ability to hold the fibers in place.
- Apply tackifier according to the manufacturer’s instructed rate for the slope, soil, and wind conditions.
- If incorporation of straw mulch into soil is the selected method for anchoring, then do as follows:
 - A spade or shovel can be used to incorporate straw into soil in small areas.
 - On slopes with soils that are stable enough and of sufficient gradient to safely support construction equipment without contributing to

compaction and instability problems, straw can be “punched” into the ground using a knife-blade roller or a straight bladed coulter, known commercially as a “crimper” under Section 21-2.03J of the Standard Specifications.

- Maintenance and Inspections
 - Straw needs to last long enough to achieve erosion control objectives.
 - Maintain an unbroken, temporary mulched ground cover while DSAs are inactive. Repair any damaged ground cover and re-mulch exposed areas.
 - Reapplication of straw mulch and tackifier may be required by the RE to maintain effective soil stabilization over disturbed areas and slopes.
 - After any rainfall event, the Contractor is responsible for maintaining all slopes to prevent erosion.
- SWPPP or WPCP
 - Straw Mulch must be discussed in Section 500.3.2 of the SWPPP or Section 30.2 of the WPCP.

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Temporary Cover and Rolled Erosion Control Products

SS-7



Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose This BMP involves the placement of geosynthetics, turf reinforcement mats, plastic covers, or rolled erosion control products (RECPs), including erosion control blankets, to stabilize disturbed soil areas and protect soils from erosion by wind or water. This is one of the temporary soil stabilization alternatives to consider.

- Appropriate Applications**
- These measures are used when disturbed soils may be particularly difficult to stabilize, including the following situations:
 - Steep slopes, generally steeper than 3:1 (H:V).
 - Slopes where the erosion potential is high.
 - Slopes and disturbed soils where mulch must be anchored.
 - Disturbed areas where plants are slow to develop.
 - Channels with flows exceeding 3 ft/s.
 - Channels to be vegetated.
 - Slopes adjacent to receiving waters or ESAs.
 - Standards for plastic sheeting used for stockpile covers are provided in Section 14-11.05A of the Standard Specifications.

- Limitations**
- Blankets and mats are typically more expensive than other erosion control measures, due to labor and material costs. This usually limits their application to areas inaccessible to hydraulic equipment, or where other measures are not applicable, such as channels.
 - May delay seed germination due to reduction in soil temperature.
 - Plastic netting should not be used when regulatory permits prohibit their use or if there is a potential for plastic netting to endanger wildlife.
 - Blankets and mats are generally not suitable for excessively rocky sites or areas where the final vegetation will be mowed (since staples and netting can catch in mowers).
 - Blankets and mats should be removed and disposed of prior to application of permanent soil stabilization measures as required by the contract plans. Long-term erosion control blankets must be Class 8 Rock Slope Protection fabric.
 - Plastic sheeting is easily vandalized, easily torn, photodegradable, and must be disposed of at a landfill and requires extensive inspection and maintenance.
 - Plastic results in 100 percent runoff, which may cause serious erosion problems in the downstream areas receiving the increased flow.
 - The use of plastic should be limited to covering stockpiles, or very small graded areas for short periods of time (such as through one imminent storm event), until alternative measures, such as seeding and mulching, can be installed.
 - Geosynthetics, mats, plastic covers, and RECPs have maximum flow rate limitations; consult the manufacturer for proper selection.
 - Additional guidance for selection of soil stabilization BMPs is provided in Appendix B of this Manual.

Standards and Specifications **Material Selection**

- There are many types of temporary cover material and RECPs, and selection of the appropriate type is based on the specific type of application and site conditions. Selection(s) made by the Contractor must be approved by the Resident Engineer; certification of compliance must be in accordance with Standard Specifications Sections 6-2 and 21-2.01C and 21-2.02O.

Temporary Cover – Geosynthetics

- Material shall be a woven polypropylene fabric with minimum thickness of 0.06 inch, minimum width of 12 feet and meet all requirements of Standard Specification Section 96-1 Temporary Cover. Material shall have a minimum tensile strength of 150 lb (warp) and 80 lbs (fill) in conformance with the requirements in ASTM Designation: D 4632. The permittivity of the fabric must be approximately 0.07 sec –1 in conformance with the requirements in

ASTM Designation: D4491. The fabric must have an ultraviolet (UV) stability of 70 percent in conformance with the requirements in ASTM designation: D4355. Geotextile blankets should be secured in place with wire staples or sandbags and by keying into tops of slopes and edges to prevent infiltration of surface water. Staples should be made of minimum 16 gauge steel wire and be U-shaped with 8-inch legs and 2-inch crown.

- Geotextiles may be reused if, in the opinion of the RE, they are suitable for the use intended.
- Submit a certificate of compliance for each type of geosynthetic material used.

Temporary Cover – Plastic Sheeting

- Plastic sheeting shall comply with Standard Specification Section 13-5 and 96-1 which requires a minimum thickness of 0.39 inches, and be keyed in at the top of slope and firmly held in place with gravel-filled bags placed no more than 6 feet apart or other weights authorized by the RE. Seams are typically taped or weighted down their entire length, and there should be at least a 12 to 24 inches overlap of all seams. Edges must be embedded a minimum of 6 inches in soil.
- All sheeting must be inspected periodically after installation and after rain events to check for erosion, undermining, and anchorage failure. Any failures must be repaired immediately. If washout or breakages occurs, the material should be re-installed after repairing the damage to the slope or area.

Rolled Erosion Control Products

- RECPs are typically composed of jute fibers, curled wood fibers, straw, coconut fiber, or a combination of these materials. For an RECP to be considered 100 percent biodegradable, the netting, sewing or adhesive system that holds the biodegradable mulch fibers together must also be biodegradable.
 - **Jute mesh** is made from a natural fiber that is spun into a yarn, then loosely woven into a biodegradable mesh. It is designed to be used in conjunction with vegetation and has longevity of approximately one year. The material is supplied in rolled strips that are secured to the soil with steel U-shaped staples. Jute mesh shall comply with all requirements of Jute mesh table included in Standard Specification Section 21-2.
 - **Erosion control blanket** is a machine-produced mat made of processed natural fibers that are bound together to form a continuous matrix surrounded by two natural nets. The processed natural fibers comprising the matrix of the blanket may be a mixture of straw (70 percent) and coconut (30 percent), woven coir (100 percent), or excelsior (curled wood fiber) (80 percent). Erosion control blankets must be furnished in rolled strips a minimum of 72 inches wide, and secured in place with steel U-shaped staples. Erosion control blankets must also comply with Section 21-2.02O(4) of the Standard Specifications.

- **Netting** consists of pure coconut fibers, or coir, woven into a matrix. Coir netting must be furnished in rolled strips a minimum of 72 to 158 inches in width and 0.3 inches thick. There are three classes of coir netting: Type A, Type B, and Type C. See Section 21-2.02O(3) of the Standard Specifications for the minimum requirements for each type of netting.
- Non-biodegradable RECPs are typically composed of polypropylene, polyethylene, nylon or other synthetic fibers. In some cases, a combination of biodegradable and synthetic fibers is used to construct the RECP. Netting used to hold these fibers together is typically non-biodegradable as well. Check contract special provisions to determine whether non-biodegradable products are not to be used based on regulatory requirements.
 - **Turf reinforcement mat** is a nondegradable, open-weave textile made of synthetic fibers, filaments, nets, wire mesh, or other elements processed into a permanent three-dimensional matrix. Turf reinforcement mats must be a minimum of 72 inches in width and 0.25 inches thick. There are three classes of turf reinforcement mat: Type A, Type B, and Type C. See section 21-2.02O(5) of the Standard Specifications for the minimum requirements for each type of netting.
 - **Plastic netting** is a lightweight biaxially-oriented netting designed for securing loose mulches like straw to soil surfaces to establish vegetation. The netting is photodegradable. The netting is supplied in rolled strips, which should be secured with U-shaped staples or stakes in accordance with manufacturers' recommendations.
 - **Plastic mesh** is an open-weave geotextile that is composed of an extruded synthetic fiber woven into a mesh with an opening size of less than 0.25 inch. It is used with revegetation or may be used to secure loose fiber such as straw to the ground. The material is supplied in rolled strips, which should be secured to the soil with U-shaped staples or stakes in accordance with manufacturers' recommendations.
 - **Synthetic fiber with netting** is a mat that is composed of durable synthetic fibers treated to resist chemicals and ultraviolet light. The mat is a dense, three-dimensional mesh of synthetic (typically polyolefin) fibers stitched between two polypropylene nets. The mats are designed to be revegetated and provide a permanent composite system of soil, roots, and geomatrix. The material is furnished in rolled strips, which should be secured with U-shaped staples or stakes in accordance with manufacturers' recommendations.
 - **Bonded synthetic fibers** consist of a three-dimensional geomatrix nylon (or other synthetic) matting. Typically it has more than 90 percent open area, which facilitates root growth. Its tough root-reinforcing system anchors vegetation and protects against hydraulic lift and shear forces created by high volume discharges. It can be installed over prepared soil, followed by seeding into the mat. Once vegetated, it becomes an

invisible composite system of soil, roots, and geomatrix. The material is furnished in rolled strips that should be secured with U-shaped staples or stakes in accordance with manufacturers' recommendations.

- **Combination synthetic and biodegradable RECPs** consist of biodegradable fibers, such as wood fiber or coconut fiber, with a heavy polypropylene net stitched to the top and a high-strength continuous-filament geomatrix or net stitched to the bottom. The material is designed to enhance revegetation. The material is furnished in rolled strips, which should be secured with U-shaped staples or stakes in accordance with manufacturers' recommendations.

Site Preparation

- Proper site preparation is essential to ensure complete contact of the blanket or matting with the soil.
- Grade and shape the area of installation.
- Remove all rocks, clods, vegetation or other obstructions larger than 1 inch in size. Fill voids or depressions.
- Proper site preparation ensures that the products and covers will have complete, direct contact with the soil.

Seeding

- If applicable, seed the area before RECP installation for erosion control and revegetation.
- Check all slots and other areas disturbed during installation must be re-seeded.
- For turf reinforcement mats, seeding is often specified to occur after installation.

Anchoring

- U-shaped wire staples, metal stake pins, triangular wooden stakes, or fasteners recommended by manufacturers can be used to anchor mats and blankets to the ground surface in conformance with Standard Specification section 13-10.
- Staples should be made of minimum 16 gauge steel wire and be U-shaped with 8-inch legs and 2-inch crown.
- Metal stake pins should be 0.188 inch diameter steel with a 1.5 inch steel washer at the head of the pin, and 8 inch in length.
- Wire staples and metal stakes should be driven flush to the soil surface.
- All anchors should be 6 inch to 18 inch long and have sufficient ground penetration to resist pullout. Longer anchors may be required for loose soils.

Installation on Slopes

- Refer to Standard Plans T53 and T54 for details regarding installation on slopes for temporary uses, and H52 for permanent uses.

Installation in Channels

- Refer to Standard Plan T55 for details regarding installation in channels.
- Installation shall be in accordance with the manufacturer's recommendations. In general, these will be as follows:
 - Dig initial anchor trench 12 in deep and 6 in wide across the channel at the lower end of the project area.
 - Excavate intermittent check slots, 6 in deep and 6 in wide across the channel at 25 ft to 30 ft intervals along the channels.
 - Cut longitudinal channel anchor slots 4 in deep and 4 in wide along each side of the installation to bury edges of matting, whenever possible extend matting 2 in to 3 in above the crest of the channel side slopes.
 - Beginning at the downstream end and in the center of the channel, place the initial end of the first roll in the anchor trench and secure with fastening devices at 12 in intervals. Note: matting will initially be upside down in anchor trench.
 - In the same manner, position adjacent rolls in anchor trench, overlapping the preceding roll a minimum of 3 in.
 - Secure these initial ends of mats with anchors at 12 in intervals, backfill and compact soil.
 - Unroll center strip of matting upstream. Stop at next check slot or terminal anchor trench. Unroll adjacent mats upstream in similar fashion, maintaining a 3 in overlap.
 - Fold and secure all rolls of matting snugly into all transverse check slots. Lay mat in the bottom of the slot then fold back against itself. Anchor through both layers of mat at 12 in intervals, then backfill and compact soil. Continue rolling all mat widths upstream to the next check slot or terminal anchor trench.
 - Alternate method for non-critical installations: Place two rows of anchors on 6 in centers at 25 ft to 30 ft intervals in lieu of excavated check slots.
 - Shingle-lap spliced ends by a minimum of 12 in apart on 12 in intervals.
 - Place edges of outside mats in previously excavated longitudinal slots, anchor using prescribed staple pattern, backfill and compact soil.
 - Anchor, fill and compact upstream end of mat in a 12 in by 6 in terminal trench.

Temporary Cover and Rolled Erosion Control Products

SS-7

- Secure mat to ground surface using U-shaped wire staples, geotextile pins, or wooden stakes.
- Seed and fill turf reinforcement matting with soil, if specified.

Soil Filling (if specified for turf reinforcement)

- Always consult the manufacturer's recommendations for installation.
- Do not drive tracked or heavy equipment over mat.
- Avoid any traffic over matting if loose or wet soil conditions exist.
- Use shovels, rakes or brooms for fine grading and touch up.
- Smooth out soil filling, just exposing top netting of mat.

Temporary Soil Stabilization Removal

- When no longer required for the work, temporary soil stabilization becomes the property of the Contractor.
- Temporary soil stabilization removed from the site of the work must be disposed of outside the highway right-of-way in conformance with the provisions in Standard Specifications Section 14-10. If approved by the RE, the contractor may leave the temporary soil stabilizer in place.

Maintenance and Inspection

Areas treated with temporary soil stabilization must be inspected as specified in the Standard Specifications and special provisions. Areas treated with temporary soil stabilization must be maintained to provide adequate erosion control. Temporary soil stabilization should be reapplied or replaced on exposed soils when area becomes exposed or exhibits visible erosion.

- All blankets and mats must be inspected periodically after installation.
- Installation should be inspected after significant rain events to check for erosion and undermining. Any failures must be repaired immediately.
- If washout or breakage occurs, re-install the material after repairing the damage to the slope or channel.

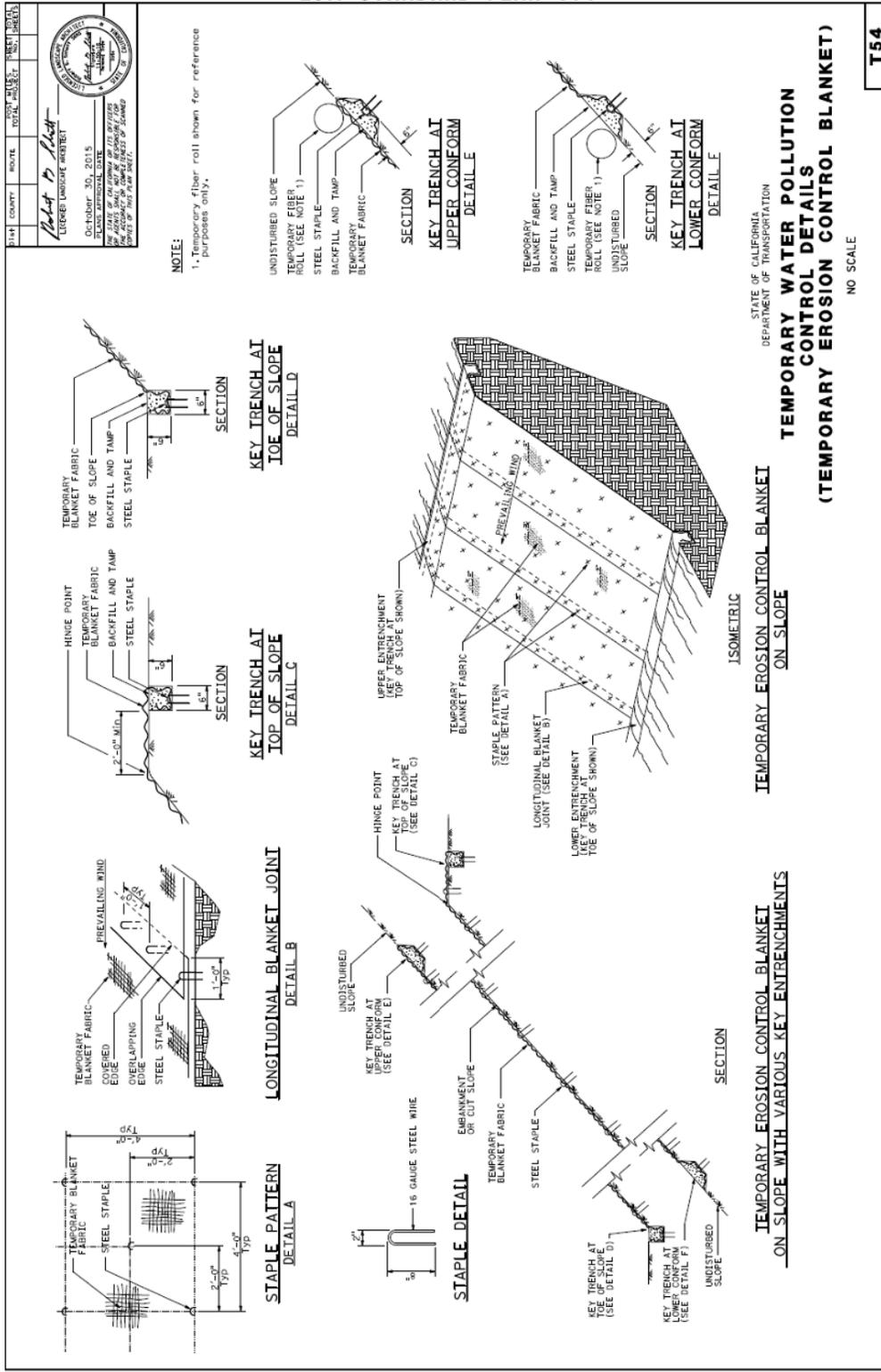
SWPPP or WPCP

- RECP must be discussed in Section 500.3.2 of the SWPPP or Section 30.2 of the WPCP.



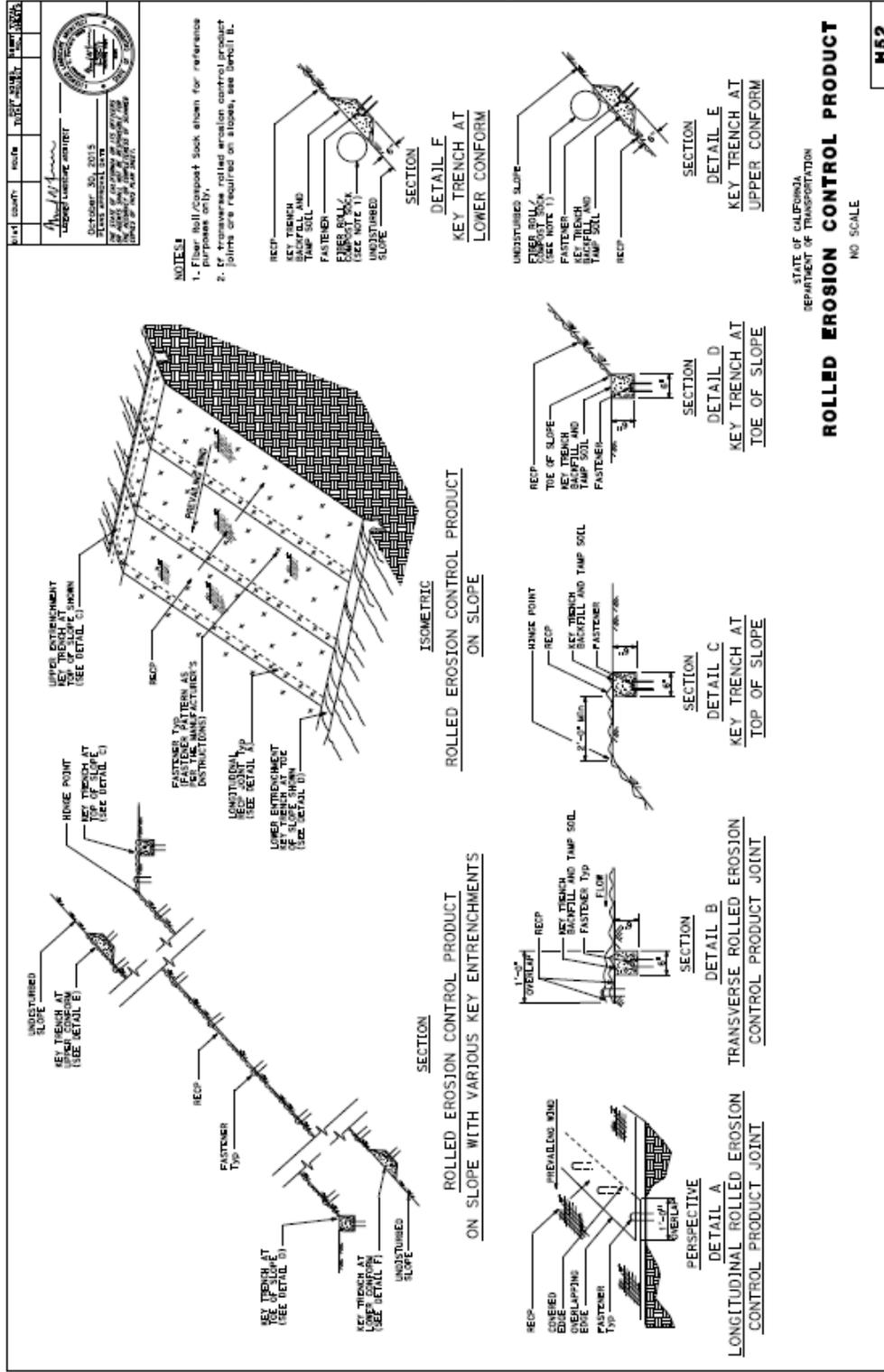
Temporary Cover and Rolled Erosion Control Products

SS-7



Temporary Cover and Rolled Erosion Control Products

SS-7

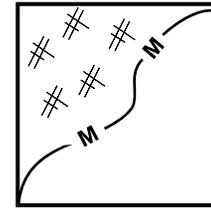


Temporary Cover and Rolled Erosion Control Products

SS-7

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose

Wood mulching consist of applying a mixture of shredded bark, wood chips, or tree trimmings on top of soil. Wood mulch is mostly applicable to landscape projects.

The primary function of wood mulching is to reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff.

Appropriate Applications

- Wood mulching is considered a temporary soil stabilization alternative in the following situations:
 - As a stand-alone temporary surface cover on disturbed areas until soils can be prepared for revegetation and permanent vegetative cover can be established.
 - As short term, non-vegetative ground cover on slopes to reduce rainfall impact, decrease the velocity of sheet flow, settle out sediment and reduce wind erosion.
 - In combination with other BMPs, mulch may be used to stabilize roadway embankment slopes and control wind erosion.

Limitations

- Wood mulch may introduce unwanted species of vegetation.
- Shredded wood does not withstand concentrated flows and is prone to sheet erosion.
- Green material has the potential for the presence of unwanted weeds and other plant materials. Delivery system is primarily by manual labor, although pneumatic application equipment is available.
- Mulch may need to be removed prior to further earthwork.

Standards and Specifications

- Mulch should not be used alone to stabilize embankments or sides of swales where concentrated flows could mobilize the material.

Mulch Selection

There are many types of mulches, including tree bark mulch, wood chip mulch, shredded bark mulch, and tree trimming mulch. Selection of the appropriate type should be based on the type of application and site conditions. Prior to use of wood mulches, obtain concurrence with the District Landscape Architect because some mulch used on construction projects may not be compatible with planned or future projects.

Selection of wood mulches must comply with Standard Specifications Section 20-5.03E, and must be approved by the RE.

Tree Bark Mulch

- Tree bark mulch must be derived from cedar, Douglas fir, or redwood tree species.
- Tree bark mulch must be ground such that at least 95 percent of the material by volume is less than 2 inches in any direction and no more than 30 percent by volume is less than 1 inch in any direction.

Wood Chip Mulch

- Wood chip mulch must be derived from clean wood, and it may not contain leaves or small twigs.
- Wood chip mulch must contain at least 95 percent wood strands by volume with an average thickness of 1/8 to 1-1/2 inches in any direction and 2 to 8 inches in length.

Shredded Bark Mulch

- Shredded bark mulch must be derived from trees. The mulch must be a blend or loose, long, thin wood or bark pieces.
- Shredded bark mulch must contain at least 95 percent wood strands by volume with an average thickness of 1/8 to 1-1/2 inches in any direction and 2 to 8 inches in length

Tree Trimming Mulch

- Tree trimming mulch is derived from chipped trees and may contain leaves, small twigs, and green material.
- Tree trimming mulch must contain at least 95 percent material by volume less than 3 inches and no more than 30 percent by volume less than 1 inch

Application Procedures

- Do not use soil sterilant or filter fabric.
- Mulch should be placed uniformly from the outside edge of area designated for mulch. Permanent, landscape mulch should be placed after vegetation has been installed.

Maintenance and Inspection

SWPPP or WPCP

- Mulch may be installed by manual application or with pneumatic devices.
- Do not place mulch within 4 ft of the flow line of drainage ditches or other channels, or the edge of paved roads.
- All material must be removed before re-starting work on the slopes.
- Wood mulch needs to last long enough to achieve erosion-control objectives. If the mulch is applied as a stand-alone erosion control method over disturbed areas (without seed), it should last the length of time the site will remain barren or until final re-grading and revegetation. Additional information is provided in Appendix B of this Manual.
- Where vegetation is not the ultimate cover, such as ornamental and landscape applications of bark or wood chips, inspection and maintenance should focus on longevity and integrity of the mulch.
- May require reapplication when bare soil becomes visible.
- Wood Mulch must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

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3.2 Temporary Concentrated Flow Conveyance Controls

Temporary concentrated flow conveyance controls consist of a system of measures or BMPs that are used alone or in combination to intercept, divert, convey and discharge concentrated flows with a minimum of soil erosion, both on-site and downstream (off-site). Temporary concentrated flow conveyance controls may be required to direct run-on around or through the project in a non-erodible fashion. Temporary concentrated flow conveyance controls include the following BMPs:

- Earth Dikes/Drainage Swales & Lined Ditches
- Outlet Protection/Velocity Dissipation Devices
- Slope Drains

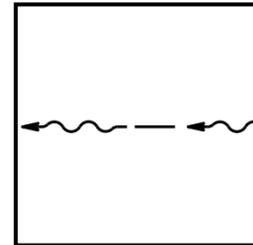
Table 3-1. Temporary Soil Stabilization BMPs	
ID	BMP Name
SS-1	Scheduling
SS-2	Preservation of Existing Vegetation
SS-3	Hydraulic Mulch
SS-4	Hydroseeding
SS-5	Soil Binders
SS-6	Straw Mulch
SS-7	Temporary Cover and Rolled Erosion Control Products (RECP)
SS-8	Wood Mulching
Temporary Concentrated Flow Conveyance Controls	
SS-9	Earth Dikes/Drainage Swales & Lined Ditches
SS-10	Outlet Protection/Velocity Dissipation Devices
SS-11	Slope Drains
SS-12	Streambank Stabilization

The remainder of this section shows the working details for each of the BMPs.

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Earth Dikes/Drainage Swales and Lined Ditches

SS-9



Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose

These are structures that intercept, divert and convey surface run-on, generally sheet flow, to prevent erosion.

Appropriate Applications

- Earth dikes/drainage swales and lined ditches may be used to:
 - Convey surface runoff down sloping land.
 - Intercept and divert runoff to avoid sheet flow over sloped surfaces.
 - Divert and direct runoff towards a stabilized watercourse, drainage pipe or channel.
 - Intercept runoff from paved surfaces.
- Earth dikes/drainage swales and lined ditches also may be used:
 - Below steep grades where runoff begins to concentrate.
 - Along roadways and facility improvements subject to flood drainage.
 - At the top of slopes to divert run-on from adjacent or undisturbed slopes.
 - At bottom and mid-slope locations to intercept sheet flow and convey concentrated flows.

Earth Dikes/Drainage Swales and Lined Ditches

SS-9

- Limitations**
- Earth dikes/drainage swales and lined ditches are not suitable as sediment trapping devices.
 - May be necessary to use other soil stabilization and sediment controls, such as check dams, plastics, and blankets, to prevent scour and erosion in newly graded dikes, swales and ditches.
 - Temporary swales and ditches should not or any other runoff diversion device should not adversely impact upstream or downstream properties.
- Standards and Specifications**
- Standard Specification Section 19-6 “Embankment Construction,” which covers allowable materials and construction procedures for dikes.
 - Standard Specification Section 72-5 “Concrete Slope Protection, Gutter, Ditch and Channel Lining” covers ditch and channel lining materials and construction procedures.
 - Care must be applied to correctly size and locate earth dikes, drainage swales and lined ditches. Excessively steep, unlined dikes and swales are subject to erosion and gully formation.
 - Must complete a careful evaluation of the risks due to erosion of the selected measure based on flow velocity, soil types, potential for over topping, flow backups, washouts, and drainage patterns for each BMP location.
 - Conveyances shall be stabilized. Consider using a lined ditch for high flow velocities to prevent scour. Compact any fills or backfills to prevent unequal settlement.
 - Do not divert runoff from the highway right-of-way onto other property.
 - When possible, install and utilize permanent dikes, swales and ditches early in the construction process.
 - Earthen berms should be 8 inches tall and 36 inches wide at a minimum. Earthen berms must be compacted either by hand or mechanical methods.
 - Provide stabilized outlets. Refer to SS-10, “Outlet Protection/Velocity/Dissipation Devices.”
- Maintenance and Inspections**
- Inspect temporary measures prior to, daily during extended rain events post-storm and weekly year-round.
 - Inspect ditches and berms for washouts. Replace lost riprap, damaged linings or soil stabilizers as needed.
 - Inspect channel linings, embankments, and beds of ditches and berms for erosion and accumulation of debris and sediment.
 - Remove debris and sediment, and repair linings and embankments to ensure they function as intended.
 - Temporary conveyances should be completely removed as soon as the surrounding drainage area has been stabilized, or at the completion of construction.

Earth Dikes/Drainage Swales and Lined Ditches

SS-9

- SWPPP or WPCP ■ Earth Dikes/Drainage Swales and Lined Ditches must be discussed in Section 500.3.2 of SWPPP or Section 30.2 of the WPCP.



Earth Dikes/Drainage Swales and Lined Ditches

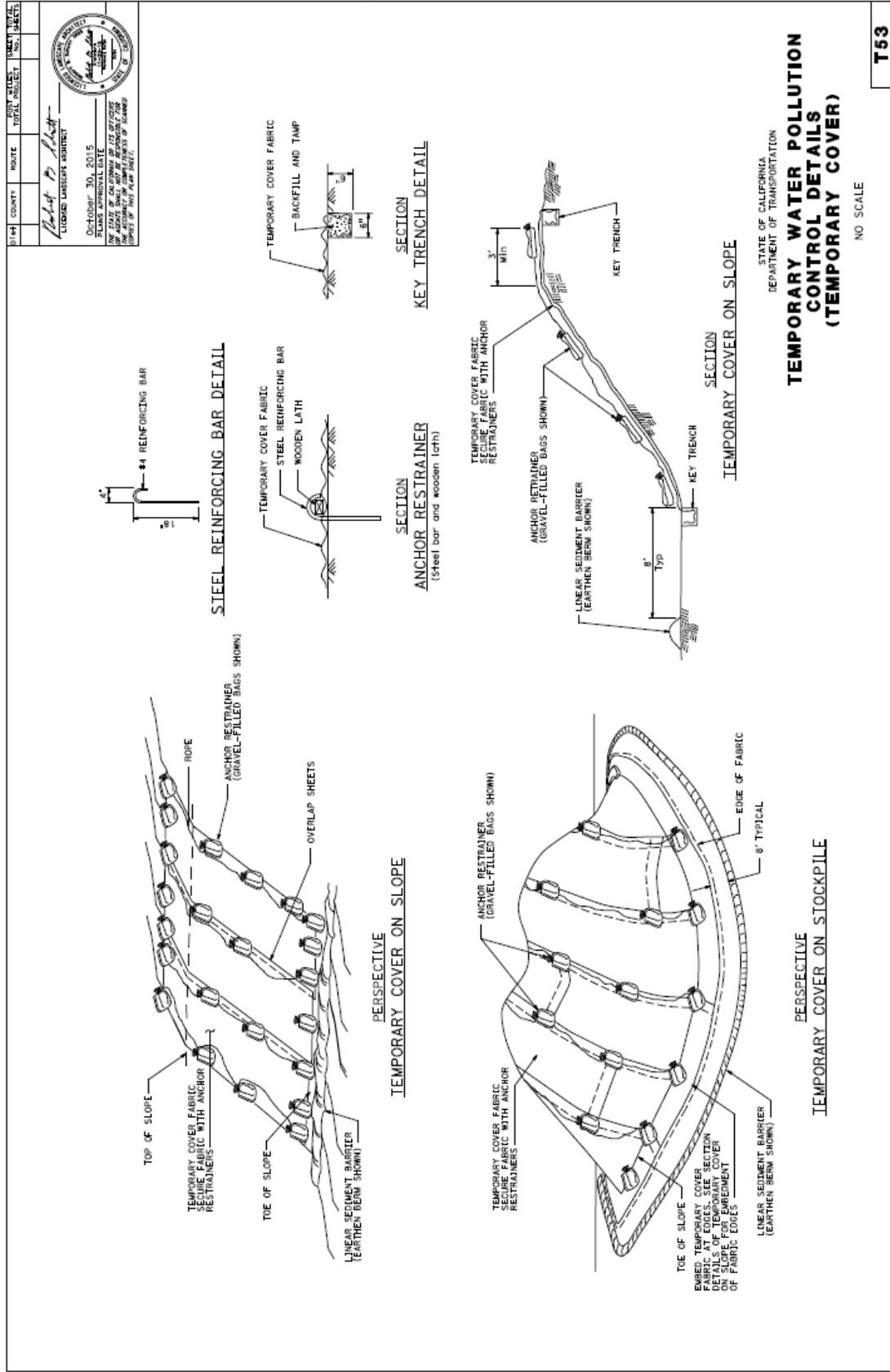
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Earth Dikes/Drainage Swales and Lined Ditches

SS-9



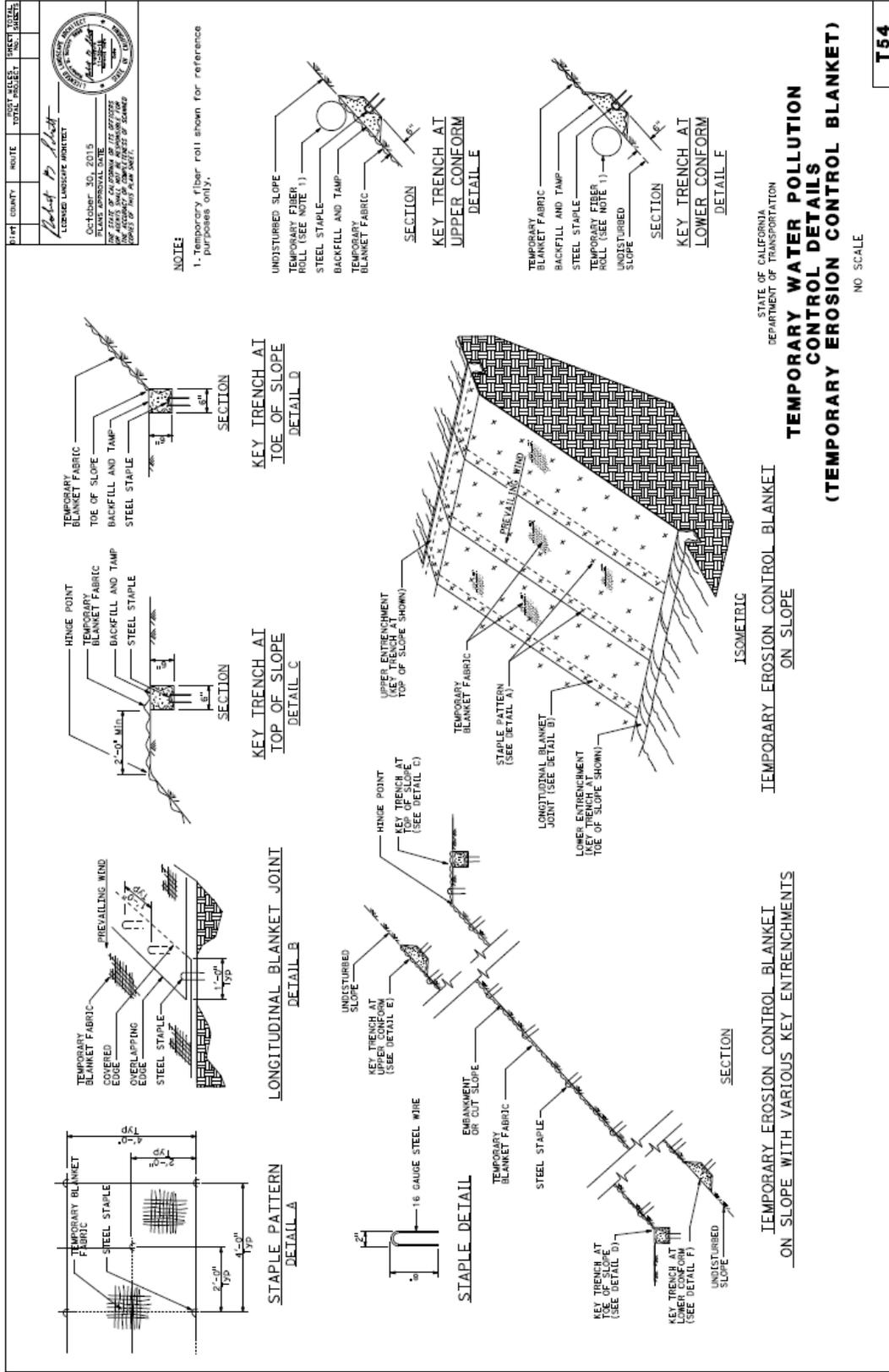
Earth Dikes/Drainage Swales and Lined Ditches

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Earth Dikes/Drainage Swales and Lined Ditches

SS-9



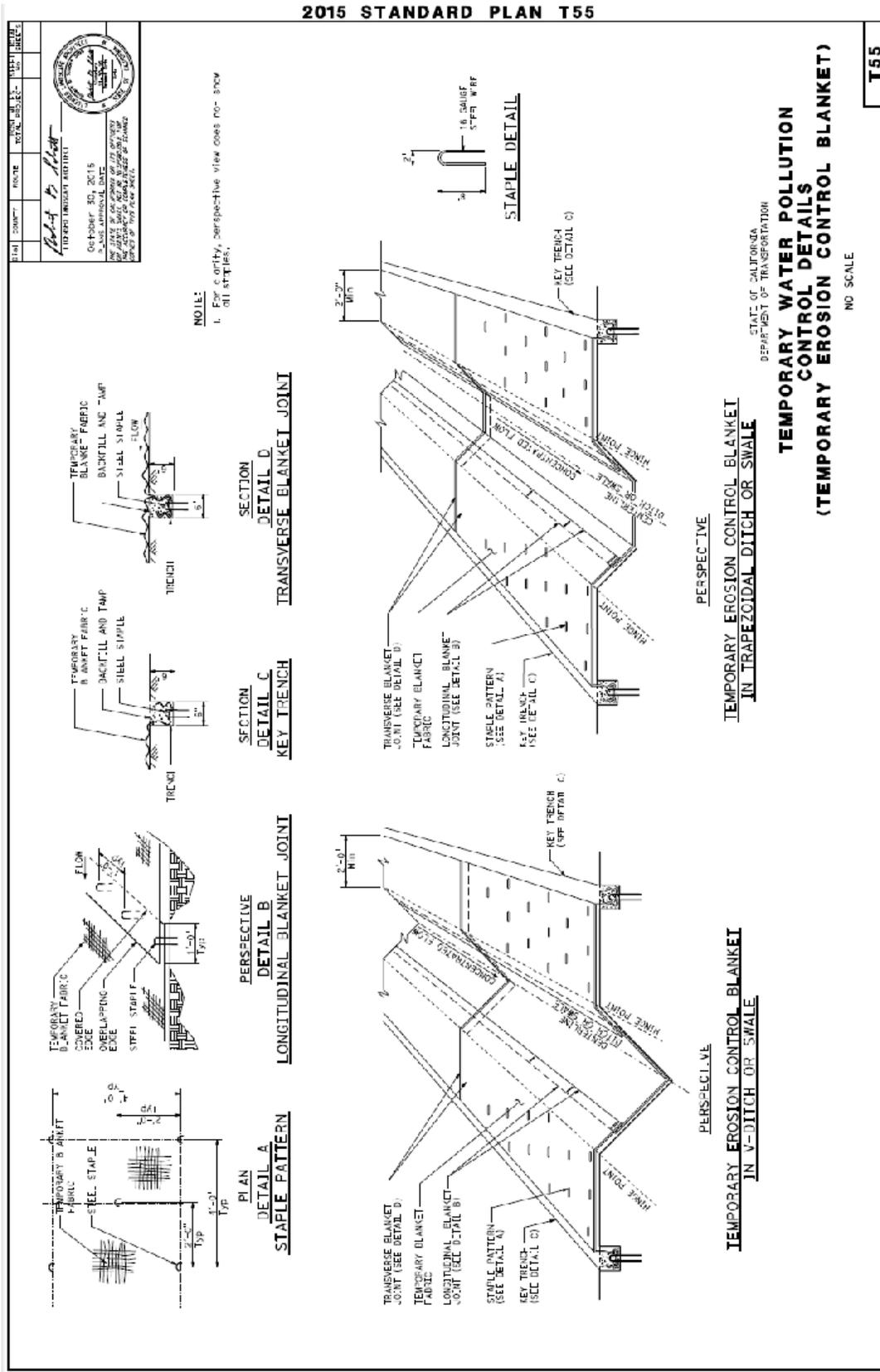
Earth Dikes/Drainage Swales and Lined Ditches

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Earth Dikes/Drainage Swales and Lined Ditches

SS-9



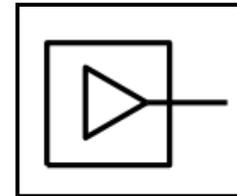
Earth Dikes/Drainage Swales and Lined Ditches

SS-9

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Outlet Protection/Velocity Dissipation Devices

SS-10



Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose These devices are placed at pipe outlets to prevent scour and reduce the velocity and/or energy of stormwater flows.

- Appropriate Applications**
- These devices may be used at the following locations:
 - Outlets of pipes, drains, culverts, slope drains, diversion ditches, swales, conduits or channels.
 - Outlets located at the bottom of mild to steep slopes.
 - Discharge outlets that carry continuous flows of water.
 - Outlets subject to short, intense flows of water, such as flash floods.
 - Points where lined conveyances discharge to unlined conveyances.

- Limitations**
- Loose rock may have stones washed away during high flows.
 - Grouted rock slope protection may break up in areas of freeze and thaw.
 - If there is not adequate drainage, and water builds up behind grouted rock slope protection, it may cause the grouted rock slope protection to break up due to the resulting hydrostatic pressure.
 - Outlet protection may negatively impact the channel habitat.

Outlet Protection/Velocity Dissipation Devices

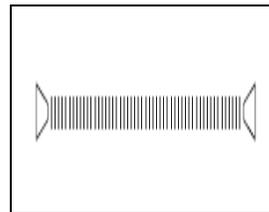
SS-10

- Standards and Specifications**
- There are many types of energy dissipaters; a flared end section and rock slope protection is shown in the figure on the previous page. Please note that this is only one example and the RE may approve other types of devices proposed by the contractor.
 - Flared end sections must comply with Standard Specification 70-5.02.
 - Rock slope protection must comply with Standard Specification Section 72.
 - Install rock slope protection, grouted rock slope protection, or concrete apron at selected outlet. Rock slope protection aprons are best suited for temporary use during construction.
 - Carefully place rock slope protection to avoid damaging the filter fabric.
 - For proper operation of apron:
 - Align apron with receiving stream and keep straight throughout its length. If a curve is needed to fit site conditions, consider placing it in upper section of apron.
 - If size of apron rock slope protection is large, consider protecting underlying filter fabric with a gravel blanket.
 - Outlets on slopes steeper than 10% should have additional protection.

- Maintenance and Inspection**
- At a minimum, perform inspections weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
 - Minimize areas of standing water by removing sediment blockages and filling scour depressions. If persistent, it might be necessary to have licensed professional re-evaluate size and type of device implemented.
 - Inspect apron for displacement of the rock slope protection and/or damage to the underlying fabric. Repair fabric and replace rock slope protection that has washed away.
 - Inspect for scour beneath the rock slope protection and around the outlet. Repair damage to slopes or underlying filter fabric immediately.
 - Temporary devices should be completely removed as soon as the surrounding drainage area has been stabilized, or at the completion of construction.

- SWPPP or WPCP**
- Outlet Protection/Velocity Dissipation Devices must be discussed in Section 500.3.2 of SWPPP or Section 30.2 of the WPCP.





Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** A slope drain is a pipe used to intercept and direct surface runoff or groundwater into a stabilized watercourse, trapping device or stabilized area. Slope drains are used with lined ditches to intercept and direct surface flow away from slope areas to protect cut or fill slopes.
- Appropriate Applications**
- Slope drains may be used on construction sites where slopes may be eroded by surface runoff.
 - Drainage for top of slope dikes or swales.
 - Drainage for top of cut and fill slopes where water can accumulate.
 - Emergency spillway for a sediment basin.
- Limitations**
- Severe erosion may result when slope drains fail by overtopping, piping, or pipe separation.
 - Sediment accumulation, scour depressions, and/or persistent non-stormwater discharges in energy dissipaters associated with slope drain outlets can result in suitable areas for vector production.
- Standards and Specifications**
- Maximum slope generally limited to 2:1 (H:V), as energy dissipation below steeper slopes is difficult.
 - Direct surface runoff to slope drains with interceptor dikes. See BMP SS-8, “Earth Dikes/Drainage Swales, and Lined Ditches.”
 - Slope drains can be placed on or buried underneath the slope surface.
 - Recommended materials are plastic or corrugated metal, or comparable pipe.
 - When installing slope drains:
 - Install slope drains perpendicular to slope contours.

- Compact soil around and under entrance, outlet, and along length of pipe.
- Securely anchor and stabilize pipe and appurtenances into soil.
- Check to ensure that pipe connections are water tight.
- Protect area around inlet with filter cloth. Protect outlet with rock slope protection or other energy dissipation device. For high energy discharges, reinforce rock slope protection with concrete or use reinforced concrete device.
- Protect inlet and outlet of slope drains; use standard flared end section at entrance and exit for pipe slope drains 12 in and larger.

Maintenance and Inspection

- Inspect before, daily during and after each rain event, and weekly during the duration of the construction project. Inspect outlet for erosion and downstream scour.
- If eroded, repair damage and install additional energy dissipation measures. If downstream scour is occurring, it may be necessary to reduce flows being discharged into the channel.
- Inspect slope drainage for accumulations of debris and sediment.
- Remove built-up sediment from entrances, outlets, and within drains as required.
- Make sure stormwater is not ponding onto inappropriate areas (e.g., active traffic lanes, material storage areas, etc.).

SWPPP or WPCP

- Slope Drains must be discussed in Section 500.3.2 of SWPPP or Section 30.2 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	✓
Sediment Control	✓
Tracking Control	☐
Wind Erosion Control	☐
Non-Stormwater Management	☐
Materials and Waste Management	☐

- Definition and Purpose** Drainage systems including the stream channel, streambank, and associated riparian areas, are dynamic and sensitive ecosystems that respond to changes in land use activity. Streambank and channel disturbance resulting from construction activities can increase the stream’s sediment load, which can cause channel erosion or sedimentation and have adverse affects on the biotic system. BMPs can reduce the discharge of sediment and other pollutants and minimize the impact of construction activities on watercourses. Streams included on the 303(d) list by the State Water Resources Control Board (SWRCB) may require careful evaluation to prevent any increases in sedimentation, siltation and/or turbidity to the stream.
- Appropriate Applications** These procedures typically apply to all construction projects that disturb or occur within stream channels and their associated riparian areas. Streambank stabilization typically consists of a combination of several BMPs to prevent destabilization and enhance stability of eroding streambanks.
- Limitations** Specific permit requirements or mitigation measures such as Regional Water Quality Control Board (RWQCB) 401 Certification, U.S. Army Corps of Engineers 404 permit and approval by California Department of Fish and Wildlife Service may be included in contract documents. Specific requirements could include in-water work windows, vegetation species, seed mixes, stabilization measures, water quality monitoring protocols and specific reporting requirements. If numerical-based water quality standards are mentioned in any of these and other related permits, testing and sampling may be required. Streams included on the 303(d) list by the SWRCB because of sediment, silt, or turbidity impairment are required to conduct sampling to verify that there is no net increase in sediment load due to construction activities.
- Standards and Specifications** **PLANNING**
- Proper planning, design, and construction techniques can minimize impacts normally associated with in-stream construction activities. Poor planning can adversely affect soil, fish, and wildlife resources, land uses, or land users.

Planning should take into account: scheduling, avoidance of in-stream construction; minimizing disturbance area and construction time period; using pre-disturbed areas; selecting crossing location; selecting equipment and proper stabilization techniques once the activity is completed.

Scheduling (SS-1)

- Construction activities should be scheduled according to the relative sensitivity of the environmental concerns and in accordance with SS-1, “Scheduling.” Scheduling considerations will be different when working near perennial streams vs. ephemeral streams, and are as follows:
 - Construction work near perennial streams should optimally be performed during the dry season (see below).
 - When working in or near ephemeral, intermittent, or perennial streams, construction should be performed during the dry season and in accordance with regulatory agency permits and approvals. By their very nature, ephemeral and intermittent streams are usually dry in the summer, and therefore, in-stream construction activities will not cause significant water quality problems. For perennial streams, clear water diversion (see NS-5 for “Clear Water Diversion”), dewatering (see NS-2 for “Dewatering Operations”), and water quality monitoring may be required.
 - When closing the site at the end of the job, wash any fines that were formed in-situ back into the channel the bed material, to decrease pollution from the first rainstorm (“first flush”) of the season. When working near stream channels, erosion and sediment controls (see silt fences, straw bale barriers, etc.) should be implemented on the banks to keep sediment out of the stream channel.
 - Regulatory permits might require or allow for the stockpiling of native bed material to be backfilled during stabilization.

Minimize Disturbance

- Minimize disturbance through: selection of the narrowest crossing location; limiting the number of equipment trips across a stream during construction; and, minimizing the number and size of work areas (equipment staging areas and spoil storage areas). Provide stabilized access to the stream when in-stream work is required. Field reconnaissance should be conducted during the planning stage to identify work areas.
- Comply with regulatory permit requirements, if none are applicable, then place work areas (stage area, active construction) at least 50 ft from the stream channel. Perform each of the following activities at least 100 feet from a drainage course if it is performed within the floodplain, or at least 50 feet outside the floodplain: stockpiling materials, storing pile-driving equipment and liquid waste containers, washing vehicles and equipment, fueling and maintaining vehicles and equipment.
- Locate access and staging areas in paved or pre-disturbed areas when possible. If not possible, select access and staging areas that minimizes disturbance to aquatic species, riparian vegetation, and habitat.

- Avoid steep and unstable banks, highly erodible or saturated soils, or highly fractured rock, wherever possible.
- Select equipment that reduces the amount of pressure exerted on the ground surface, and therefore, reduces erosion potential and/or use overhead or aerial access for transporting equipment across drainage channels. Use equipment that exerts ground pressures of less than 5 or 6 pounds per square inch (PSI), where possible. Low ground pressure equipment includes: wide or high flotation tires (34 to 72 inch wide); dual tires; bogie axle systems; tracked machines; lightweight equipment; and central tire inflation systems.

STREAMBANK STABILIZATION

Preservation of Existing Vegetation (SS-2)

- Preserve existing vegetation in accordance with SS-2, “Preservation of Existing Vegetation.” In a streambank environment preservation of existing vegetation provides the following benefits:

Water Quality Protection

Vegetated buffers on slopes trap sediment and promote groundwater recharge. The buffer width needed to maintain water quality ranges from 15 to 100 feet. On gradual slopes, most of the filtering occurs within the first 30 feet of the buffer. Steeper slopes require a greater width of vegetative buffer to provide water quality benefits.

Streambank Stabilization

The root system of riparian vegetation stabilizes streambanks by increasing tensile strength in the soil. The presence of vegetation modifies the moisture condition of slopes (infiltration, evapotranspiration, interception) and increases bank stability.

Riparian Habitat

Buffers of diverse riparian vegetation provide food, shelter, and shade for riparian and aquatic organisms. Minimizing impacts to fisheries habitat is a major concern when working near streams and rivers. Riparian vegetation provides shade, shelter, organic matter (leaf detritus and large woody debris), and other nutrients that are necessary for fish and other aquatic organisms. Buffer widths for habitat concerns are typically wider than those recommended for water quality concerns (100 to 1,500 feet).

When working near watercourses, it is important to understand the work site’s placement in the watershed. Riparian vegetation in the headwater streams has a greater impact on overall water quality than vegetation in downstream reaches. Preserving existing vegetation in upstream areas is necessary to maintain water quality, minimize bank failure, and maximize riparian habitat downstream of the work site.

- Local county and municipal ordinances regarding width, extent and type of vegetative buffer required may exceed the specifications provided here; these ordinances should be investigated prior to construction.

- As a general rule, the width of a buffer strip between a road and the stream is recommended to be 50 feet plus four times the percent slope of the land, measured between the road and the top of stream bank.

Hydraulic Mulch (SS-3), Hydroseeding (SS-4), and Soil Binders (SS-5)

- Apply hydraulic mulch, hydroseed, or soil binders on disturbed streambanks above the mean high water level to provide temporary soil stabilization.
- Do not place hydraulic mulch, tackifiers, fertilizers, or soil binders below the mean high water level, as these materials could wash into the channel and impact water quality or possibly cause eutrophication.

Straw Mulch (SS-6)

- Apply straw mulch to disturbed streambanks in accordance with SS-6, “Straw Mulch.”
- Do not place straw mulch or tackifiers below the mean high water level, as this material could wash into the channel and impact water quality.

Temporary Cover and Rolled Erosion Control Products (SS-7)

- Install geosynthetics, rolled erosion control product, and plastic as described in SS-7, “Temporary Cover and Rolled Erosion Control Products” to stabilize disturbed channels and streambanks.
- Not all applications of SS-7 should be installed in a channel, for example, certain geotextile netting may snag fish gills and are not appropriate in fish-bearing streams. Geotextile fabrics that are not biodegradable are not appropriate for in-stream use. Additionally, geotextile fabric or blankets placed in channels must be adequate to sustain anticipated hydraulic forces.

Earth Dikes/Drainage Swales, and Lined Ditches (SS-9)

- Convey, intercept, or divert runoff from disturbed streambanks using SS-9, “Earth Dikes/Drainage Swales, and Lined Ditches.”
- Do not place earth dikes in watercourses, as these structures are only suited for intercepting sheet flow, and should not be used to intercept concentrated flow.

Outlet Protection/Velocity Dissipation Devices (SS-10)

- Place outlet protection or velocity dissipation devices at outlets of pipes, drains, culverts, slope drains, diversion ditches, swales, conduits or channels in accordance with SS-10.

Slope Drains (SS-11)

- Use slope drains to intercept and direct surface runoff or groundwater into a stabilized watercourse, trapping device or stabilized area in accordance with SS-11, “Slope Drains.” The use of slope drains minimizes potential streambank erosion from overland flows.

STREAMBANK SEDIMENT CONTROL

Silt Fences (SC-1)

- Install silt fences in accordance with SC-1, “Silt Fence” to control sediment. Silt fences should only be installed where sediment-laden water can pond, thus allowing the sediment to settle out.

Fiber Rolls (SC-5)

- Install fiber rolls in accordance with SC-5, “Fiber Rolls” along slope contour above the high water level to intercept runoff, reduce flow velocity, release the runoff as sheet flow and provide removal of sediment from the runoff. In a stream environment, fiber rolls should be used in conjunction with other sediment control methods such as SC-1, “Silt Fence” or SC-9, “Straw Bale Barrier.” Install silt fence, straw bale barrier, or other erosion control methods along the toe of slope above the high water level. Typical fiber roll installation is illustrated at the end of this Section.

Gravel Bag Berm (SC-6)

- A gravel bag berm or barrier can be utilized to intercept and slow the flow of sediment-laden sheet flow runoff in accordance with SC-6, “Gravel Bag Berm.” In a stream environment gravel bag barriers can allow sediment to settle from runoff before water leaves the construction site and can be used to isolate the work area from the stream. Gravel bag barriers are not recommended as a perimeter sediment control practice around streams.

Straw Bale Barrier (SC-9)

- Install straw bale barriers in accordance with SC-9, “Straw Bale Barrier” to control sediment. Straw bale barriers should only be installed where sediment-laden water can pond, thus allowing the sediment to settle out. Install a silt fence in accordance with SC-1, “Silt Fence” on the down-slope side of the straw bale barrier closest to stream channel to provide added sediment control.

Compost Sock (SC-08)

- Compost socks are a mesh sock containing compost that act as three dimensional, biodegradable structures that intercept and filter sheet flow. Compost socks can filter runoff, retain sediment, and reduce sheet flow velocities. Compost may be pre-seeded to assist in the establishment of vegetation. Compost socks may be used as either a temporary or permanent sediment control measure.

Inspection and Maintenance

- Inspect BMPs daily during construction.
- Maintain and repair BMPs.
- Remove accumulated sediment as necessary.

SWPPP or WPCP

- Streambank Stabilization must be discussed in Section 500.3.2 of the SWPPP or Section 30.2 of the WPCP.

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Section 4

Temporary Sediment Control BMP

4.1 Temporary Sediment Controls

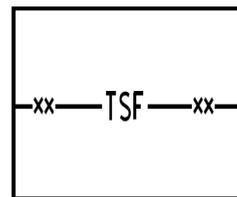
Temporary sediment control practices include those practices that intercept and slow or detain the flow of stormwater to allow sediment to settle and be trapped. These practices can consist of installing temporary linear sediment barriers (such as silt fences, sandbag barriers, and straw bale barriers); providing fiber rolls, gravel bag berms, or check dams to break up slope length or flow; or constructing a temporary sediment/desilting basin or sediment trap. Linear sediment barriers are typically placed below the toe of exposed and erodible slopes, downslope of exposed soil areas, around temporary stockpiles, and at other appropriate locations along the site perimeter.

Temporary sediment control practices must be implemented in conformance with the criteria presented in Section 2 of this Manual and the SWPPP/WPCP Preparation Manual. Temporary sediment control practices include the BMPs listed in Table 4-1.

Table 4-1. Temporary Sediment Control BMPs	
ID	BMP Name
SC-1	Silt Fence
SC-2	Sediment/Desilting Basin
SC-3	Sediment Trap/Curb Cutback
SC-4	Check Dam
SC-5	Fiber Rolls
SC-6	Gravel Bag Berm/Earthen Berm
SC-7	Street Sweeping
SC-8	Sandbag Barrier
SC-9	Straw Bale Barrier
SC-10	Temporary Drainage Inlet Protection
SC-11	Compost Sock
SC-12	Flexible Sediment Barrier

The remainder of this Section describe the working details for each of the temporary sediment control BMPs.

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose A silt fence is a temporary linear sediment barrier of permeable fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff. Silt fences allow sediment to settle from runoff before water leaves the construction site.

- Appropriate Applications**
- Below the toe of exposed and erodible slopes.
 - Down-slope of exposed soil areas.
 - Around temporary stockpiles.
 - Along streams and channels.
 - Along the perimeter of a project.

- Limitations**
- Not effective unless trenched and keyed in.
 - Not intended for use as mid-slope protection on slopes greater than 4:1 (H:V).
 - Must be maintained.
 - Must be removed and disposed of.
 - Don't use below slopes subject to creep, slumping, or landslides.
 - Don't use in streams, channels, drain inlets, or anywhere flow is concentrated.
 - Don't use silt fences to divert flow.
 - Don't use in locations where ponded water may cause a flooding hazard.

- Standards and Specifications**
- Design and Layout***
- The drainage area above any fence should not exceed a quarter of an acre, (100-feet of silt fence per 10,000 square feet of DSA).
 - Slope of area draining to silt fence should be less than 1:1 (H:V).
 - Silt fences must be placed parallel to the slope contour.

- Silt fences rely on temporary ponding to encourage sediment deposition and achieve water quality benefits. Limit application to areas where ponding and deposition may occur on the uphill side of the silt fence.
- Temporary silt fence fabrics generally have life spans ranging between five and eight months. Projects with longer durations may require replacing silt fence fabric.
- Silt fences constructed across concentrated flows are susceptible to washout. Silt fences shall not be installed across concentrated flows.
- For slopes adjacent to water bodies or Environmentally Sensitive Areas (ESAs), additional temporary soil stabilization BMPs should be used.
- For any 50 foot section of silt fence, the elevation of the base of the fence may not vary by more than 1/3 of the fence height.
- Install along a level contour, so water does not pond more than 1.5 ft at any point along the silt fence.
- Join separate sections to form reaches not more than 500 feet without openings. Ensure there are no gaps between posts.

Reinforced Silt Fence

- Temporary reinforced silt fence is typically used in areas affected by high winds. They are also often used on slopes steeper than 2:1 (H:V) that contain a high number of rocks or large dirt clods that tend to dislodge, or where area draining fence contains moderate sediment loads.
- Temporary reinforced silt fence (type 2) may also be used to provide sediment control and delineate ESAs.

Materials

- Silt fence fabric should be a woven or unwoven geosynthetic textile that complies with Section 96-1.02E of the Standard Specifications. The Contractor must submit a certificate of compliance for silt fence fabric in accordance with Standard Specifications Section 6-2.03C.
- Wood posts should be untreated fir, redwood, cedar, or pine lumber. Each silt fence post should be at least 4 feet long, except reinforced silt fence posts should be at least 6 feet for Type 1 and 5 feet for Type 2 installations. Posts should be free from decay, splits or cracks longer than the thickness of the post or other defects that would weaken the posts and cause the posts to be structurally unsuitable. Steel posts may be used as well. Posts should comply with the requirements in Standard Specifications sections 16-2.03B and 13-10.02C.
- Anchors may be used. Anchors consist of a number 4 steel reinforcing bar. End protection shall be provided for any exposed bar reinforcement.
- Staples used to fasten the fence fabric to the posts and to join adjacent silt fence sections shall be U-shaped and have 1/2-inch legs and a 1-inch crown.

Staples should be 1/16-inch in diameter. At least four staples should be installed on each silt fence post for adequate fastening, with a maximum of 8-inches between each staple.

Installation

- Install in accordance with Pages 5 and 6 of this BMP (Standard Plans T51 “Temporary Silt Fence” and T60 “Temporary Reinforced Silt Fence”).
- Generally, silt fences should be used in conjunction with soil stabilization source controls up slope to provide effective erosion and sediment control.
- Excavate a trench that is 6-inches deep and 6-inches wide with a length consistent with the project design plans. Place the bottom of the silt fence fabric in the trench. Backfill the trench with soil over the base of the silt fence fabric. Compact the backfill soil by hand or mechanical methods.
- Construct the length of each reach so that the change in base elevation along any 50-foot reach does not exceed 1/3 the height of the barrier; in no case should any reach of temporary silt fence exceed 500 feet in length.
- Construct silt fences with a set-back of at least 3 feet from the toe of a slope. Where a silt fence is determined to be not practical with a 3 foot set-back from the toe due to specific site conditions, the silt fence may be constructed at the toe of the slope, but should be constructed as far from the toe of the slope as practical.

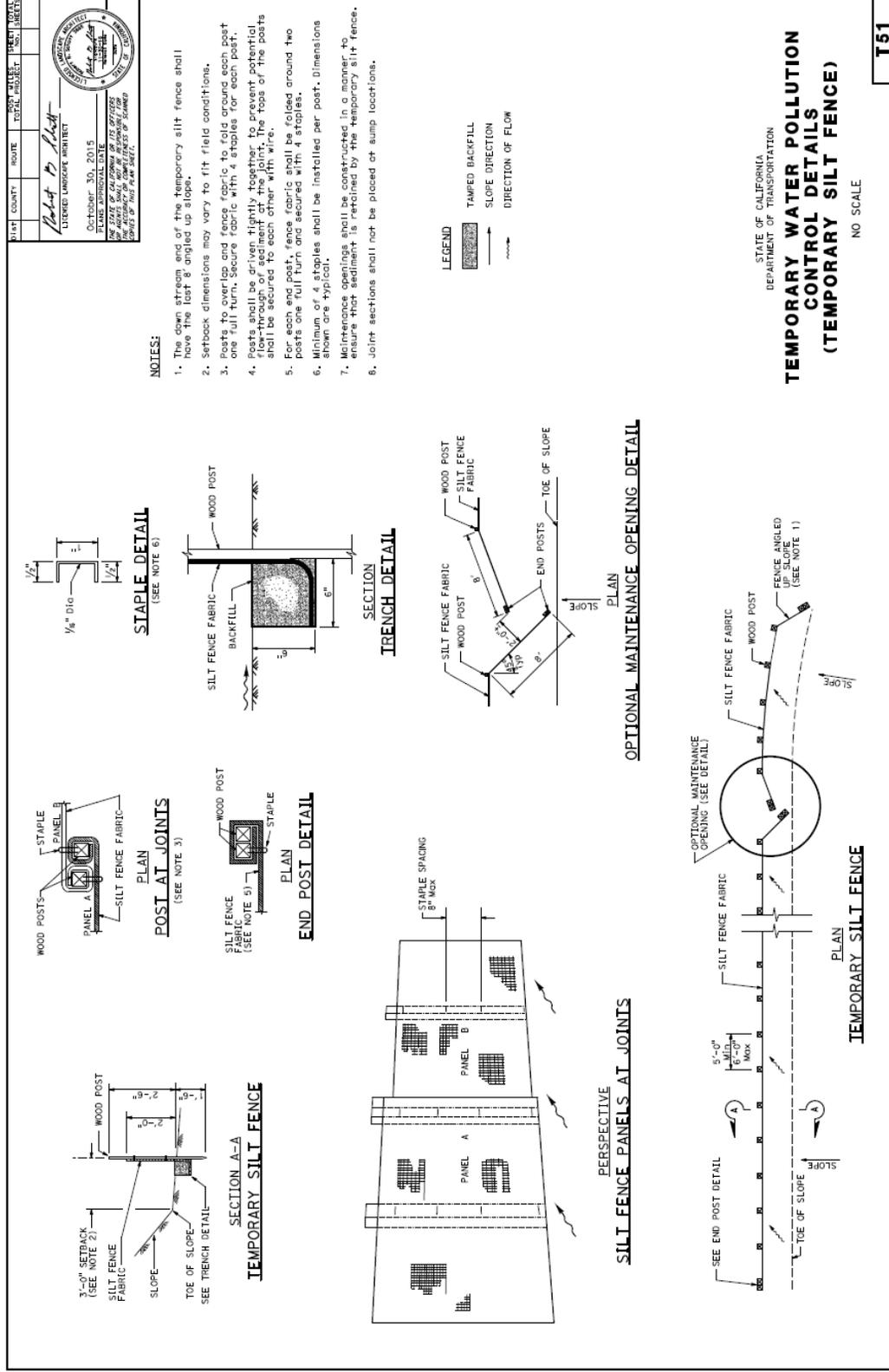
Maintenance and Inspection

- Repair undercut silt fences.
- Repair or replace split, torn, slumping, or weathered fabric.
- Inspect silt fence when rain is forecast. Perform necessary maintenance, or maintenance required by the Engineer.
- Inspect silt fence following rain events. Perform maintenance as necessary, or as required by the Engineer.
- Maintain silt fences to provide an adequate sediment holding capacity. Sediment should be removed when the sediment accumulation reaches one-third (1/3) of the barrier height.
- Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed of outside the highway right-of-way in conformance with the Standard Specifications, and replaced with new silt fence barriers.
- Holes, depressions or other ground disturbance caused by the removal of the temporary silt fences should be backfilled and repaired in conformance with the Standard Specifications.
- Remove silt fence when no longer needed. Fill and compact post holes and anchorage trench, remove sediment accumulation, and grade fence alignment to blend with adjacent ground.
- Silt Fence placement is to be shown in the WPCDs along with other BMPs.

- SWPPP or WPCP Temporary Silt Fence or Reinforced Silt Fence must be discussed in Section 500.3.3 of the SWPPP or Section 30.2.2 of the WPCP.

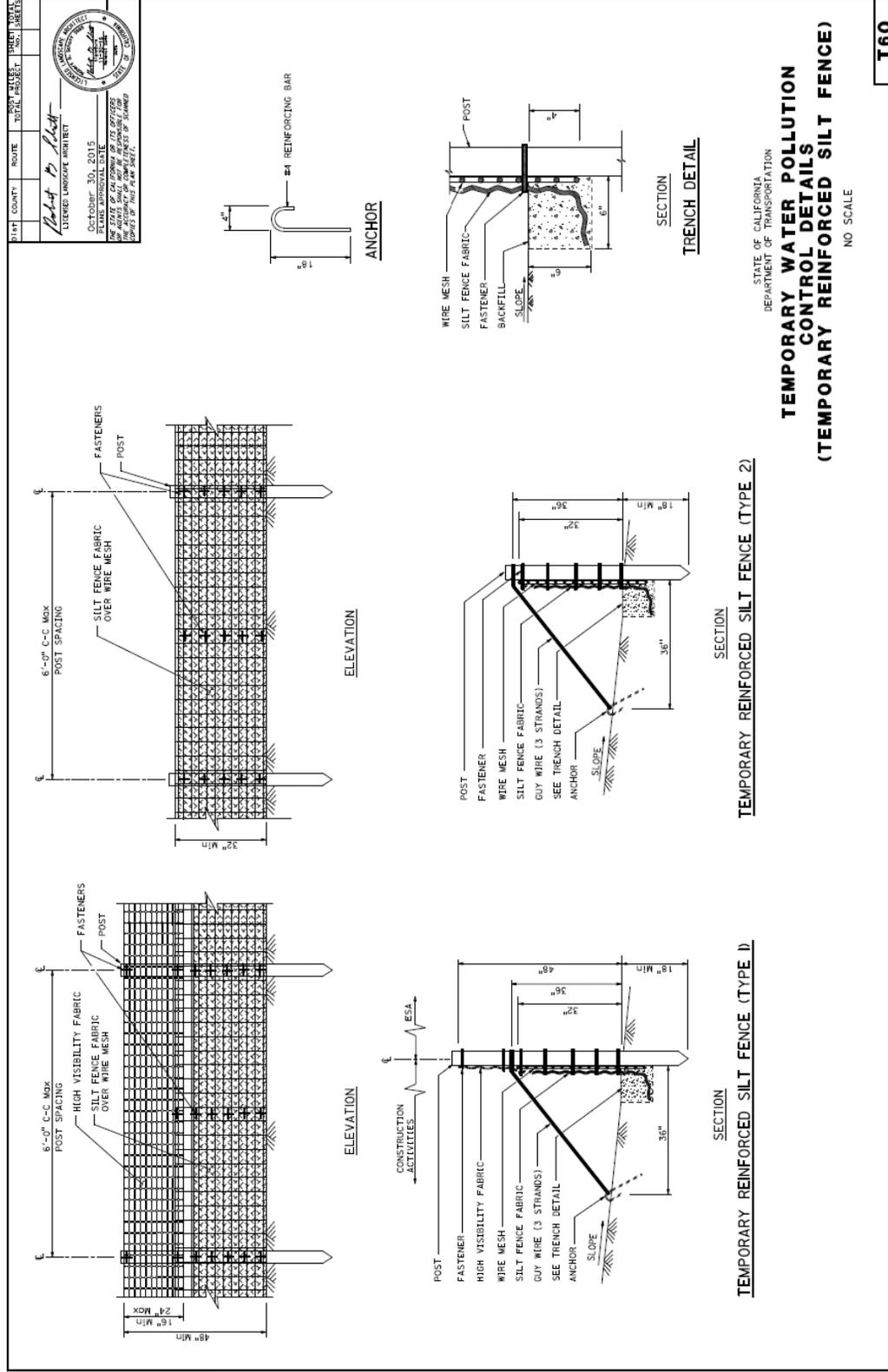
Temporary Silt Fence

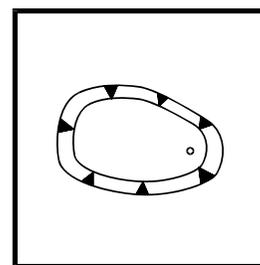
SC-1



Temporary Silt Fence

SC-1





Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose A sediment/desilting basin is a temporary basin formed by excavating and/or constructing an embankment so that sediment-laden runoff is temporarily detained under quiescent conditions, allowing sediment to settle out before the runoff is discharged (refer to Figures 1 through 4).

Appropriate Applications Sediment basins shall be designed in accordance with the State of California NPDES General Permit for Storm Water Discharges Associated with Construction Activities (CGP). If there is insufficient area to construct a sediment basin in accordance with the CGP requirements, then the alternate desilting design standards specified herein may be used as approved by the RE.

Sediment/Desilting Basins should be considered for use:

- On construction projects with disturbed areas during the wetter months, typically October through May.
- Where sediment-laden water may enter the drainage system or watercourses.
- At drainage outlets of disturbed soil areas with areas between 5 and 10 ac.

Limitations

- Alternative BMPs must be thoroughly investigated for erosion control before selecting temporary sediment/desilting basins.
- Requires large surface areas to permit settling of sediment.
- Size may be limited by availability of right-of-way.
- Not appropriate for drainage areas greater than 75 ac.
- Not to be located in live streams.
- For safety reasons, basins should have protective fencing.
- Not to be used as a standalone BMP, requires proper BMP implementation upstream and downstream of its location.

Standards and Specifications **General Requirements**

- Sediment basins should be designed in accordance with the methods referenced in the State of California NPDES General Permit for Storm Water Discharges Associated with Construction Activities (CGP).
- Areas under embankments, structural works, and sediment basin must be cleared, stripped of vegetation in accordance with Standard Specifications Section 16 – “Temporary Facilities.”
- Earthwork should be in accordance with Standard Specifications Section 19 – “Earthwork.” Contractor is specifically directed to Standard Specifications Sections 19-5, “Compaction,” and 19-6, “Embankment Construction.”
- Chain link fencing should be provided around each sediment basin to prevent unauthorized entry to the basin or if safety is a concern. Fencing should be in accordance with Standard Specifications Section 80 – “Fences.”
- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE.
- The outflow from the basins must have outlet protection to prevent erosion and scouring of the embankment and channel. See BMP SS-10, “Outlet Protection/Velocity Dissipation Devices.”
- Avoid dewatering of groundwater to the sediment basin during the wetter months. Insignificant quantities of accumulated precipitation may be dewatered to the sediment basin unless precipitation is forecasted within 24 hours. Refer to NS-2 “Dewatering Operations.”

Other Considerations

- Basin should be located: (1) by excavating a suitable area or where a low embankment can be constructed across a swale, (2) where post-construction (permanent) detention basins will be constructed, (3) where failure would not cause loss of life or property damage, (4) where the basins can be maintained on a year-round basis to provide access for maintenance, including sediment removal and sediment stockpiling in a protected area, and to maintain the basin to provide the required capacity.
- Construct sediment basins prior to the rainy season and construction activities.
- Sediment basins, regardless of size and storage volume, should include features to accommodate overflow or bypass flows that exceed the design storm event. The calculated basin volume and proposed location should be submitted to the RE for approval at least 3 days prior to the basin construction.
- Construct an emergency spillway to accommodate flows not carried by the principal spillway. Spillway should consist of an open channel (earthen or vegetated) over undisturbed material (not fill) or constructed of a non-erodible rock slope protection.
- The spillway control section, which is a level portion of the spillway channel at the highest elevation in the channel, should be a minimum of 20 ft in length.

- Limit the contributing area to the sediment basin to only the runoff from disturbed soil areas. Use temporary concentrated flow conveyance controls to divert runoff from undisturbed areas away from the sediment basin.
- A forebay, constructed upstream of the basin may be provided to allow debris and larger particles to settle out of suspension before entering the basin.
- Basin inlets should be located to maximize travel distance to the basin outlet and resulting sediment deposition benefits.
- Rock or vegetation should be used to protect the basin inlet and slopes against erosion.
- The outlet structure should be placed on a firm, smooth foundation with the base securely anchored with concrete or other means to prevent floatation.
- Discharge from the basin should be accomplished through a water quality outlet. An example is shown in Figure 3. The principal outlet should consist of a corrugated metal, high density polyethylene (HDPE), or reinforced concrete riser pipe with dewatering holes and an anti-vortex device and trash rack attached to the top of the riser, to prevent floating debris from flowing out of the basin or obstructing the system. This principal structure should be designed to accommodate the inflow design storm.
- A rock pile or rock-filled gabions can serve as alternatives to the debris screen, although the designer should be aware of the potential for extra maintenance involved should the pore spaces in the rock pile clog.
- Proper hydraulic design of the outlet is critical to achieving the desired performance of the basin. The water quality outlet should be designed to drain the basin within 24 to 96 hours (also referred to as “drawdown time”). (The 24-hour limit is specified to provide adequate settling time; the 96-hour limit is specified to avoid vector control concerns). Local agencies may have more stringent drawdown time requirements.
- The two most common outlet problems that occur are: (1) the capacity of the outlet is too great resulting in only partial filling of the basin and drawdown time less than designed for; and (2) the outlet clogs because it is not adequately protected against trash and debris. To avoid these problems, the following outlet types are recommended for use: (1) a single orifice outlet with or without the protection of a riser pipe, and (2) perforated riser. Design guidance for single orifice and perforated riser outlets are as follows:

Flow Control Using a Single Orifice At The Bottom Of The Basin

(Figure 1). The outlet control orifice should be sized using the following equation:

$$a = \frac{2A(H - H_o)^{0.5}}{3600CT(2g)^{0.5}} = \frac{(7 \times 10^{-5})A(H - H_o)^{0.5}}{CT} \quad (\text{Eq. 2})$$

Where:

a = area of orifice (ft²) (1 ft² = 0.0929m²)

A = surface area of the basin at mid elevation (ft²)

C = orifice coefficient

T = drawdown time of full basin (hrs)

G = gravity (32.2 ft/s²)

H = elevation when the basin is full (ft)

H_o = final elevation when basin is empty (ft)

With a drawdown time of 40 hours, the equation becomes:

$$a = \frac{(1.75 \times 10^{-6})A(H - H_o)^{0.5}}{C} \quad (\text{Eq. 3})$$

Flow Control Using Multiple Orifices (see Figure2):

$$a_t = \frac{2A(h_{\max})}{CT(2g[h_{\max} - h_{\text{centroid of orifices}}])^{0.5}} \quad (\text{Eq. 4})$$

With terms as described above except:

a_t = total area of orifices

h_{\max} = maximum height from lowest orifice to the maximum water surface (ft)

$h_{\text{centroid of orifices}}$ = height from the lowest orifice to the centroid of the orifice configuration (ft)

Allocate the orifices evenly on two rows; separate the holes by 3x hole diameter vertically, and by 120 degrees horizontally (refer to Figure 3).

Because basins are not maintained for infiltration, water loss by infiltration should be disregarded when designing the hydraulic capacity of the outlet structure.

Care must be taken in the selection of "C"; 0.60 is most often recommended and used. However, based on actual tests, GKY (1989), "Outlet Hydraulics of Extended Detention Facilities for Northern Virginia Planning District Commission", recommends the following:

$C = 0.66$ for thin materials; where the thickness is equal to or less than the orifice diameter, or

$C = 0.80$ when the material is thicker than the orifice diameter

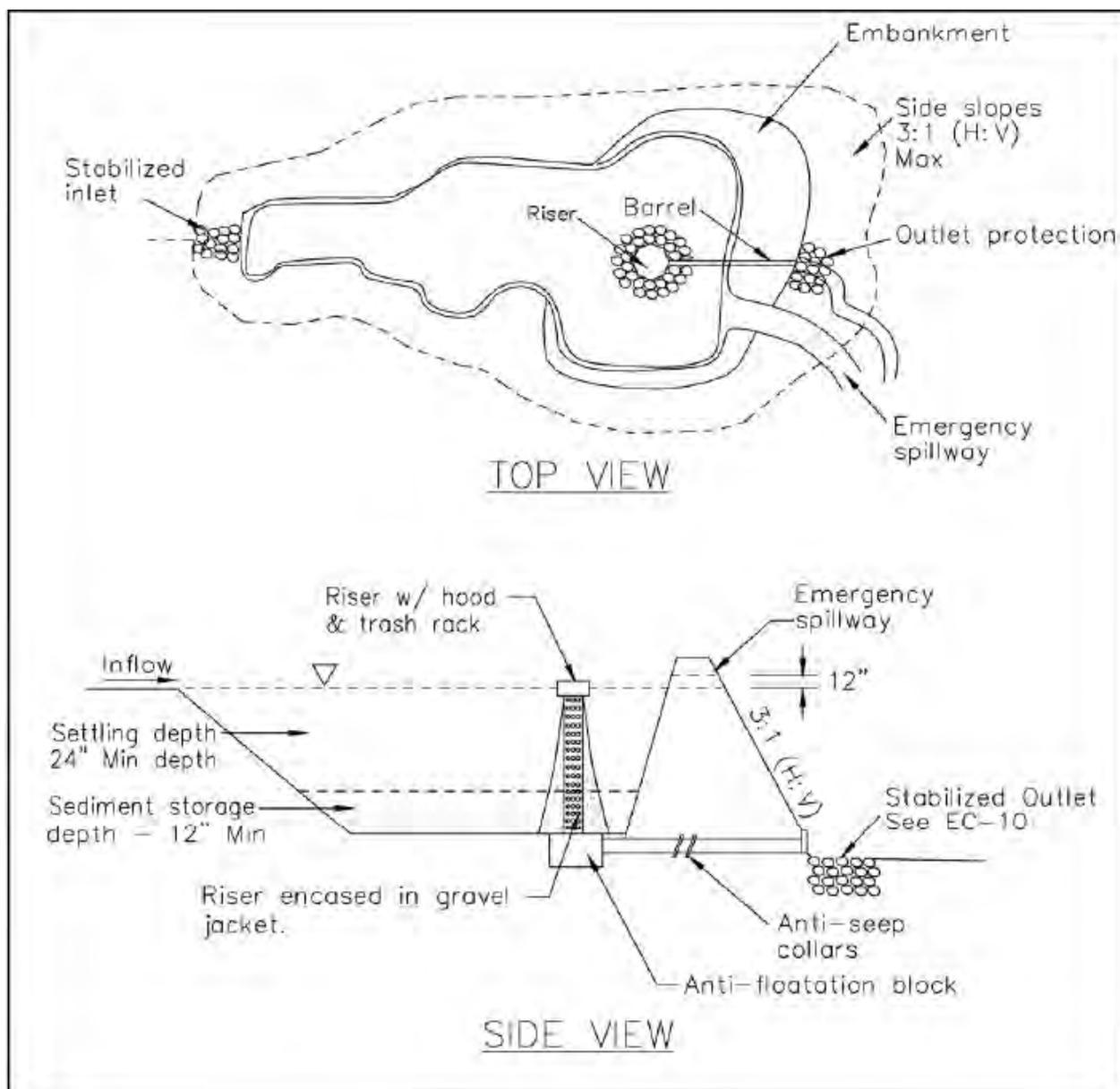
- The Contractor should verify that the outlet is properly designed to handle the design and peak flows.
- If rock is used for energy dissipation or to prevent erosion, it must comply with Highway Design Manual Chapter 860.
- Attach riser pipe (watertight connection) to a horizontal pipe (barrel), which extends through the embankment to toe of fill. Provide anti-seep collars on the barrel.
- Cleanout level should be clearly marked on the riser pipe.
- Basins with an impounding levee greater than 5 ft tall, measured from the lowest point to the impounding area to the highest point of the levee, and basins capable of impounding more than 35,300 cubic feet, should be designed by a professional Civil Engineer registered with the state of California. The design must be submitted to the RE for approval at least 7 days prior to the basin construction. The design should include maintenance requirements, including sediment and vegetation removal, to ensure continuous function of the basin outlet and bypass structures.

Maintenance and Inspection

- Inspect sediment basins before and after rainfall events and weekly year round. During extended rainfall events, inspect at least every 24 hours.
- Examine basin banks for seepage and structural soundness.
- Check inlet and outlet structures and spillway for any damage or obstructions. Repair damage and remove obstructions as needed.
- Remove standing water from the basin within 72 hours after accumulation.
- Check inlet and outlet area for erosion and stabilize if required.
- Remove accumulated sediment when its volume reaches one-third the volume of the sediment storage. Properly dispose of sediment and debris removed from the basin.
- Check fencing for damage and repair.

SWPPP or WPCP

- Sediment/Desilting Basin must be discussed in Section 500.3.3 of the SWPPP or Section 30.2.2 of the WPCP.



**FIGURE 1: TYPICAL TEMPORARY SEDIMENT BASIN
MULTIPLE ORIFICE DESIGN
NOT TO SCALE**

Source: CASQA

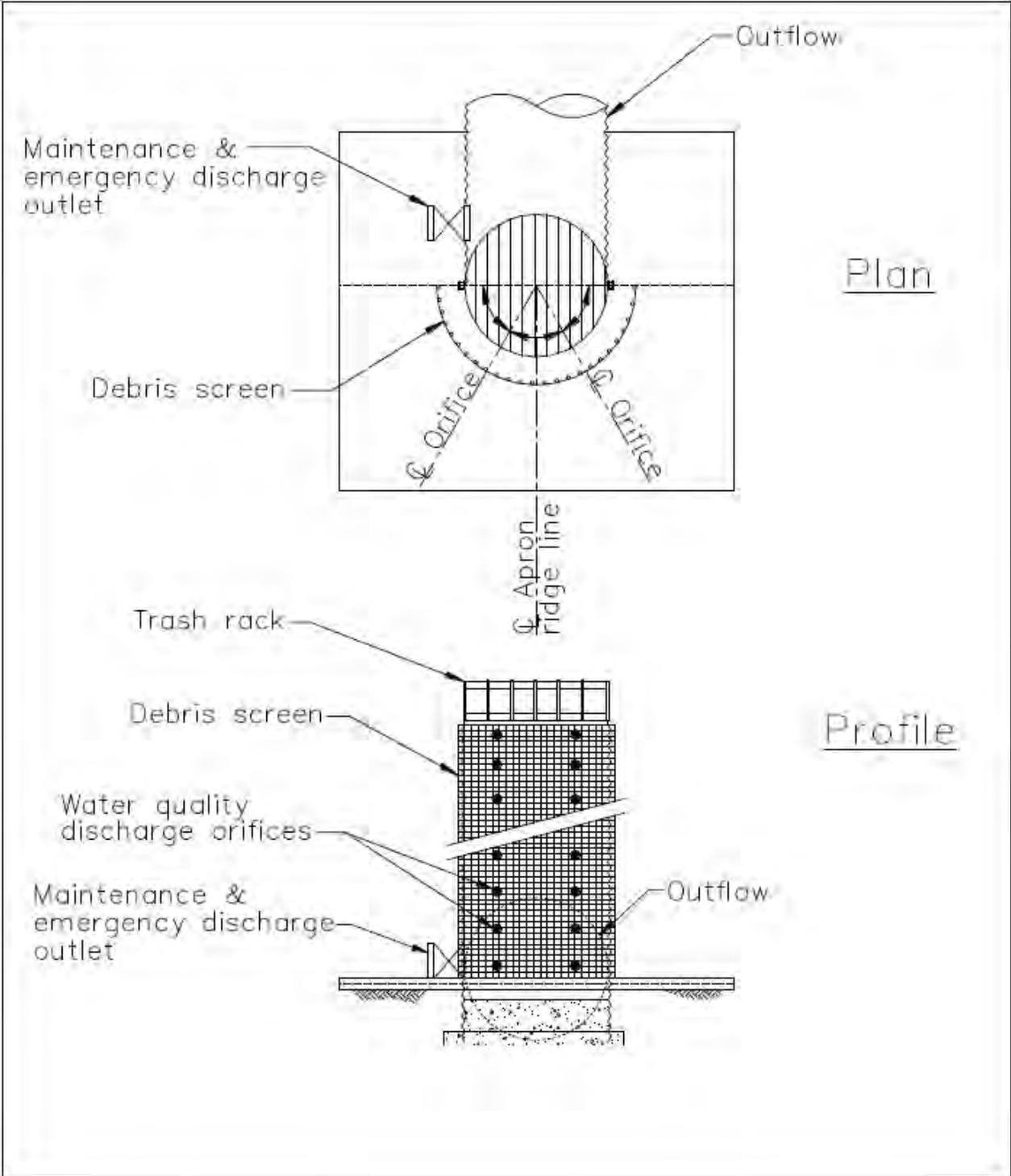


FIGURE 2: MULTIPLE ORIFICE OUTLET RISER
NOT TO SCALE

Source: CASQA

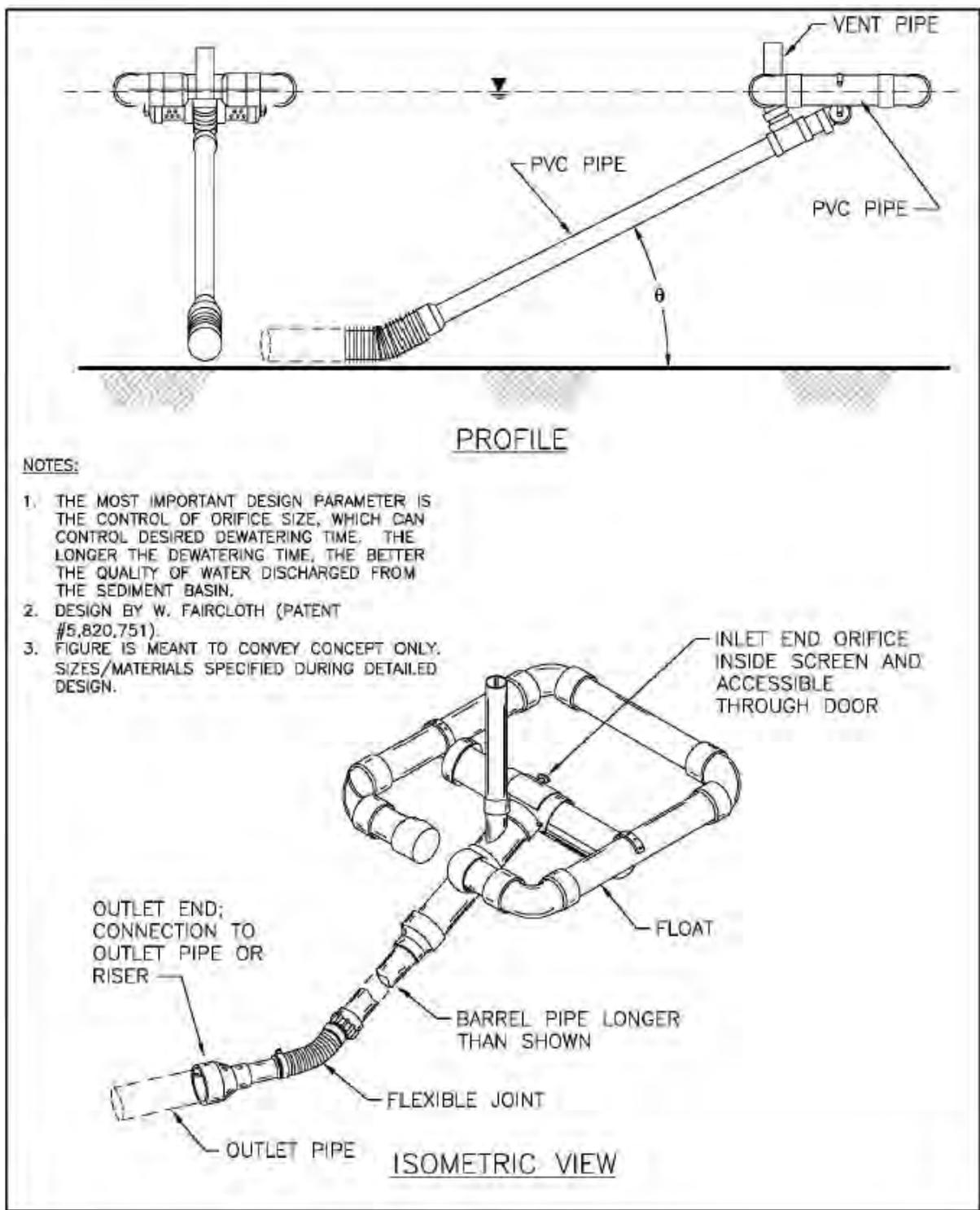


FIGURE 3: TYPICAL SKIMMER
NOT TO SCALE

Source: CASQA

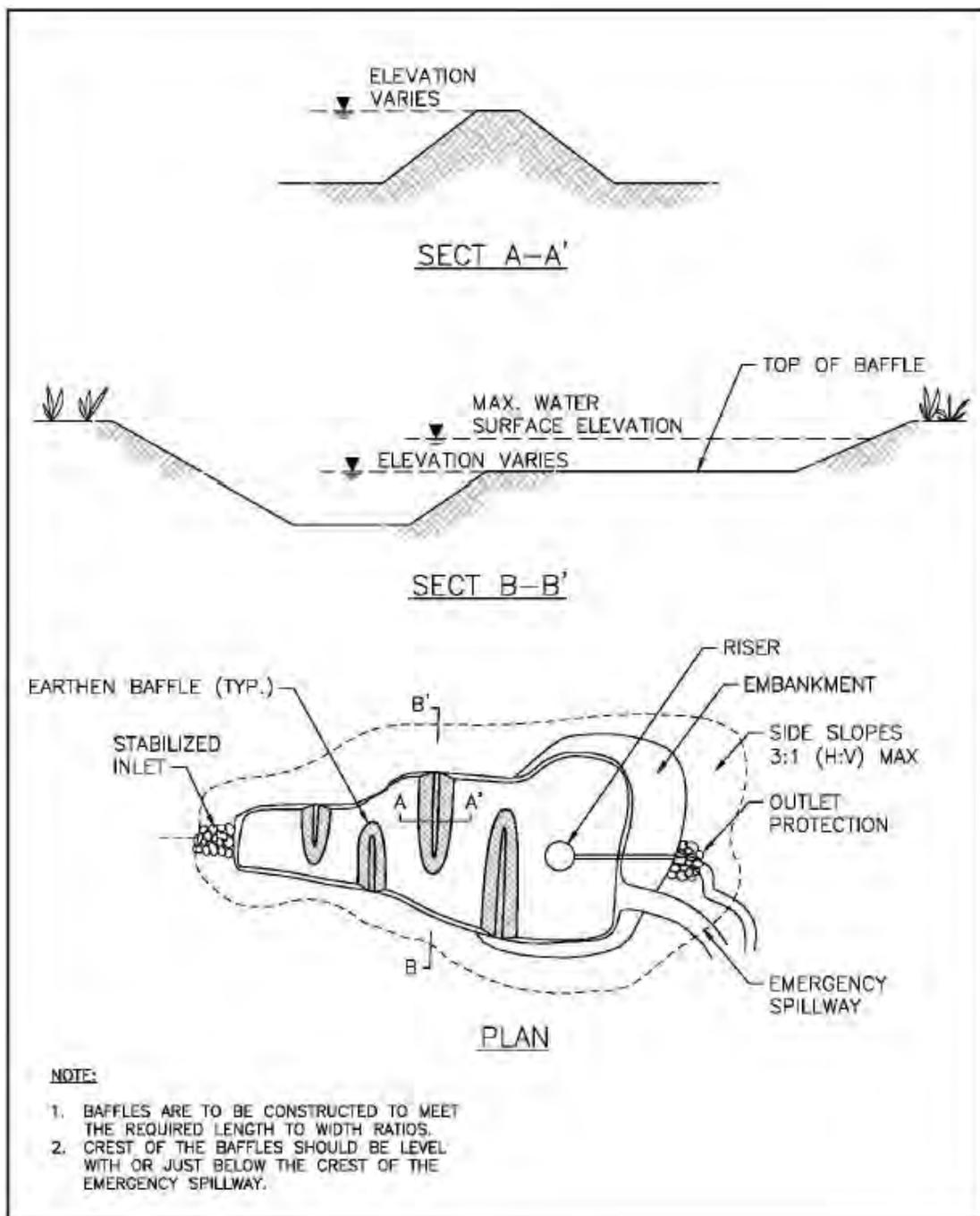


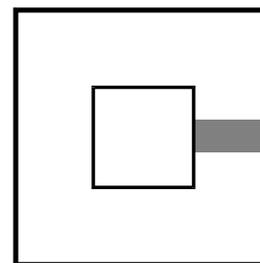
FIGURE 4: TYPICAL TEMPORARY SEDIMENT BASIN WITH BAFFLES
NOT TO SCALE

Source: CASQA

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Temporary Sediment Trap/Curb Cutback

SC-3



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose

A sediment trap/curb cutback is a temporary containment area that allows sediment in collected storm water to settle out during infiltration or before the runoff is discharged through a stabilized spillway. Sediment traps are formed by excavating or constructing an earthen embankment.

Curb cutback is implemented when the construction project utilizes the removed section of pavement and uses the depression of the curb as a temporary containment to collect sediment before reaching a storm drain.

Appropriate Applications

- Sediment traps may be used on construction projects where the drainage area is less than 5 ac. Traps should be placed where sediment-laden stormwater enters a storm drain or watercourse.
- As a supplemental control, sediment traps provide additional protection for a water body or for reducing sediment before it enters a drainage system.

Limitations

- Requires large surface areas to permit infiltration and settling of sediment.
- Size may be limited by availability of right-of-way.
- Not appropriate for drainage areas greater than 5 ac.
- Only removes large and medium sized particles and requires upstream erosion control.
- Sediment traps may appear attractive and dangerous to children, requiring protective fencing.
- Sediment traps should not to be located in live streams.
- Curb cutback typically does not allow for a large storage area and therefore requires frequent maintenance to prevent sediment laden discharges.

Temporary Sediment Trap/Curb Cutback

SC-3

Standards and Specifications

General Requirements

- Areas under embankments, structural works, and sediment traps must be cleared and stripped of vegetation in accordance with Standard Specifications Section 17-2 – “Clearing and Grubbing.”
- Earthwork must be in accordance with Standard Specifications Section 19 – “Earthwork”. Contractor is specifically directed to Standard Specifications Sections 19-5 and 19-6 entitled, “Compaction” and “Embankment Construction,” respectively.
- Fencing, in accordance with Standard Specifications Section 80 – “Fences,” should be provided to prevent unauthorized entry.
- Remove and dispose of deposited solids from sediment traps under Standard Specifications Section 14-10 – “Solid Waste Disposal and Recycling,” unless another method is authorized.
- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE.
- The outflow from sediment traps may be provided with outlet protection to prevent erosion and scouring of the embankment and channel. See BMP SS-10, “Outlet Protection/Velocity Dissipation Devices.”
- For curb cutback, excavate soil from behind the curb, sidewalk, or roadway at least 3-4 inches down from the top of the hardscape and bring the soil back at a minimum 3-4 feet back from the hardscape. Site conditions might allow for increase in capacity.

Other Considerations

- The sediment trap should be situated according to the following criteria: (1) by excavating a suitable area or where a low embankment can be constructed across a swale, (2) where failure would not cause loss of life or property damage, and (3) to provide access for maintenance, including sediment removal and sediment stockpiling in a protected area.
- Sediment traps should be sized to accommodate a settling zone and sediment storage zone with recommended minimum volumes of 67 yd³/ac and 33 yd³/ac of contributing drainage area, respectively, based on 0.5 inch of runoff volume over a 24-hour period. Multiple traps and/or additional volume may be required to accommodate site specific rainfall and soil conditions.
- Use rock or vegetation to protect the trap outlets against erosion.
- Traps with an impounding levee greater than 4.5 ft tall, measured from the lowest point to the impounding area to the highest point of the levee, and traps capable of impounding more than 35,000 cubic feet, must be designed by a Civil Engineer registered with the state of California. The design must be submitted to the RE for approval at least 7 days prior to the basin construction. The design should include maintenance requirements to ensure continuous function of the trap outlet and bypass structures.

Temporary Sediment Trap/Curb Cutback

SC-3

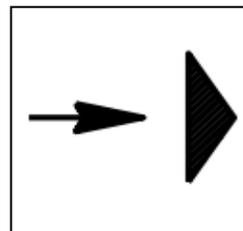
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- | | |
|----------------------------|--|
| Maintenance and Inspection | <ul style="list-style-type: none">■ Inspect sediment traps/curbs before, during and after rainfall events and weekly year-round. During extended rainfall events, inspect sediment traps at least every 24 hours.■ If captured runoff has not completely infiltrated within 96 hours, then the sediment trap must be dewatered.■ Inspect trap banks for embankment seepage and structural soundness.■ Inspect outlet structure and rock spillway for any damage or obstructions. Repair damage and remove obstructions as needed or as directed by the RE.■ Inspect outlet area for erosion and stabilize if required, or as directed by the RE.■ Remove accumulated sediment when the volume has reached one-third the original trap volume.■ Inspect fencing for damage and repair as needed or as directed by the RE.■ Temporary Sediment Trap/ Curb Cutback locations must be shown in the WPCDs along with other BMPs. |
| SWPPP or WPCP | <ul style="list-style-type: none">■ Temporary Sediment Trap/ Curb Cutback must be discussed in Section 500.3.3 of the SWPPP or Section 30.2.2 of the WPCP. |

Temporary Sediment Trap/Curb Cutback

SC-3

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose Temporary check dams reduce scour and channel erosion by reducing flow velocity and encouraging sediment settlement. A check dam is a small device constructed of rock, gravel bags, compost socks, fiber rolls, or other proprietary product placed across a natural or man-made channel or drainage ditch.

- Appropriate Applications**
- Check dams may be installed:
 - In small open channels that drain 10 ac or less.
 - In steep channels where storm water runoff velocities exceed 5 ft/sec.
 - During the establishment of grass linings in drainage ditches or channels.
 - In temporary ditches where the short length of service does not warrant establishment of erosion-resistant linings.

- Limitations**
- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE.
 - Not to be used in live streams.
 - Not appropriate in channels that drain areas greater than 10 ac.
 - Not to be placed in channels that are already grass lined unless erosion is expected, as installation may damage vegetation.
 - Require extensive maintenance following high velocity flows.
 - Promotes sediment trapping, which can be re-suspended during subsequent storms or removal of the check dam.
 - Not to be constructed from straw bales or silt fence.

Standards and Specifications

General Requirements

- Remove obstructions, rocks, clods, and debris greater than 1 inch in diameter from the ground before installing temporary check dams.
- If check dams are used in combination with Rolled Erosion Control Product (RECP) or blanket, install the RECP or blanket first.
- Place a temporary check dam perpendicular to the centerline of the ditch or drainage line.
- Install the check dam with enough spillway depth to prevent flanking of a concentrated flow around its ends.
- Type 1 or Type 2 check dams are appropriate for unlined ditches. Type 2 check dams are appropriate if the ditch is concrete lined.

Fiber Roll (Type 1) Check Dam

Refer to SC-5 “Fiber Rolls.”

- Secure the fiber rolls with rope and notched wood stakes.
- Drive the stakes into the soil until the notch is even with the top of the fiber roll.
- Lace rope between the stakes and over the fiber roll. Knot the rope at each stake.
- Tighten by driving the stakes further into the soil and forcing the fiber roll against the surface of the ditch or drainage line.

Gravel-filled Bag (Type 2) Check Dam

Bag Material: Bags are a geosynthetic material, either polypropylene, polyethylene or polyamide woven fabric, minimum unit weight 4 ounces per yd², mullen burst strength exceeding 300 psi in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355.

Bag Size: Each gravel-filled bag shall have a length of 24 in to 32 in, width of 16 in to 20 in, and thickness of 3 in. Alternative bag sizes must be submitted to the RE for approval prior to deployment.

Gravel: Fill material is between 3/8 and 3/4 inch in diameter, and must be clean and free from clay balls, organic matter, and other deleterious materials. The opening of gravel-filled bags should be secured such that gravel does not escape. Gravel-filled bags are between 30 and 50 lb in weight. Fill material is subject to approval by the RE.

- Place a Type 2 temporary check dam as a single layer of gravel-filled bags, placed end-to-end to eliminate gaps.
- If you need to increase the height of the dam, add more layers of gravel-filled bags. Stack the bags in the upper row to overlap the joints in the lower row. Stabilize the rows by adding more rows of bags in the lower layers.

- Tightly abut bags and stack gravel bags using a pyramid approach. Gravel bags should not be stacked any higher than 3 ft.
- Upper rows of gravel bags should overlap joints in lower rows.

Other Considerations

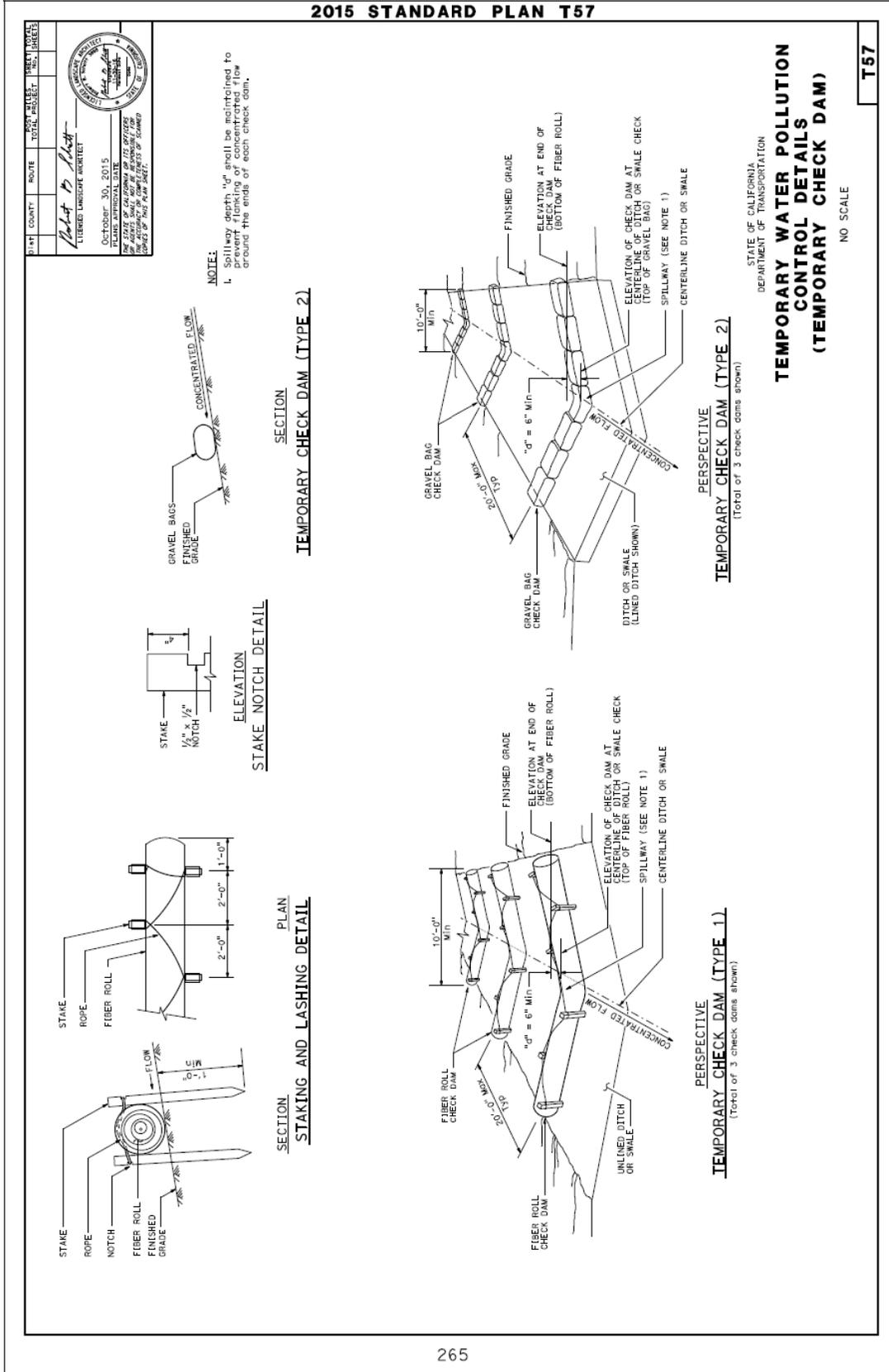
- Check dams should be placed at a distance and height to allow small pools to form behind them. Install the first check dam approximately 15 ft from the outfall device and at regular intervals based on slope gradient and soil type.
- For multiple check dam installation, backwater from downstream check dam should reach the toe of the upstream dam.
- High flows (typically a 2-year storm or larger) should safely flow over the check dam without an increase in upstream flooding or damage to the check dam.
- Where grass is used to line ditches, check dams should be removed when grass has matured sufficiently to protect the ditch or swale from erosion.
- Check dam materials should consist of biodegradable materials whenever feasible.
- Rock check dams might be more applicable if concentrated flows might be a potential.

Maintenance and Inspection

- Check dams must be inspected at a minimum weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Replace missing rock, bags, fiber rolls, etc. that have degraded or become damaged.
- Remove sediment when depth reaches one-third of the check dam height.
- Remove accumulated sediment prior to permanent seeding or soil stabilization.
- Remove check dam and accumulated sediment when check dams are no longer needed or when directed by the RE.
- Removed sediment can be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications.

SWPPP or WPCP

- Temporary Check Dams must be discussed in Section 500.3.3 of the SWPPP or Section 30.2.2 of the WPCP.





Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** A fiber roll consists of wood excelsior, rice or wheat straw, or coconut fibers that is rolled or bound into a tight tubular roll and placed on the toe and face of slopes to intercept runoff, reduce its flow velocity, release the runoff as sheet flow and provide removal of sediment from the runoff. Fiber rolls may also be used for drainage inlet protection and as check dams under certain situations.
- Appropriate Applications**
- This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE.
 - Fiber rolls may be applied as both temporary and permanent sediment controls.
 - Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
 - Below the toe of exposed and erodible slopes.
 - Fiber rolls may be used as check dams in unlined ditches or as temporary drainage inlet protection Down-slope of exposed soil areas.
 - Around temporary stockpiles.
 - Along the perimeter of a project.
- Limitations**
- Runoff and erosion may occur if fiber roll is not adequately trenched in.
 - Fiber rolls at the toe of slopes greater than 5:1 (H:V) may require the use of a large sediment barrier as specified in Standard Specifications Section 13-10.03D Temporary Large Sediment Barrier or installations achieving the same protection (i.e., stacked smaller diameter fiber rolls, etc.).
 - Difficult to move once saturated.

- Fiber rolls could be transported by high flows if not properly staked and trenched in.
- Fiber rolls have limited sediment capture zone.
- Do not use fiber rolls on slopes subject to creep, slumping, or landslide.
- Plastic netting should not be used when regulatory permits prohibit their use or if there is a potential for plastic netting to endanger wildlife.
- Plastic netting is only allowed where fiber rolls will be for short duration and will be removed.

Standards and Specifications

Materials

- Fiber rolls must be premanufactured and filled with weed-free rice or wheat straw, wood excelsior, or coconut fiber. Fiber roll must be covered with biodegradable jute, sisal, or coir fiber netting secured tightly at each end.
- Fiber rolls must have a minimum functional longevity of 1 year.
- Fiber rolls must be:
 - 8 to 10 inches in diameter and at least 1.1 lb/ft
 - 10 to 12 inches in diameter and at least 3 lb/ft
- Large sediment barriers are a subset of fiber rolls. Large sediment barriers must be:
 - 18 to 22 inches in diameter
 - At least 8 ft in length
 - At least 6.5 lb/ft
- Fiber rolls used within the jurisdiction of the Lahontan RWQCB must be made entirely of biodegradable materials if the project is near an ESA area, they are intended to be left in place after construction is completed or there are regulatory permits prohibiting the use of non-photo/biodegradable fiber rolls.
- Submit a Certificate of Compliance for fiber rolls.
- Rope to fasten fiber rolls must be 1/4 inch in diameter and biodegradable, such as sisal or manila.
- Wood stakes must be untreated fir, redwood, cedar, or pine and cut from sound timber. The ends must be pointed for driving into the ground. Notched stakes must be at least 1 by 2 by 24 inches in size. Stakes without notches must be at least 1 by 1 by 24 inches.

Typical Fiber Roll Installation

- Before installing fiber roll, remove obstructions from the ground, including rocks, clods, and debris greater than 1 inch in diameter.
- For any 20-foot section of fiber roll, prevent the fiber roll from varying more than 5 percent from level.
- Use the following spacing unless otherwise noted on the project plans or special provisions:
 - 10 feet apart for slopes steeper than 2:1 (H:V)
 - 15 feet apart for slopes from 2:1 to 4:1 (H:V)
 - 20 feet apart for slopes from 4:1 to 10:1 (H:V)
 - 50 feet apart for slopes flatter than 10:1 (H:V)
- For Type 1 installations:
 - Place in a furrow that is from 2 to 4 inches deep.
 - Fasten with wood stakes every 4 feet along the length of the fiber roll.
 - Fasten the ends of the fiber roll by placing a stake 6 inches from the end of the roll.
 - Drive the stakes into the soil so the top of the stake is less than 2 inches above the top of the fiber roll.
- For Type 2 installations:
 - Fasten with notched wood stakes and rope.
 - Drive stakes into the soil until the notch is even with the top of the fiber roll.
 - Lace the rope between stakes and over the fiber roll. Knot the rope at each stake.
 - Tighten the fiber roll to the surface of the slope by driving the stakes further into the soil.
- If more than one fiber roll is placed in a row, the rolls should be overlapped; not abutted. Stagger overlapping joints in adjacent rows by 5 to 10 feet.

Typical Large Sediment Barrier Installation

- Place a single row of fiber rolls end-to-end, approximately parallel with the slope contour. For any 20-foot section of fiber roll, do not allow the fiber roll to vary by more than 5 percent from level.
- Place the fiber rolls in a furrow that is from 6 to 8 inches deep.
- Secure the fiber rolls with wood stakes 4 feet apart.
- Place a stake 18 inches from each end of each fiber roll.

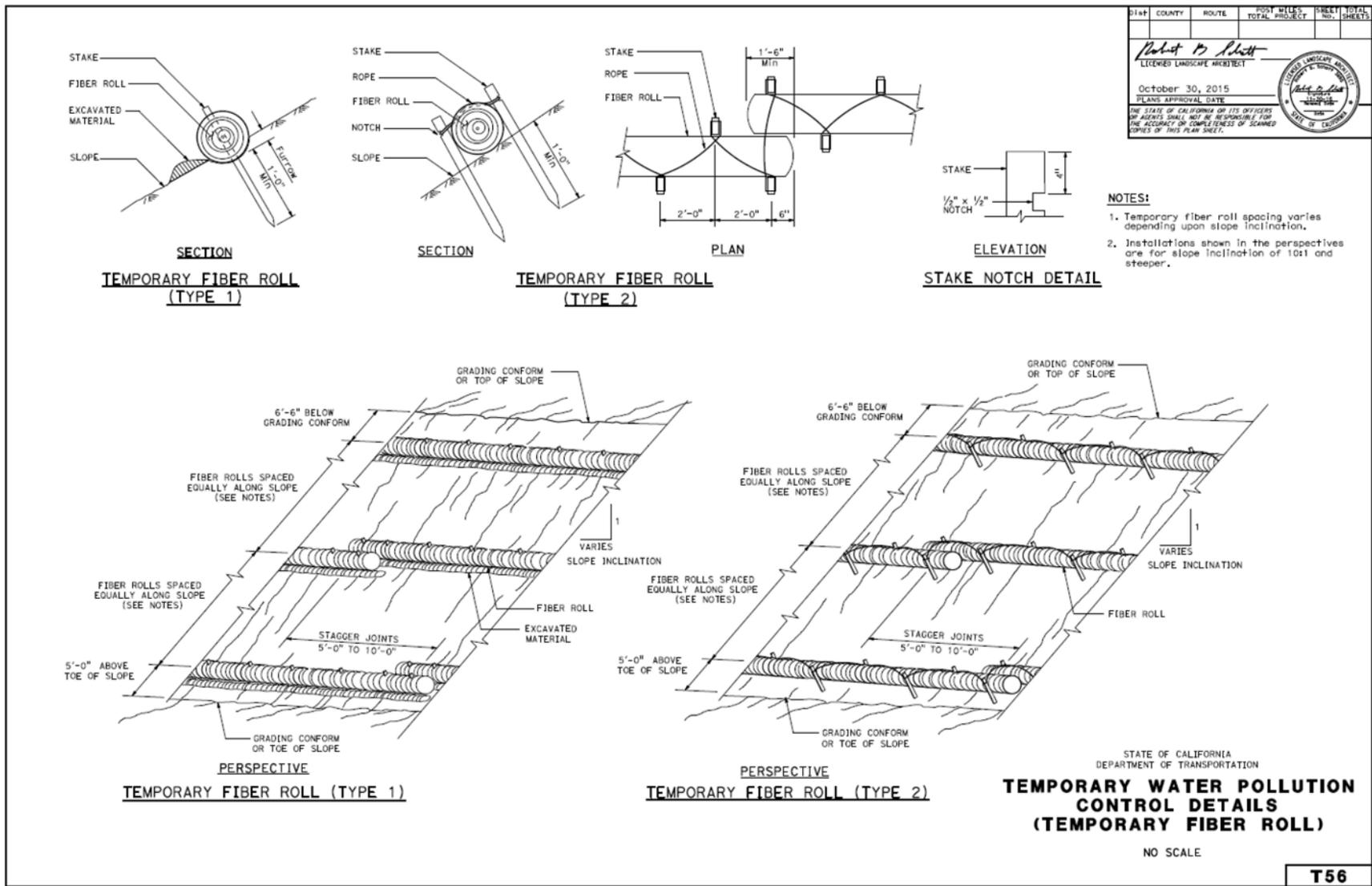
- Drive the stakes into the soil such that the top of the stakes are less than 2 inches above the top of the fiber rolls.
- Angle the last 6 feet upslope at the downhill end of the run.

Removal

- For permanent installations, do not remove fiber rolls. Fiber rolls will degrade over time, while underlying soils are stabilized by other BMPs.
 - For temporary installations, remove fiber rolls, collect and dispose of sediment accumulation, and fill and compact holes, trenches, depressions or any other ground disturbance to blend with adjacent ground.
- Maintenance and Inspection
- Remove sediment from behind the fiber roll if sediment is 1/3 of fiber roll height above ground.
 - Repair or adjust the fiber roll if rills or other evidence of concentrated runoff occur beneath the fiber roll.
 - Repair or replace the fiber roll if they become split, torn, or unraveled.
 - Add stakes if the fiber roll slumps or sags.
 - Replace broken or split wood stakes.
 - Remove sediment deposits, trash, and debris from fiber roll as needed. If removed sediment is deposited within project limits, it must be stabilized and not exposed to erosion by wind or water.
 - Perform maintenance as needed or as required by the RE or CGP or LTCGP requirements.
 - Inspect fiber rolls before and following rainfall events and at least daily during prolonged rainfall. Perform maintenance as needed or as required by the RE.
 - Maintain fiber rolls to provide an adequate sediment holding capacity and runoff velocity reduction.
 - Fiber roll placement must be shown on the WPCDs
- SWPPP or WPCP
- Fiber rolls must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

Fiber Rolls

SC-5



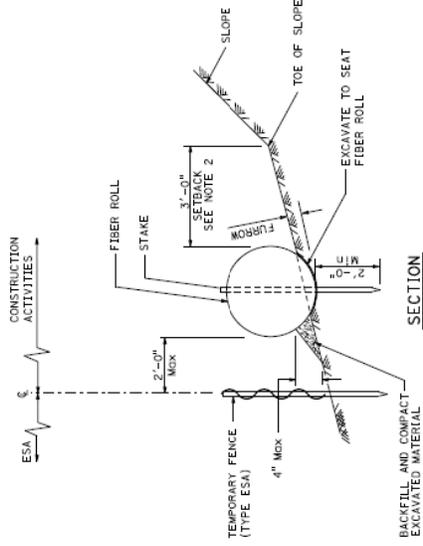
2015 STANDARD PLAN T56

DATE	COUNTY	ROUTE	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

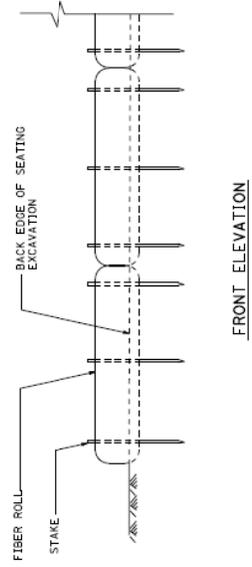
LICENSED LANDSCAPE ARCHITECT Robert D. Smith	
DATE	PLANS APPROVAL DATE
October 30, 2015	
THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION FOR THE ACCOUNT OF THE COMPLETION OF SCANNED COPIES OF THIS PLAN SHEET.	

NOTES:

1. Temporary fence (Type ESA) shown for reference purposes only.
2. Setback dimension may vary according to field conditions or as designated on plans



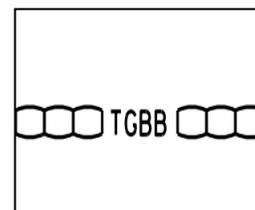
TEMPORARY LARGE SEDIMENT BARRIER
PLACEMENT DETAIL
FOR TEMPORARY FENCE (TYPE ESA)
USED WITH TEMPORARY LARGE SEDIMENT BARRIER
 (See Note 1)



TEMPORARY LARGE SEDIMENT BARRIER
FRONT ELEVATION

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
(TEMPORARY LARGE SEDIMENT BARRIER)
 NO SCALE
T66





Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose

A gravel bag berm consists of a single row of gravel bags that are installed end to end to form a barrier across a slope to intercept runoff, reduce its flow velocity, release the runoff as sheet flow and provide some sediment removal. Gravel bags can be used where flows are moderately concentrated, such as ditches, swales, and storm drain inlets (see SC-10 “Drainage Inlet Protection”) to divert and/or detain flows.

Earthen berms are linear sediment barriers designed to intercept sheet flows. Water gets impounded upstream of the earthen berm, allowing sediment to settle out and releasing runoff as sheet flow, preventing erosion.

Appropriate Applications

- BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE.
- Along streams and channels.
- Below the toe of exposed and erodible slopes.
- Down slope of exposed soil areas.
- Around stockpiles.
- Across channels to serve as a barrier for utility trenches or provide a temporary channel crossing for construction equipment, to reduce stream impacts.
- Parallel to a roadway to keep sediment off paved areas.
- At the top of slopes to divert roadway runoff away from disturbed slopes.
- Along the perimeter of a site.
- To divert or direct flow or create a temporary sediment basin.

- During construction activities in stream beds when the contributing drainage area is less than 5 ac.
- When extended construction period limits the use of either silt fences or straw bale barriers.
- When site conditions or construction sequencing require adjustments or relocation of the barrier to meet changing field conditions and needs during construction.
- At grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.

Limitations

- Degraded gravel bags may rupture when removed, spilling contents.
- Installation can be labor intensive.
- Limited durability for long term projects.
- When used to detain concentrated flows, maintenance requirements increase.
- Earthen berms should not be used to intercept flows with moderate to high velocities that may erode the earthen berm.
- Earthen berms are susceptible to erosion from concentrated flows.

Standards and Specifications

Materials

- **Bag Material:** Bags must be a geosynthetic material, either polypropylene, polyethylene or polyamide woven fabric, minimum unit weight 4 ounces per yard², mullen burst strength exceeding 300 psi in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355.
- **Bag Size:** Each gravel-filled bag should have a length of 24 to 32 inches, width of 16 to 20 inches, and thickness of 3 inches. Alternative bag sizes must be submitted to the RE for approval prior to deployment.
- **Gravel:** Fill material should be between 3/8 and 3/4 inch in diameter, and be clean and free from clay balls, organic matter, and other deleterious materials. The opening of gravel-filled bags must be secured such that gravel does not escape. Gravel-filled bags are between 30 and 50 lb in weight. Fill material is subject to approval by the RE.
- Earthen berms must comply with Standard Specifications Section 13-10.03I.

Installation

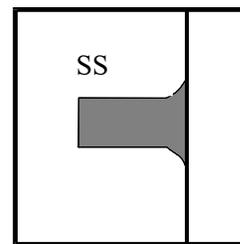
- When used as a linear control for sediment removal:
 - Install along a level contour.
 - Place gravel-filled bags end-to-end to eliminate gaps in a gravel bag berm.
 - Angle the last 6 feet upslope at the downhill end of the run.

- Stack the bags such that the upper row overlaps the joints in the lower row.
- Add layers of gravel-filled bags to increase the height of a temporary gravel bag berm if needed. Stack the bags in the upper row to overlap the joints in the lower row. Stabilize the rows by adding rows of bags in the lower layers.

- Generally, gravel bag barriers can be used in conjunction with temporary soil stabilization controls up slope.
- Construct gravel bag barriers with a set-back from the toe of a slope. Where it is determined to be not practicable due to specific site conditions, the gravel bag barrier may be constructed at the toe of the slope, but be constructed as far from the toe of the slope as practicable.
- Refer to SC-4 “Check Dams” when used for concentrated flows.
- Submit a certificate of compliance for gravel-filled bag material.
- Earthen berms are constructed with either native soil or an alternative selected material.
- Earthen berms must be at least 8 inches in height and 36 inches in width.
- Earthen berms must be compacted by manual or mechanical methods.
- Gravel bag/earthen berms must be inspected in accordance with CGP requirements for the associated project type and risk level or with LTCGP. At a minimum, BMPs must be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Reshape or replace gravel bags as needed, or as directed by the RE.
- Repair washouts or other damages as needed, or as directed by the RE.
- Inspect gravel bag/earthen berms for sediment accumulations and remove sediment when accumulation reaches one-third of the berm height. Removed sediment can be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications.
- Remove gravel bag berms when no longer needed. Remove sediment accumulations and clean, re-grade, and stabilize the area.
- If using earthen berm, ensure soil remains compacted through the duration of the berm
- Maintain earthen berms to provide sediment-holding capacity and to reduce concentrated flow velocities.
- Repair the berm if rills or other evidence of concentrated runoff over it.
- Gravel Bag/Earthen Berm placement must be shown on the WPCDs and reflect site conditions.

Maintenance and Inspection

- Gravel Bag/Earthen Berm must be discussed in Section 500.3 SWPPP or Section 30.2 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input checked="" type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose

Practices to remove tracked sediment to prevent the sediment from entering a storm drain or receiving waters.

Appropriate Applications

These practices are implemented anywhere sediment is tracked from the project site onto public or private paved roads, typically at jobsite entrances and exits.

Limitations

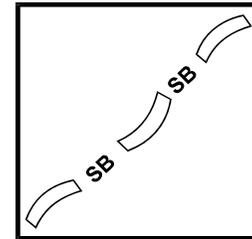
Sweeping and vacuuming may not be effective when soil is wet or muddy.

Standards and Specifications

General Requirements

- Sweep by hand or mechanical methods, such as vacuuming. Kick brooms or sweeper attachments may not be used.
- At least one street sweeper in good working order must be at the job site at all times when street sweeping work is required.
- Use one of the following types of street sweepers:
 - Mechanical sweeper followed by a vacuum-assisted sweeper;
 - Vacuum-assisted, dry, waterless, sweeper; or
 - Regenerative-air sweeper.
- Submit the number and type of street sweepers that will be used on the project for each activity at least 5 business days before starting the activities listed above. Keep and submit street sweeping activity records including sweeping times, locations, and the quantity of material collected.

- Sweep paved roads at construction entrance and exit locations and onsite paved areas:
 - During clearing and grubbing, earthwork, trenching, and pavement-structure construction activities.
 - When vehicles are entering and leaving the job site.
 - After soil-disturbing activities.
 - After observing off-site tracking of material.
 - Sweep within 1 hour if sediment or debris is observed during the activities described above that require sweeping.
 - Sweep within 24 hours if sediment or debris is observed during activities that do not require sweeping.
 - Keep dust to a minimum during street sweeping activities. Use water for dust control or a vacuum whenever dust generation is excessive or sediment pickup is ineffective. Refer to WE-1 for “Wind Erosion Control” BMPs.
 - Remove collected material, including sediment, from paved shoulders, drainage inlets, curbs and dikes, and other drainage areas.
 - After sweeping is finished, collected material may be stockpiled. If not mixed with debris, trash or potentially hazardous objects, consider incorporating the removed sediment back into the project if approved by the RE. Otherwise, dispose of stockpiled material at least once per week according to Standard Specifications Section 14-10.
 - Street sweeping does not void the requirements for residue collection included in other work activities, such as grooving, grinding, or asphalt concrete planing.
- Maintenance and Inspection
- Inspect potential sediment tracking locations daily.
 - Monitor and inspect tracking control BMPs such as TC-1, “Temporary Construction Entrance/Exit,” to reduce sediment accumulation on roads.
 - Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
 - Adjust brooms frequently; maximize efficiency of sweeping operations.
 - Sweeper material must be disposed in compliance with waste regulations.
- SWPPP or WPCP
- Street Sweeping must be discussed in Section 500.3.4 and 600.2 of the SWPPP or Section 30.2.3 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose A sandbag barrier is a temporary linear sediment barrier consisting of stacked sandbags, designed to intercept and slow the flow of sediment-laden sheet flow runoff. Sandbag barriers allow sediment to settle from runoff before water leaves the construction site.

- Appropriate Applications**
- Along the perimeter of a site.
 - Along streams and channels.
 - Below the toe of exposed and erodible slopes.
 - Down slope of exposed soil areas.
 - Around stockpiles.
 - Across channels to serve as a barrier for utility trenches or provide a temporary channel crossing for construction equipment, to reduce stream impacts.
 - Parallel to a roadway to keep sediment off paved areas.
 - At the top of slopes to divert roadway runoff away from disturbed slopes.
 - To divert or direct flow or create a temporary sediment/desilting basin.
 - During construction activities in stream beds when the contributing drainage area is less than 5 ac.
 - When extended construction, period limits the use of either silt fences or straw bale barriers.
 - Along the perimeter of vehicle and equipment fueling and maintenance areas or chemical storage areas.
 - To capture and detain non-stormwater flows until proper cleaning operations occur.

- When site conditions or construction sequencing require adjustments or relocation of the barrier to meet changing field conditions and needs during construction.
 - To temporarily close or continue broken, damaged or incomplete curbs.
- Limitations
- Limit the drainage area upstream of the barrier to 5 ac.
 - Degraded sandbags may rupture when removed, spilling sand.
 - Installation can be labor intensive.
 - Limited durability for long-term projects.
 - When used to detain concentrated flows, maintenance requirements increase.
 - Consider using gravel bags whenever possible since they often do not require as much maintenance or impact wildlife when used near ESAs.

Standards and Specifications

Materials

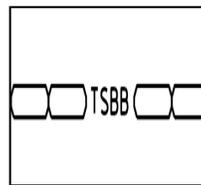
- Sandbag Material: Sandbag can be woven polypropylene, polyethylene or polyamide fabric, minimum unit weight four ounces per square yard, mullen burst strength exceeding 300 psi in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355. Use of burlap is not acceptable.
- Sandbag Size: Each sand-filled bag should have a length of 18 in, width of 12 in, thickness of 3 in, and mass of approximately 33 lb. Bag dimensions are nominal, and may vary based on locally available materials. Alternative bag sizes must be submitted to the RE for approval prior to deployment.
- Fill Material: All sandbag fill material can be non-cohesive, Class 1 or Class 2 permeable material free from clay and deleterious material, conforming to the provisions in Standard Specifications Section 47-2.02D “Permeable Material”. The requirements for the Durability Index and Sand Equivalent do not apply. Fill material is subject to approval by the RE.

Installation

- When used as a linear sediment control:
 - Install along a level contour.
 - Turn ends of sandbag row up slope to prevent flow around the ends.
 - Generally, sandbag barriers may be used in conjunction with temporary soil stabilization controls up slope to provide effective erosion and sediment control.
- Construct sandbag barriers with a set-back of at least 3 ft from the toe of a slope. Where it is determined to be not practical due to specific site conditions, the sandbag barrier may be constructed at the toe of the slope, but should be constructed as far from the toe of the slope as practicable.

- Maintenance and Inspection
 - Inspect sandbag barriers before and after each rainfall event, and weekly year round.
 - Reshape or replace sandbags as needed, or as directed by the RE.
 - Repair washouts or other damages as needed, or as directed by the RE.
 - Inspect sandbag barriers for sediment accumulations and remove sediments when accumulation reaches one-third the barrier height. Removed sediment can be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications 14-10.
 - Remove sandbags when no longer needed. Remove sediment accumulation, and clean, re-grade, and stabilized the area.
- SWPPP or WPCP
 - Sandbag Barrier must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose A straw bale barrier is a temporary linear sediment barrier consisting of straw bales, designed to intercept and slow sediment-laden sheet flow runoff. Straw bale barriers allow sediment to settle from runoff before water leaves the construction site.

- Appropriate Applications**
- Along the perimeter of a site.
 - Along streams and channels.
 - Below the toe of exposed and erodible slopes.
 - Down slope of exposed soil areas.
 - Around stockpiles.
 - Across minor swales or ditches with small catchments.
 - Around above grade type temporary concrete washouts (see WM-8, “Concrete Waste Management”).
 - Parallel to a roadway to keep sediment off paved areas.

- Limitations**
- Installation can be labor intensive.
 - Straw bale barriers are maintenance intensive.

- Degraded straw bales may fall apart when removed or left in place for extended periods.
- Can't be used on paved surfaces.
- Not to be used for drain inlet protection.
- Not to be used in areas of concentrated flow.
- Can be an attractive food source for some animals.
- May introduce undesirable non-native plants to the area.

Standards and Specifications

Materials

- Straw must conform to the provisions in Standard Specifications Section 21-2.02H, "Straw."
- Each straw bale should be a minimum of 14 in wide, 18 in high, 36 in long and have a minimum weight of 50 lb.
- The straw bale must be composed entirely of vegetative matter, except for the binding material.
- Bales can be bound by either wire, nylon, or polypropylene string placed horizontally. Jute and cotton binding may not be used. Baling wire should be at least 16 gauge. Nylon or polypropylene string should have a diameter of approximately 0.08 in with a breaking strength of 80 lbs.
- Wood or metal posts should be used as stakes. Posts for straw bale barriers must comply with Standard Specifications Section 16-2.03 "High-Visibility Fences."

Installation

- Place a single row of straw bales end-to-end and parallel with the slope contour. For any 20-foot section of straw bale barrier, do not allow it to vary by more than 5% from level.
- Place straw bales in a trench or key them into the slope. Place the bales such that the binding wire or string does not come in contact with the soil. Use wood or metal posts as stakes.

- Secure each straw bale with two posts. The first post in each bale must be driven toward the previously laid bale to force the bales together. Drive the posts into the soil such that the top of the post is less than 2 in. above the top of the straw bale. The post must extend a minimum of 2 ft in the ground below the bottom of the straw bales.
- Angle the last 6 feet upslope at the downhill end of the run.
- See page 5 of this BMP for installation detail.

Other Considerations

- Construct straw bale barriers with a set-back of at least 3 ft from the toe of a slope. Where it is determined to be not practical due to specific site conditions, the straw bale barrier may be constructed at the toe of the slope, but be constructed as far from the toe of the slope as practical.
- This BMP may be implemented on a project-by-project basis in addition to other BMPs when determined necessary and feasible by the RE.
- Straw bale barriers may be used in combination with a silt fence (see SC-2 “Silt Fence”) for additional sediment control.

Maintenance and Inspection

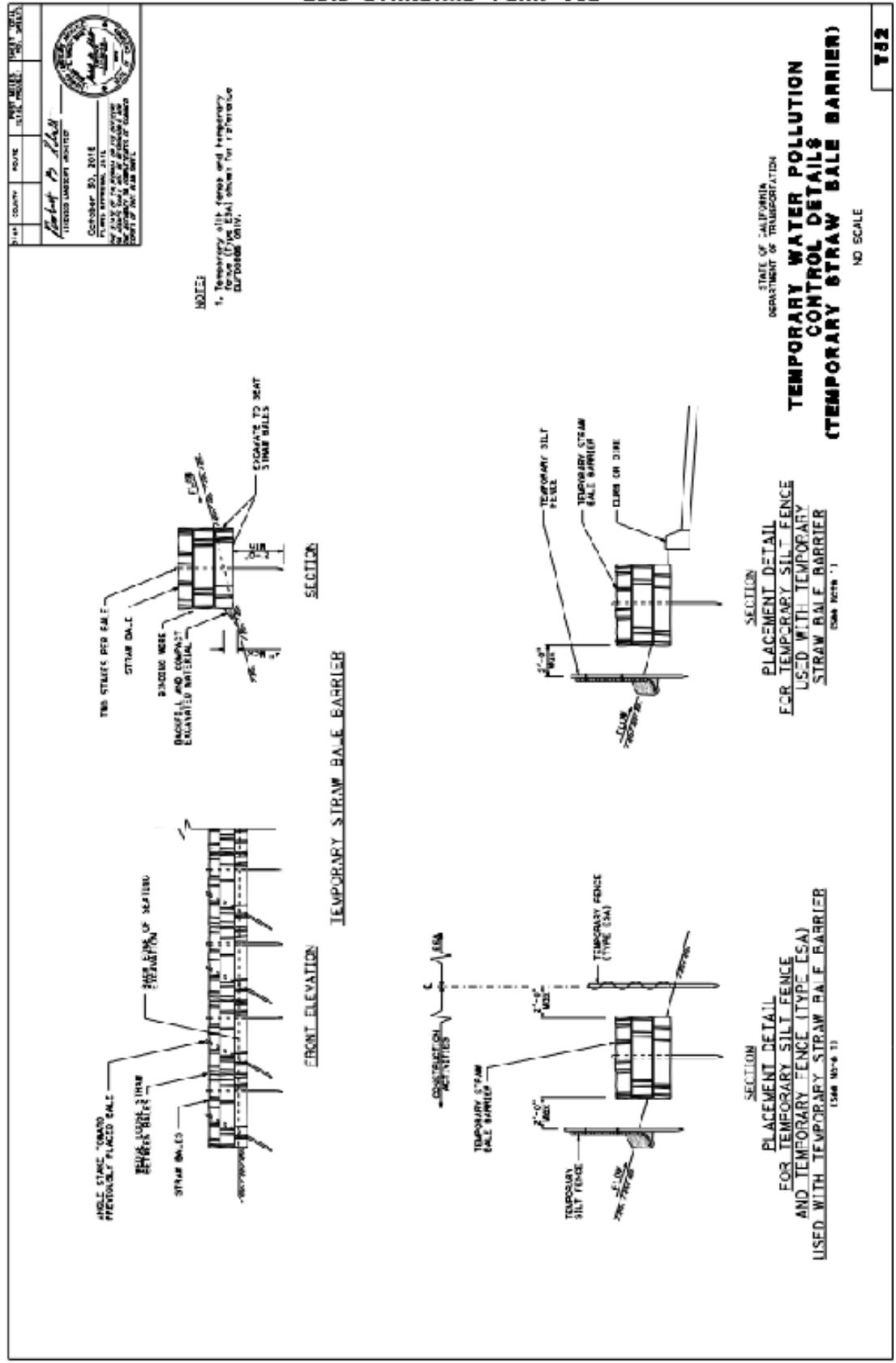
- At a minimum, BMPs must be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Inspect straw bale barriers for sediment accumulations and remove sediment when depth reaches one-third the barrier height. Removed sediment should be disposed of outside the highway right-of-way in conformance with the Standard Specifications.
- Replace or repair damaged bales as needed or as directed by the RE.
- Repair washouts or other damages as needed or as directed by the RE.
- Remove straw bales when no longer needed. Remove sediment accumulation, and clean, re-grade, and stabilized the area.
- Straw Bale Barrier placement must be shown on the WPCDs and reflect current site conditions.

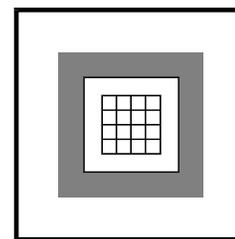
SWPPP or WPCP

- Straw Bale Barrier must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

Straw Bale Barrier

SC-9





Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** Temporary drainage inlet protection consists of devices used at storm drain inlets that detain and/or filter sediment-laden runoff prior to discharge into storm drainage systems. This is achieved by allowing sediment to settle and/or filtering sediment upstream of a linear sediment barrier.
- Appropriate Applications**
- Where ponding will not encroach into highway traffic.
 - Where sediment laden surface runoff may enter an inlet.
 - Where disturbed drainage areas have not yet been permanently stabilized.
 - Where the drainage area is 1 ac or less.
 - Used year-round.
- Limitations**
- Requires an adequate area for water to pond without encroaching upon traveled way and should not present an obstacle to oncoming traffic.
 - May require other methods of temporary protection to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.
 - Sediment removal may be difficult in high flow conditions or if runoff is heavily sediment laden. If high flow conditions are expected, use other on-site sediment trapping techniques, such as SC-4 “Check Dams,” in conjunction with temporary drainage inlet protection.
 - Frequent maintenance is required.
 - Silt fence inlet protection is appropriate in open areas that are subject to sheet flow and for flows not exceeding 0.5 cfs.

- Gravel bag barriers for inlet protection are applicable when sheet flows or concentrated flows exceed 0.5 cfs, and it is necessary to allow for overtopping to prevent flooding.
- Fiber rolls and foam barriers are not appropriate for locations where they cannot be properly anchored to the surface.
- Excavated drop inlet sediment traps are appropriate where relatively heavy flows are expected and overflow capability is needed.
- For drainage areas larger than 1 ac, runoff should be routed to a sediment trapping device designed for larger flows. See BMPs SC-2, “Sediment/Desilting Basin,” and SC-3 “Sediment Trap/Curb Cutback.”

Standards and Specifications

General Requirements

- Refer to Standard Specifications Section 13-6.03C for “Temporary Drainage Inlet Protection” and 13-6.03F for “Rigid Plastic Barriers.”
- Identify existing and/or planned storm drain inlets that have the potential to receive sediment-laden surface runoff. Determine if storm drain inlet protection is needed, and which method or combination of methods to use. Update inlet protection as site conditions change.
- Use a linear sediment barrier to redirect runoff and control ponding in order to prevent ponding from encroaching on the traveled way or overtopping the curb or dike.
- Prior to installation, clear the area around each inlet of obstructions, including rocks, clods, and debris greater than 1-in. in diameter.
- Install linear sediment barriers upstream of the inlet and parallel with the curb, dike, or flow line to keep sediment from entering the inlet.
- Remove accumulated sediment according to Maintenance and Inspection recommendations. Accumulated sediment may be disposed of outside the highway right-of-way in conformance with the Standard Specifications Section 14-10.

Type 1 - Silt Fence

- This method should be used for drain inlets requiring protection in areas where finished grade is established and erosion control seeding has been applied or is pending. The silt fence (Type 1) protection is illustrated on Page 6. Do not place filter fabric underneath the inlet grate since the collected sediment may fall into the drain inlet when the fabric is removed or replaced.
- Type 2 - Excavated Drop Inlet Sediment Trap
- This method may be used for drainage inlets requiring protection in areas that have been cleared and grubbed, and where exposed soil areas are subject to grading. The excavated drop inlet sediment trap (Type 2) is illustrated on Page 7. Similar to constructing a temporary silt fence; see BMP SC-1, “Silt Fence.” Size the excavated trap to provide a minimum storage capacity calculated at the rate of 67 yd³/ac of drainage area.

Type 3A – Gravel Bag Berm for Combined Inlets

- This method may be used for drain inlets surrounded by AC or paved surfaces. The gravel bag berm for combined inlets (Type 3A) is illustrated on Pages 8-9. Flow from a severe storm must not overtop the curb. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Construct gravel bags in accordance with BMP SC-6, “Gravel Bag Berm.” Gravel bags are used due to their high permeability.

Type 3B – Gravel Bag Berm for Grate Inlets

- This method may be used for drainage inlets surrounded by AC or paved surfaces. The gravel bag berm for grate inlets (Type 3B) is illustrated on Page 10. In areas of high clay and silts, use filter fabric and gravel as additional filter media. Place gravel bags in accordance with BMP SC-6, “Gravel Bag Berm.” Gravel bags are used due to their high permeability.

Type 4A – Flexible Sediment Barrier for Grate Inlets

- This method may be used for drainage inlets requiring protection in areas that have been cleared and grubbed, and where exposed soil areas subject to grading. Flexible Sediment Barrier for Grate Inlets (Type 4A) is placed around the inlet and keyed and anchored to the surface. Flexible Sediment Barriers are intended for use as inlet protection where the area around the inlet is unpaved and the foam barrier or fiber roll can be secured to the surface. Place fiber rolls over the erosion control blanket. RE or appropriate licensed professional approval is required.

Type 4B – Flexible Sediment Barrier for Combined Inlets

- This method may be used for drainage inlets requiring protection in areas that have been cleared and grubbed, and where exposed soil areas subject to grading. Flexible Sediment Barrier for Combined Inlets (Type 4B) is placed in rows upstream of the inlet and along the curb or dike. The barriers are keyed and anchored to the surface. Flexible Sediment Barriers are intended for use as inlet protection where the area around the inlet is unpaved and the foam barrier or fiber roll can be secured to the surface. Place the barrier to provide a tight joint with the curb or dike. Cut the cover fabric or jacket to ensure a tight fit. RE and Construction Storm Coordinator approval is required.

Type 5 – Sediment Filter Bag

- This method may be used in areas with vehicle and equipment traffic that could damage aboveground inlet protection devices. The Sediment Filter Bags are installed as follows: (1) Remove the drainage inlet grate, (2) Place the sediment filter bag in the opening, and (3) Replace the grate to secure the sediment filter bag in place.

Type 6A – Catch Basin with Grate

- Catch Basin with Grate (Type 6A) is shown on page 16. Cover grate inlet with rigid plastic barrier and secure on each end with gravel-filled bags. If using a rigid sediment barrier and the grated inlet does not have a curb opening, place the barrier using a gasket to prevent runoff from flowing under the barrier. Secure the barrier to the pavement with nails and adhesive, gravel-filled bags, or a combination of both.

Type 6B – Curb Inlet without Grate

- Curb Inlet without Grate (Type 6B) is shown on page 16. Place the flexible sediment barrier across the curb inlet opening and secure with gravel-filled bags.

Maintenance and Inspection

General Requirements

- Inspect all drainage inlet protection devices before and after every rainfall event and weekly year round. During extended rainfall events, inspect inlet protection devices at least once every 24 hours.
- Inspect the storm drain inlet after severe storms to check for bypassed material.
- Remove all drainage inlet protection devices within thirty days after the site is stabilized, or when the inlet protection is no longer needed.
 - Bring the disturbed area to final grade and smooth and compact it. Appropriately stabilize all bare areas around the inlet.
 - Clean and re-grade area around the inlet and clean the inside of the storm drain inlet as it must be free of sediment and debris at the time of final inspection.

Type 1 - Filter Fabric Fence

- Make sure the stakes are securely driven in the ground and are structurally sound (i.e., not bent, cracked, or splintered, and are reasonably perpendicular to the ground). Replace damaged stakes.
- Replace or clean the fabric when the fabric becomes clogged with sediment. Make sure the fabric does not have any holes or tears. Repair or replace fabric as needed or as directed by the RE.
- At a minimum, remove the sediment behind the fabric fence when accumulation reaches one-third the height of the fence or barrier height.

Type 2 – Excavated Drop Inlet Sediment Trap

- Remove sediment from basin when the volume of the basin has been reduced by one-half.

Type 3A - Gravel Bag Berm for Combined Inlets

- Inspect bags for holes, gashes, and snags.
- Check gravel bags for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

Type 3B - Gravel Bag Berm for Grate Inlets

- Inspect bags for holes, gashes, and snags.
- Check gravel bags for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

Type 4A Flexible Sediment Barrier for Grate Inlets

- Check flexible sediment barrier for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

Type 4B Flexible Sediment Barrier for Combined Inlets

- Check flexible sediment barrier for proper arrangement and displacement. Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

Type 5 Sediment Filter Bag

- Change sediment filter bag carefully ensuring not to spill captured sediment into the drainage inlet.

Type 6A Catch Basin with Grate

- Check barrier and gravel-filled bags for proper arrangement and displacement. Routinely remove accumulated sediment

Type 6B Curb Inlet without Grate

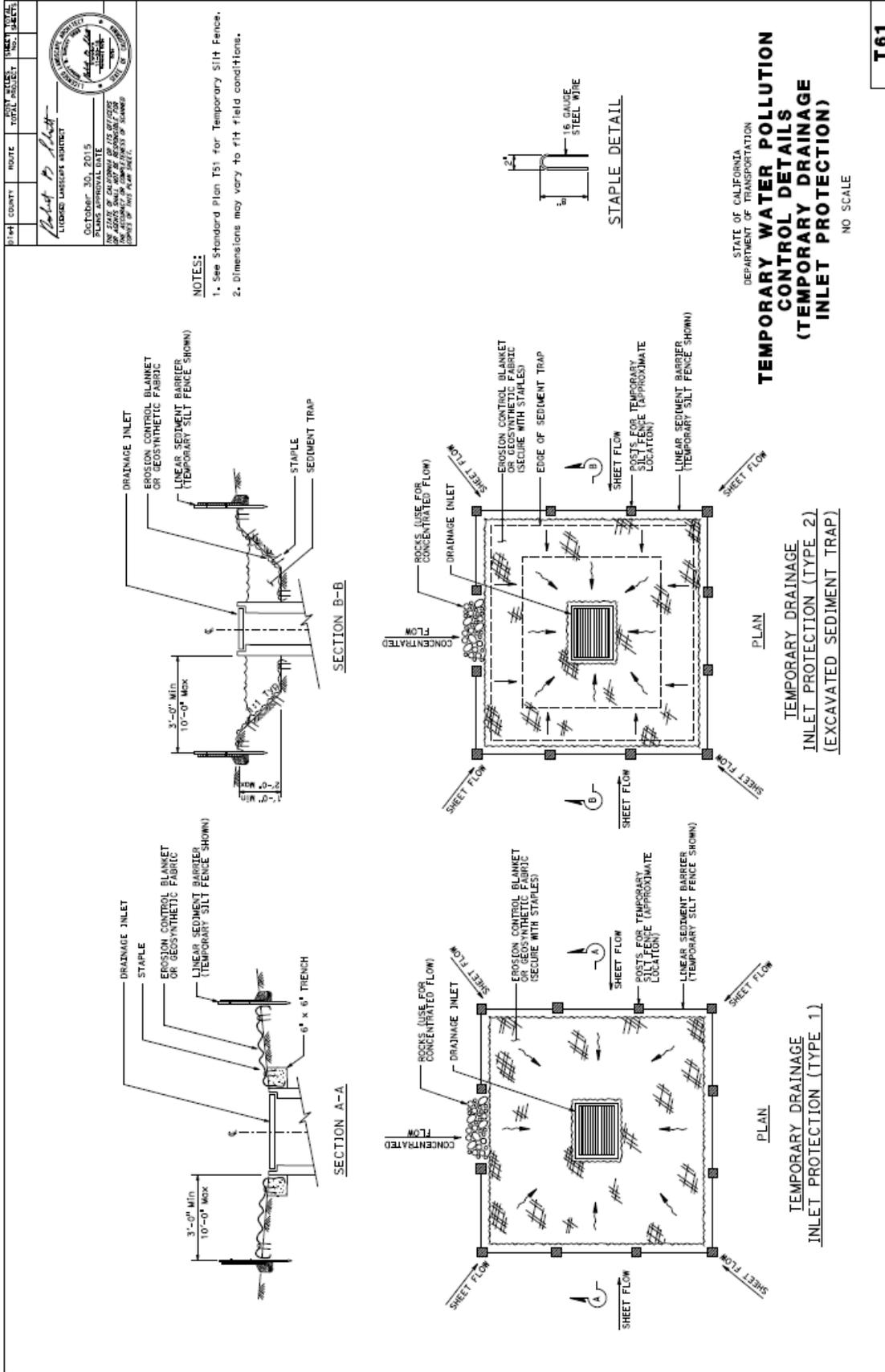
- Check barrier and gravel-filled bags for proper arrangement and displacement.
- Remove the sediment behind the barrier when it reaches one-third the height of the barrier.

- SWPPP or WPCP
- Temporary Drainage Inlet Protection must be discussed in Section 500.3.2 of SWPPP and/or Section 30.2.2 of the WPCP. Temporary Drainage Inlet Protection placement type must be shown on the WPCDs and reflect site temporary conditions.

Temporary Drainage Inlet Protection

SC-10

2015 STANDARD PLAN T61



Temporary Drainage Inlet Protection

SC-10

DATE	COUNTY	ROUTE	POST MILE	SHEET NO.	TOTAL SHEETS
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Project to Submit

October 30, 2015

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SLOPE OF ROADWAY (PERCENT)	0 TO 0.9	1 TO 1.3	2 TO 2.9	3 TO 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	25'	20'	15'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'

SECTION FLEXIBLE SEDIMENT BARRIER DETAIL (FOAM BARRIER SHOWN)

Labels: GEOSYNTHETIC FABRIC COVER, FOAM CORE (TRIANGULAR SHOWN), CONCRETE NAIL, PAVEMENT SURFACE, FLOW, ADHESIVE BEADS.

SECTION A-A

Labels: DRAINAGE INLET, TRENCH AND EMBEDDED EROSION CONTROL FABRIC ADJACENT TO DRAINAGE INLET (SEE NOTE 5), STAPLE OR GEOSYNTHETIC FABRIC, EROSION CONTROL BLANKET (FIBER ROLL SHOWN), LINEAR SEDIMENT BARRIER (FIBER ROLL SHOWN), MULCH OR OTHER SOIL STABILIZATION PRACTICE, 6" x 6" TRENCH.

PERSPECTIVE

Labels: FLEXIBLE SEDIMENT BARRIER MUST BE INSTALLED FLUSH AGAINST CURB OR DIKE FACE, ANGLE LEADING EDGE OF HORIZONTAL FLAP TO CURB OR DIKE FACE WITH ADHESIVE, INSTALL CONCRETE NAIL WITH WASHER AT LEADING EDGE OF HORIZONTAL FLAP, ANGLE FROM FACE OF CURB (SEE TABLE), ADHESIVE TO BE APPLIED WITH 1/8" AND TRAILING EDGES OF HORIZONTAL FLAP.

PLAN

Labels: TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4B) FLEXIBLE SEDIMENT BARRIER, ROADWAY, FLOW, 10'-0" Min, 3'-0" Min, 3'-0" Min, 4'-0" Min, 4'-0" Min FROM EDGE OF TRAVELED WAY, LINEAR SEDIMENT BARRIER (GRAVEL BAG BERM SHOWN), FLEXIBLE SEDIMENT BARRIER (FOAM BARRIER SHOWN), ANGLE (SEE TABLE), LENGTH (SEE TABLE).

PLAN

Labels: TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A), CONCENTRATED FLOW, DRAINAGE INLET, LIMIT OF DRAINAGE INLET PROTECTION, SHEET FLOW, CONCRETE APRON (IF PRESENT, SEE NOTE 4), WOOD STAKE FOR FIBER ROLLS SPACED 24" ON CENTER, POSITION WASTE AWAY FROM CONCENTRATED FLOW, SECURE EROSION CONTROL BLANKET WITH STAPLES (SEE NOTE 3), LINEAR SEDIMENT BARRIER (FIBER ROLL SHOWN), MULCH OR OTHER SOIL STABILIZATION PRACTICE.

STAPLE DETAIL

Labels: STAPLE, 1/8" GAUGE STEEL WIRE.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

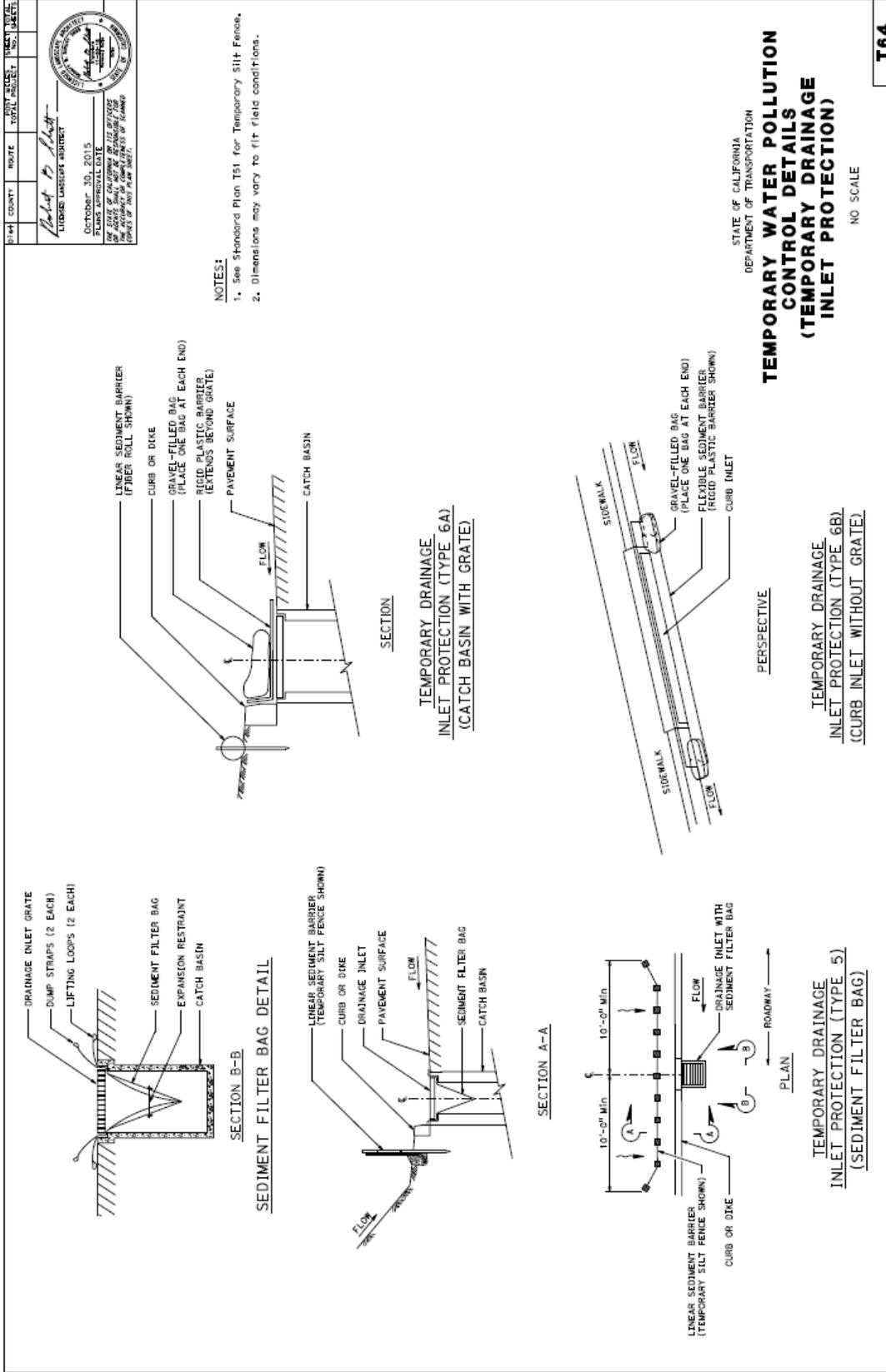
T 63

NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric to edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric to be protected adjacent to the drainage inlet is vegetated.

Temporary Drainage Inlet Protection

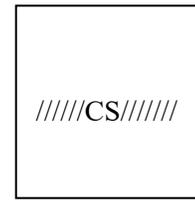
SC-10



Temporary Drainage Inlet Protection

SC-10

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose**
- Compost socks are a mesh sock containing compost that act as three dimensional, biodegradable structures that intercept and filter sheet flow. Compost socks can filter runoff, retain sediment, and reduce sheet flow velocities. Compost socks may be used as either a temporary or permanent sediment control measure.
- Appropriate Applications**
- Compost socks may be applied as both temporary and permanent sediment controls.
 - Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
 - Along the perimeter of a project.
 - As check dams in unlined ditches.
 - Down-slope of exposed soil areas.
 - At operational storm drains as a form of inlet protection.
 - Around temporary stockpiles.
- Limitations**
- Compost can potentially leach nutrients into runoff and negatively affect water quality. Compost should not be used directly upstream from a nutrient-impaired water body.
 - Compost socks are susceptible to damage by traffic. Compost socks may be used around heavy machinery, but frequent disturbance decreases sock performance.
- Standards and Specifications**
- General Requirements**
- Compost socks must comply with Standard Specifications 21-2.02Q and 21-2.03Q.

- Compost for compost socks must comply with Standard Specifications Section 21-2.02K, except the particle size must be for coarse compost.
- Compost sock installation is illustrated in Standard Plan H51.
- Compost socks consist of a 12-inch diameter mesh tube that is filled with compost. The mesh tube must be composed of a natural biodegradable product such as cotton, jute, sisal, burlap, or coir. The mesh tube must be clean, evenly woven, and free of encrusted concrete or other contaminating materials, cuts, tears, broken or missing yarns, and thin, open, or weak places.
- Compost socks must have a functional longevity of one year.

Installation

- Before installing compost sock, remove obstructions from the ground including rocks, clods, and debris greater than 1 inch in diameter.
- For any 20-foot section of compost sock, prevent the compost sock from varying more than 5 percent from level.
- Use the following spacing unless otherwise noted on the project plans or special provisions:
 - 10 feet apart for slopes steeper than 2:1 (H:V)
 - 15 feet apart for slopes from 2:1 to 4:1 (H:V)
 - 20 feet apart for slopes from 4:1 to 10:1 (H:V)
 - 50 feet apart for slopes flatter than 10:1 (H:V)
- Place mesh tube, secure the end, and fill uniformly with compost. Secure the remaining end.
- For Type 1 installations:
 - Place in a furrow that is from 2 to 4 inches deep.
 - Fasten with wood stakes every 4 feet along the length of the compost sock.
 - Fasten the ends of the compost sock by placing a stake 6 inches from the end of the sock.
 - Drive the stakes into the soil so the top of the stake is less than 2 inches above the top of the compost sock.
- For Type 2 installations:
 - Fasten with notched wood stakes and rope.
 - Drive stakes into the soil until the notch is even with the top of the compost sock.
 - Lace the rope between stakes and over the compost sock. Knot the rope at each stake.

- Tighten the fiber roll to the surface of the slope by driving the stakes further into the soil.

- If more than one compost sock is placed in a row, the socks should be overlapped; not abutted. Stagger overlapping joints in adjacent rows by 5 to 10 feet.

Removal

- For permanent installations: do not remove compost socks. Compost socks will degrade over time.
- For temporary installations: remove sock, rope and stakes if ordered by the RE. Cut sock and empty contents in place.

Other Considerations

- Compost may be pre-seeded before placement into the mesh tube to assist in establishing vegetation. Once established, vegetation root systems provide additional soil stability and runoff filtration.
- Permanent compost sock applications are particularly advantageous below embankments, especially adjacent streams, by limiting re-entry and the disturbance to sensitive areas.
- Organic material in compost is important for pollutant removal and vegetation establishment. Organic content of the compost should range from 30 to 65% depending on site conditions.

Maintenance and Inspection

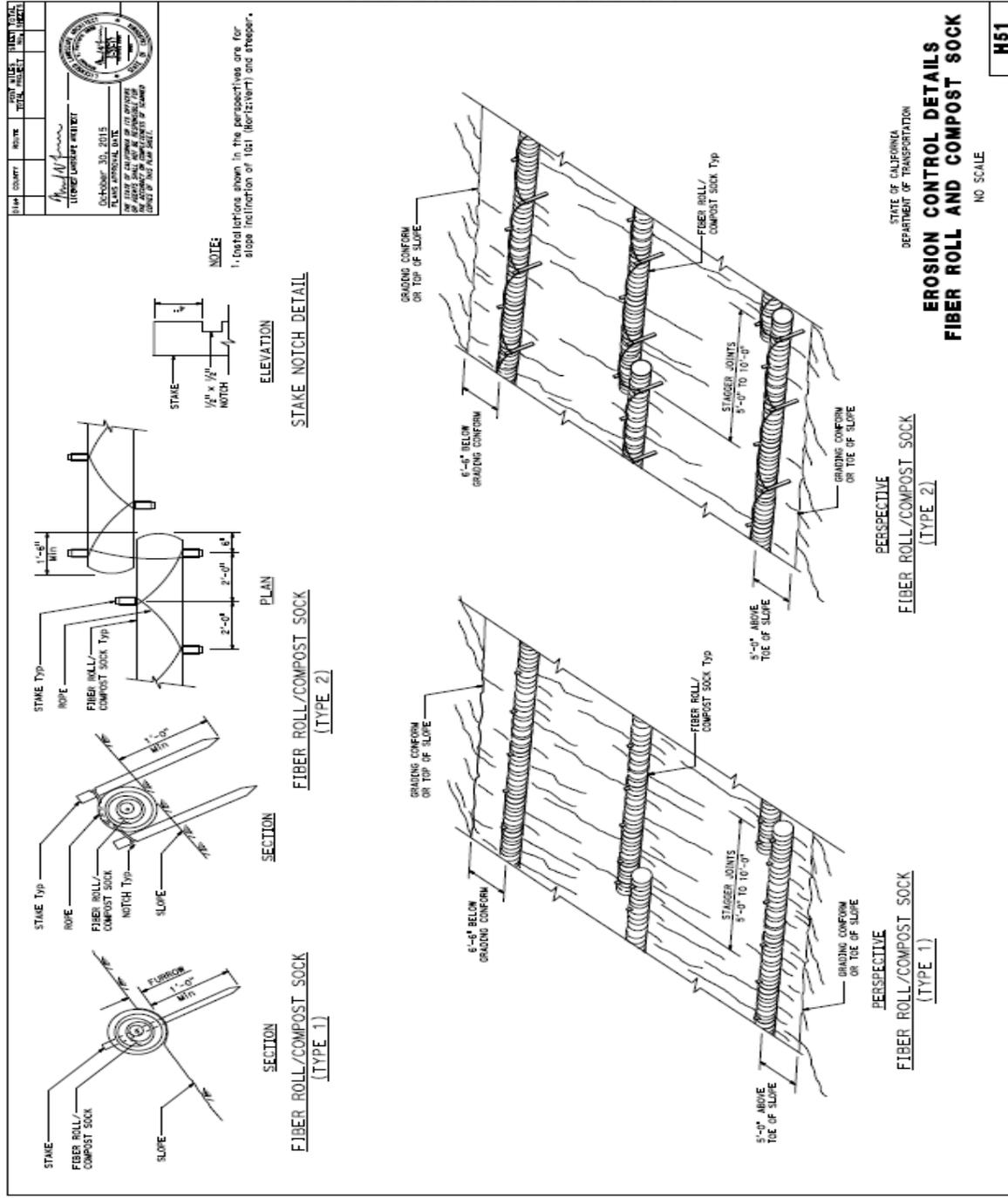
- Inspect compost socks before and after each rainfall event, and weekly year round.
- Remove sediment from behind the compost sock if sediment is 1/3 of compost sock height above ground.
- Repair or adjust the compost sock if rills or other evidence of concentrated runoff occur beneath the sock.
- Repair or replace compost socks if they become split, torn, or unraveled.
- Add stakes if the compost sock slumps or sags.
- Replace broken or split wood stakes.
- Maintain compost socks to provide an adequate sediment holding capacity and runoff velocity reduction.

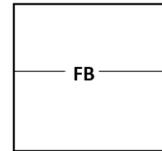
SWPPP or WPCP

- Compost Socks must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.

Compost Socks

SC-11





Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose**
- Flexible sediment barriers are synthetic alternatives to fiber rolls, compost socks, and straw bale barriers. Flexible sediment barriers consist of a geosynthetic fabric with a urethane foam-filled core and a fabric apron that helps to prevent undermining and scour. These synthetic linear sediment barriers are generally more robust sediment controls than standard fiber rolls, and may be appropriate for continuous use in stormwater collection areas.
- Appropriate Applications**
- Along the perimeter of a project.
 - As check dams in ditches, channels, or other stormwater collection areas.
 - Down-slope of exposed soil areas.
 - At operational storm drains as a form of inlet protection.
 - Around temporary stockpiles.
 - On either paved surfaces or soil.
 - As a linear sediment control for SC-10 “Temporary Drain Inlet Protection.”
- Limitations**
- Frequent maintenance is required if sediment-laden discharges are upstream of the BMP to maintain it operational.
- Standards and Specifications**
- General Requirements**
- Flexible sediment barriers must comply with Standard Specifications Sections 13-10.02I and 13-10.03H.
 - Flexible sediment barriers consist of:
 - A urethane foam-filled core.
 - Geosynthetic fabric cover and flap.
 - Triangular, circular, or square cross section.
 - Vertical height of at least 5 inches after installation.

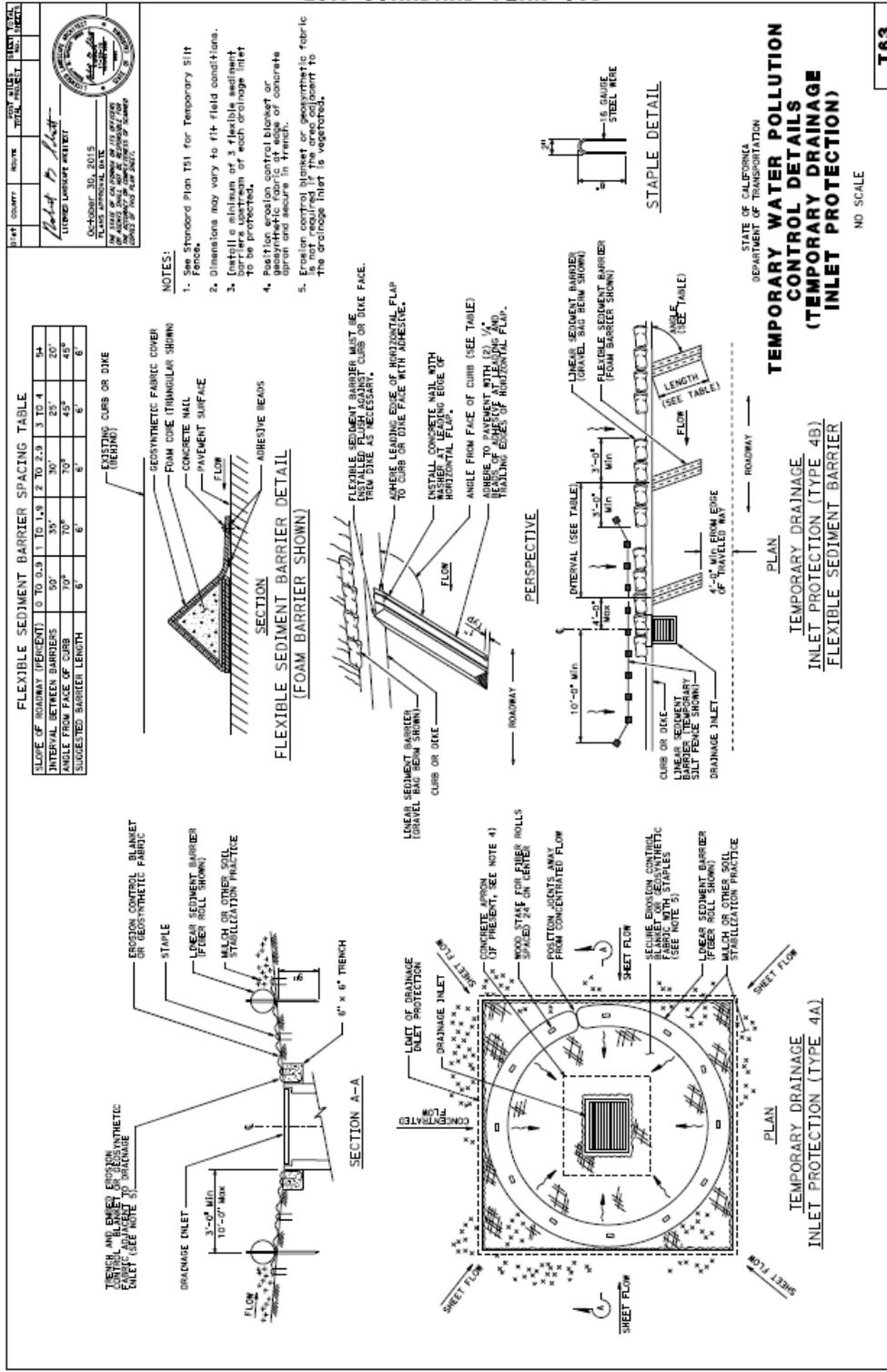
- Horizontal flap at least 8 inches in width.
- Length of at least 4 feet per unit.
- Ability to interlock separate units into a long barrier such that water will not flow between units.
- Geosynthetic fabric for flexible sediment barriers covers must have:
 - Minimum grab break load of 200 lbs., per ASTM D4632.
 - Minimum apparent elongation of 15%, per ASTM D4632.
 - Average water flow rate of 100-150 gallons per minute per square foot, per ASTM D4491.
 - Minimum permittivity of 0.05 1/sec, per ASTM D4491.
 - Maximum apparent opening size of the 40 U.S. standard sieve size, per ASTM D4751.
 - Minimum ultraviolet radiation resistance of 70% retained grab breaking load at 500 hours of exposure, per ASTM D4355.
- Submit a certificate of compliance for flexible sediment barriers.

Installation

- Remove obstructions, including rocks, clods, and debris greater than 1 inch in diameter, from the ground.
- Secure flexible sediment barriers to pavement with:
 - 1-inch concrete nails, 1-inch washers, and solvent-free adhesive,
 - Gravel-filled bags, or
 - A combination of both of the above methods.
- Secure flexible sediment barriers to soil with 6-inch nails and 1-inch washers.
- Secure connection points of two adjacent sections of flexible sediment barriers with 2 nails.
- Do not pierce the foam core of the barrier with nails.
- Inspect flexible sediment barriers before and after each rainfall event, and weekly year round.
- Maintain a flexible sediment barriers to provide sediment-holding capacity and to reduce concentrated flow velocities.
- Repair or adjust the flexible sediment barriers if rills or other evidence of concentrated runoff occur beneath it.
- Repair or replace split, torn, or unraveled material. Add or replace posts, stakes, or fasteners as needed to prevent sagging or slumping.

Maintenance and Inspection

- Reattach any flexible sediment barriers that detaches from the pavement.
 - Remove sediment deposits if the sediment exceeds 1/3 of the height above the ground behind a foam barrier.
- SWPPP or WPCP
- Remove Flexible sediment barriers must be discussed in Section 500.3 of the SWPPP or Section 30.2 of the WPCP.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

Section 5

Wind Erosion Control BMP

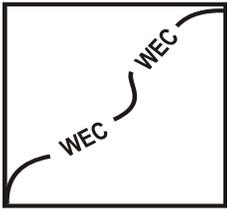
5.1 Wind Erosion Control

Wind erosion control consists of applying water or other dust palliatives as necessary to prevent or alleviate dust nuisance. Wind erosion control BMPs are shown in Table 5-1.

Table 5-1. Wind Erosion Control BMPs	
ID	BMP Name
WE-1	Wind Erosion Control

Other BMPs that are sometimes applied to disturbed soil areas to control wind erosion are BMPs SS-3 through SS-7, shown in Section 3 of this Manual; BMP TC-2, shown in Section 6; and BMP NS-7, shown in the Section 7. The remainder of this Section describe the working details for the Wind Erosion Control BMP.

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input checked="" type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose**
- Wind erosion control consists of applying water or other dust palliatives as necessary to prevent or alleviate erosion by the forces of wind. Dust control must be applied in accordance with Caltrans standard practices. Covering of small stockpiles or areas is an alternative to applying water or other dust palliatives; see SS-7 for “Temporary Cover and Rolled Erosion Control Products”
 - Must comply with local agencies such as Air Quality Management District’s requiring dust control plans or dust control permits as well as any Air Clean Act requirements.
- Appropriate Applications** This practice is generally implemented on all exposed soils subject to wind erosion.
- Limitations**
- Effectiveness depends on soil, temperature, humidity and wind velocity.
 - Chemically treated subgrades could cause soil to become water repellant, preventing infiltration or the long-term re-vegetation of the site.
- Standards and Specifications** Standard Specification Section 10-5 contains general requirements for “Dust Control.”
- Effective dust control is accomplished by applying dust palliatives, temporary Soil Stabilization BMPs, Tracking Controls and managing stockpiles.
 - “Dust Palliatives” are covered under Section 18 of the Standard Specifications. Acceptable dust palliatives include water, dust control binders, and dust suppressants. Dust control binders must comply with specifications for tackifier. Dust suppressants include petroleum-based organic product, nonpetroleum-based organic product, hygroscopic product, and synthetic polymer emulsion.

- If a dust suppressant or tackifier is used, submit a Dust Treatment Plan. Submit a certificate of compliance for dust suppressants, tackifiers, and fibers.
 - Identify and stabilize key access points with the use of Tracking Control BMPs.
 - Minimize the impact of dust by anticipating the direction of prevailing winds.
 - Temporary soil stabilization BMPs, such as SS-3 “Hydraulic Mulch”, SS-4 “Hydroseed, SS-5 “Soil Binders, also provide wind erosion control benefits.
 - Ensure proper implementation of BMPs WM-3, “Stockpile Management,” and SC-7, “Street Sweeping,” as these BMPs provide wind erosion control benefits.
 - Ensure that water is applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles to ensure even distribution.
 - All distribution equipment should be equipped with a positive means of shutoff.
 - Chemical dust suppression products could have environmental water quality impacts. Depending on the product and the time of application, water quality sampling for non-visible pollutants should be assessed when a storm even is forecasted.
 - For chemical or petroleum based organics stabilization, there are many products available. These products should not create any adverse effects on stormwater, plant life, groundwater and should meet all applicable regulatory requirements including inspection, documentation, monitoring and reporting requirements.
 - Unless water is applied by means of pipelines, at least one mobile unit should be available at all times to apply water or dust palliative to the project.
 - If reclaimed water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the RWQCB requirements. Non-potable water must not be conveyed in tanks or drain pipes that will be used to convey potable water and there must be no connection between potable and non-potable supplies. Non-potable tanks, pipes and other conveyances must be marked “NON-POTABLE WATER - DO NOT DRINK.”
 - Appendix B of this Manual includes additional information on selecting temporary soil stabilization products that could be used for Wind Erosion Control.
- Maintenance and Inspection**
- Check areas where wind erosion controls have been implemented daily for erosion and visible dust.
 - Most water-based dust control measures require frequent application. Obtain vendor or independent information on longevity of chemical dust suppression.

- SWPPP or WPCP ■ Wind Erosion Control must be discussed in Section 500.3.5 of the SWPPP or Section 30.2.4 of the WPCP.

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Section 6

Tracking Control BMP

6.1 Tracking Control

Tracking control consists of preventing or reducing vehicle tracking from entering a storm drain or watercourse. Tracking control BMPs are shown in Table 6-1.

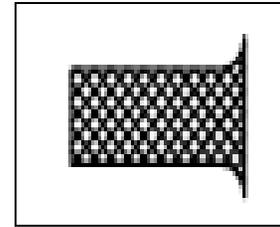
Table 6-1. Tracking Control BMPs	
ID	BMP Name
TC-1	Temporary Construction Entrance/Exit
TC-2	Temporary Construction Roadway
TC-3	Entrance/Outlet Tire Wash

The remainder of this section describe the working details for the tracking control BMPs.

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Temporary Construction Entrance/ Exit

TC-1



Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input checked="" type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** A temporary construction entrance/exit is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- Appropriate Applications**
- Where dirt or mud can be tracked onto public roads.
 - Adjacent to water bodies.
 - Where poor soils are encountered.
 - Where dust is a problem during dry weather conditions.
- Limitations**
- Site conditions will dictate design and need.
 - Limit the points of entrance/exit to the construction site.
 - Limit speed of vehicles to control dust.
- Standards and Specifications**
- General Requirements**
- Temporary construction entrance/exit must comply with Standard Specification Section 13-7.03 Temporary Construction Roadways and Entrances.
 - Corrugated steel panels must be pressed or shop welded. They should have a slot or hook for coupling the panels together.
 - Class 8 RSP fabric shall be used to line temporary construction entrance/exit. Do not drive on the fabric until the rock is spread. Repair damaged fabric by placing new fabric over the damaged area with at least an 18-inch overlap on all edges.

Temporary Construction Entrance/ Exit

TC-1

- Type A rock should be used for a Type 1 temporary construction entrance/exit. Type A rock must comply with Section 13-7.03B (2) of the Standard Specifications.
- Type B rock should be used for a Type 2 temporary construction entrance/exit. Type B rock must comply with Section 13-7.03B (2) of the Standard Specifications.
- Submit details for alternative construction entrances at least 5 business days before installation. This may include alternatives for the sump and corrugated steel panels or to eliminate the sump.

Installation

- Prepare the location for the temporary construction entrance/exit as follows:
 - Remove vegetation and clear debris.
 - Grade the ground to a uniform plane.
 - Remove sharp objects that could damage the fabric.
 - Compact the top 1.5 feet of soil to at least 90 percent relative compaction.
- Construct the temporary construction entrance/exit as follows (standard plans attached below):
 - Place the fabric along the length of the construction entrance/exit.
 - Overlap fabric ends by at least 12 inches.
 - Cover the fabric with rock within 24 hours.
 - Spread rock over the fabric in the direction of traffic.
 - Keep a 6-inch layer of rock over the fabric to prevent damage from the spreading equipment.
- For a Type 2 temporary construction entrance/exit, place rock under the corrugated steel panels. Use at least 6 corrugated steel panels for each entrance. Couple the panels together to prevent movement.
- If a sump is used, install it within 20 ft of the temporary construction entrance/exit.

Other Considerations

- Implement BMP SC-7, “Street Sweeping” as required under Section 13-4.03F and 13-7 of the Standard Specifications.
- Require all employees, subcontractors, and suppliers to utilize the temporary construction entrance/exit. If the construction entrance/exit has metal plates as part of the BMP, all vehicles must be required to utilize them.
- Route runoff from temporary construction entrances/exits through a sediment-trapping device before discharge.



Temporary Construction Entrance/ Exit

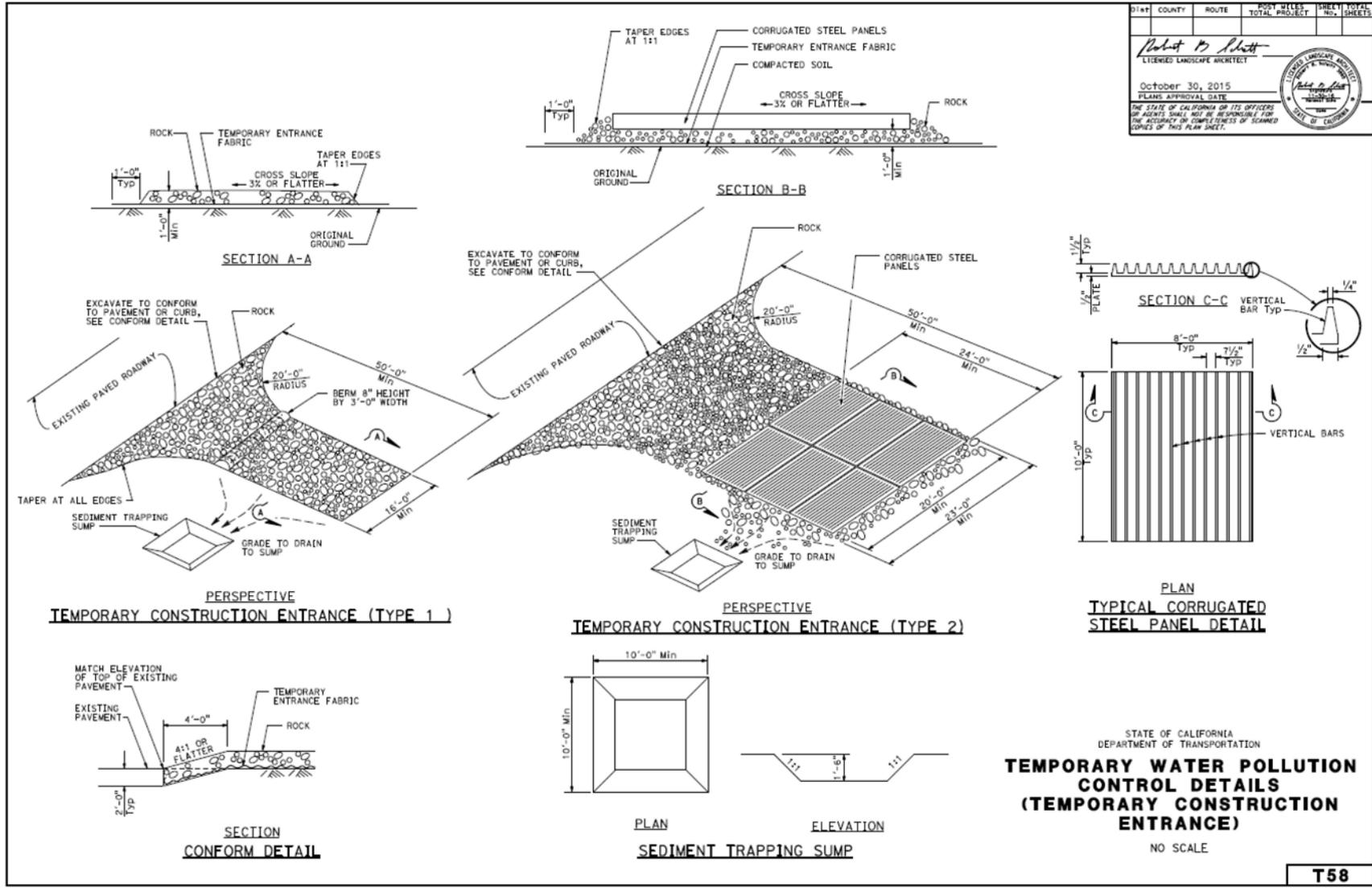
TC-1

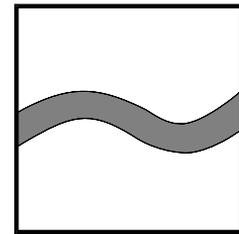
- Design a temporary construction entrance/exit to support the heaviest vehicles and equipment that will use it.
 - The use of asphalt concrete (AC) grindings is not allowed (high potential for leaching hydrocarbons) unless it complies with Section 6.8 of the 2016 Caltrans SWMP. Designate combination or single purpose entrances and exits to the construction site to maintain smooth flow of traffic.
- Maintenance and Inspection
- Inspect before and after each rainfall event, and weekly year round.
 - Inspect immediate site access roads daily, implement SC-7, “Street Sweeping” as needed.
 - Remove aggregate, separate, and dispose of sediment if temporary construction entrance is clogged with sediment.
 - Keep all temporary construction entrance/exit ditches clear.
- SWPPP or WPCP
- Tracking Control BMPs are to be included and discussed in section 500.3.4 or Section 600.2¹ for SWPPP and Section 30.2.3 of the WPCP.

¹Section 600.2 for the LTCGP SWPPP

Temporary Construction Entrance/ Exit

TC-1





Standard Symbol

BMP Objectives	
Soil Stabilization	<input checked="" type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input checked="" type="checkbox"/>
Wind Erosion Control	<input checked="" type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose A temporary construction roadway is a stabilized access road. It is designed for the control of dust and erosion created by vehicular tracking.

- Appropriate Applications**
- Use construction roadways and short-term detour roads:
 - Where mud tracking is a problem during wet weather.
 - Where dust is a problem during dry weather.
 - When road is adjacent to water bodies.
 - Where poor soils are encountered.
 - Where there are steep grades and additional traction is needed.

- Limitations**
- Materials will likely need to be removed prior to final grading and stabilization.
 - Site conditions will dictate design and need.
 - May not be applicable to very short duration projects.
 - Limit speed of vehicles to control dust.

Standards and Specifications **General Requirements**

- Refer to Standard Specification Section 13-7.03 for temporary roadway standards.
- Class 10 RSP fabric must be used to line temporary construction roadways. Do not drive on the fabric until the rock is spread. Repair damaged fabric by placing new fabric over the damaged area with at least an 18-inch overlap on all edges.
- Type A or Type B rock may be used for temporary construction roadways. Type A and B rock must comply with Standard Specifications Section 13-7.03B(2). Coordinate materials with those used for stabilized construction entrance. Refer to TC-1, “Temporary Construction Entrance/Exit.”
- The use of cold mix asphalt, AC grindings, or blast furnace slag for stabilized construction roadway is not allowed (high potential to leach hydrocarbons) unless it complies with Section 6.8 of the 2016 Caltrans SWMP.

Installation

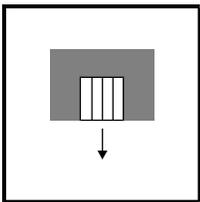
- Prepare the location for the temporary roadway as follows:
 - Remove vegetation and clear debris.
 - Grade the ground to a uniform plane.
 - Grade the ground surface to drain in a way that prevents runoff from leaving the construction site.
 - Remove sharp objects that could damage the fabric.
 - Compact the top 1.5 feet of soil to at least 90% relative compaction.
- Construct the temporary construction roadway as follows (standard plans attached below):
 - Place the fabric along the length of the roadway.
 - Overlap fabric ends by at least 12 inches.
 - Cover the fabric with rock within 24 hours.
 - Spread rock over the fabric in the direction of traffic.
 - Keep a 6-inch layer of rock over the fabric to prevent damage from the spreading equipment.

Other Considerations

- Design stabilized access to support the heaviest vehicles and equipment that will use it.
 - Implement TC-1 “Temporary Construction Entrance/Exit” and TC-3 “Entrance/Outlet Tire Wash” in combination with temporary construction roadway for maximum tracking control.
- Maintenance and Inspection
- Inspect before and after each rainfall event, and weekly year round.
 - Inspect immediate site access roads daily, implement SC-7, “Street Sweeping” as needed.
 - Keep all temporary roadway ditches clear.
 - When no longer required, remove stabilized construction roadway and re-grade, re-vegetate and repair slopes.
- SWPPP or WPCP
- Tracking Control BMPs are to be included and discussed in Section 500.3.4 or Section 600.2 SWPPP¹ or Section 30.2.3 of the WPCP.

¹ Section 600.2 for the LTCGP SWPPP

Temporary Entrance/Outlet Tire Wash TC-3



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input checked="" type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- | | |
|-------------------------------------|--|
| Definition and Purpose | A tire wash is an area located at stabilized construction access points to remove sediment from tires and undercarriages, and to prevent sediment from being transported onto public roadways. |
| Appropriate Applications | <ul style="list-style-type: none"> ■ Tire washes may be used on construction sites where construction vehicles may track dirt and mud onto public roads. ■ This BMP may be implemented on a project-by-project basis with other BMPs when determined necessary and feasible by the RE. |
| Limitations | <ul style="list-style-type: none"> ■ Requires a supply of wash water and way to collect or capture tire wash area runoff. ■ Requires a turnout or doublewide exit to prevent entering vehicles from driving through the wash area. |
| Standards and Specifications | <ul style="list-style-type: none"> ■ Require all employees, subcontractors, and others that leave the site with mud-caked tires and/or undercarriages to use the wash facility. ■ Incorporate with a temporary construction entrance/exit. See TC-1, “Temporary Construction Entrance/Exit.” ■ Construct on level ground when possible, on a pad of Type A or Type B rock. Either Class 8 or 10 RSP fabric should be placed below the rock. ■ Wash rack must be designed and constructed/manufactured for anticipated traffic loads. ■ Vehicle wash water is non-stormwater that requires management and disposal. See NS-8, “Vehicle and Equipment Cleaning.” ■ Provide a drainage ditch that will convey the runoff from the wash area to a sediment trapping device or similar device. The drainage ditch should be of sufficient grade, width, and depth to carry the wash runoff. ■ Implement BMP SC-7, “Street Sweeping” as needed. |

Maintenance and Inspection

- Refer to TC-1, “Temporary Construction Entrance/Exit,” for details regarding design and installation of construction entrance and exits to the project site.
- Inspect before, daily during extended rain events, after each rain event, and weekly year round.
- Inspect immediate site access roads daily, implement SC-7, “Street Sweeping” as needed.
- Remove accumulated sediment in wash rack and/or sediment trap to maintain system capacity and performance.
- Inspect routinely for damage and repair as needed. Document non-stormwater (sediment trapping device or similar device) in appropriate inspection form.

SWPPP or WPCP

- Temporary Entrance/Outlet Tire Wash is to be included and discussed in section 500.3.4 or Section 600.2¹ for a SWPPP or Section 30.2.3 of the WPCP.

¹ Section 600.2 applies for the LTCGP SWPPP

Section 7

Non-Storm Water Management BMP

7.1 Non-Storm Water Management

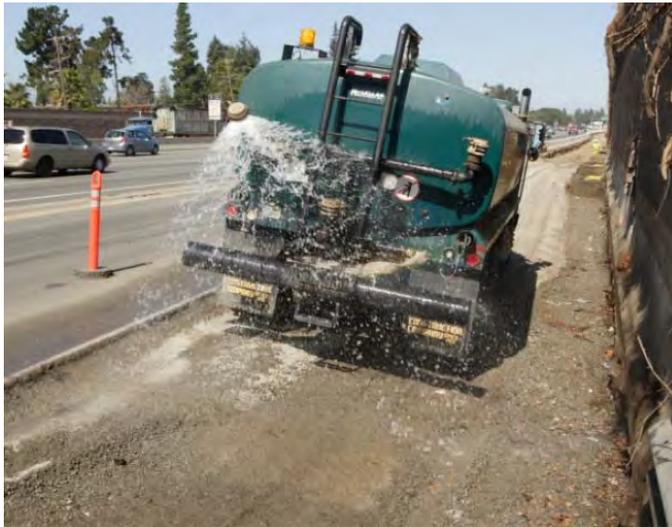
Non-stormwater management (BMPs) are source control BMPs that prevent pollution by limiting or reducing potential pollutants at their source before they come in contact with stormwater. These practices involve day-to-day operations of the construction site and are usually under the control of the Contractor. These BMPs are also referred to as “good housekeeping practices”, which involve keeping a clean, orderly construction site.

Table 7-1 lists the non-stormwater management BMPs. It is important to note that all these BMPs have been approved by Caltrans for statewide use and they must be implemented depending on the conditions/applicability of deployment described as part of the BMP.

Table 7-1. Non-Stormwater Management BMPs	
ID	BMP Name
NS-1	Water Conservation Practices
NS-2	Dewatering Operations
NS-3	Paving, Sealing, Sawcutting and Grinding Operations
NS-4	Temporary Stream Crossing
NS-5	Clear Water Diversion
NS-6	Illegal Connection and Illicit Discharge Detection and Reporting
NS-7	Potable Water/Irrigation
NS-8	Vehicle and Equipment Cleaning
NS-9	Vehicle and Equipment Fueling
NS-10	Vehicle and Equipment Maintenance
NS-11	Pile Driving Operations
NS-12	Concrete Curing
NS-13	Material and Equipment Use Over Water
NS-14	Concrete Finishing
NS-15	Structure Demolition/Removal Over or Adjacent to Water

The remainder of this Section describe the working details for each of the non-stormwater management BMPs.

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose Water conservation practices are construction methods that minimize the use of water onsite or use water in a manner that avoids causing runoff, erosion and/or the discharge of pollutants to the storm drain system or receiving waters. Proper utilization of this BMP reduces or prevents non-stormwater discharges.

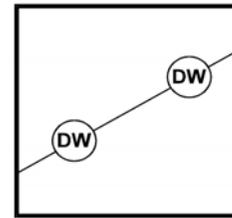
Appropriate Applications Water conservation practices are implemented on all construction sites wherever water is used.

Limitations

- If not implemented correctly, discharges may trigger reporting and monitoring requirements and delay construction work.

- Standards and Specifications**
- Keep water equipment in good working condition.
 - Ensure tracking controls are implemented in, near and around water truck filling areas.
 - Repair water leaks promptly.
 - Authorization is required for activities that could potentially discharge water into a storm drain system or receiving waters.
 - Avoid using water to clean construction areas. Do not wash paved areas with water. Paved areas and roadways should be swept and vacuumed in accordance with SC-7 “Street Sweeping.”
 - Apply water for dust control in accordance with Standard Specifications Section 10-4 Water Usage and BMP WE-1, “Wind Erosion Control.”
 - Direct construction water runoff to areas where it can infiltrate into the ground or be collected and reused.
 - Manage run-on to minimize contact with job site.

- Retain water spilled while filling water trucks within the designated water truck filling areas. Prevent tracking from water trucks and other equipment.
 - Report discharges to the RE and the WPC Manager immediately.
- Maintenance and Inspection
- Inspect water equipment areas at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
 - Inspect non-stormwater BMPs daily when non-stormwater operations are ongoing.
 - Repair water equipment as needed.
- SWPPP or WPCP
- Water Conservation Practices must be discussed in Section 500.3.5 of the SWPPP or Section 30.3.1 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** Dewatering Operations are practices that manage the discharge of pollutants when non-stormwater and accumulated precipitation (stormwater) must be removed from a work location so that construction work may be accomplished.
- Appropriate Applications**
- These practices are implemented for the collection and discharge of non-stormwater and stormwater (accumulated rain water) from excavations or temporary containment facilities. Non-stormwater includes, but is not limited to, groundwater, dewatering of piles, water from cofferdams, water diversions, and water used during construction activities that must be removed from a work area.
 - Practices identified in this section are also appropriate for implementation when managing the removal of accumulated precipitation (stormwater) from depressed areas at a construction site.
 - Stormwater mixed with non-stormwater should be managed as non-stormwater.
- Limitations**
- Dewatering operations for non-stormwater will require, and must comply with, applicable local permits, project-specific permits, and regulations.
 - Site conditions will dictate design and use of dewatering operations.
 - Avoid dewatering discharges where possible by infiltrating, reusing the water for dust control, etc.
- Standards and Specifications**
- General Requirements**
- Dewatering shall be conducted in accordance with the Caltrans Field Guide to Construction Site Dewatering Manual and Standard Specification Section 13-4.03C
 - A dewatering and discharge work plan shall be submitted at least 15 days before the start of dewatering activities detailing the location of dewatering and discharge activities, quantity of water, equipment, and discharge point. The dewatering and discharge work plan must conform to Standard Specifications Section 13-4.01C.

- Dewatering discharges must not cause erosion, scour, or sedimentation that could impact natural bedding materials.
- Discharge the water within the project limits. Dispose of the water if it cannot be discharged within project limits due to site constraints or contamination.
- Do not discharge stormwater or non-stormwater that has an odor, discoloration other than sediment, an oily sheen, or foam on the surface. Immediately notify the RE upon discovering any such condition.
- The RWQCB may require a separate NPDES permit for a dewatering operation. These permits will have specific testing, monitoring, and discharge requirements.
- Discharges must comply with regional and watershed-specific discharge requirements.
- Additional permits or permissions from other agencies may be required for dewatering cofferdams or diversions.
- Dewatering records shall be kept with the SWPPP or WPCP and maintained for a minimum of 3 years after the construction project is terminated.
- The controls discussed in this BMP address sediment only. If the presence of polluted water with hazardous substances is identified in the contract, the contractor shall implement dewatering pollution controls as required by the contract documents. If the quality of water to be removed by dewatering is not identified as polluted in the contract documents, but is later determined by observation or testing to be polluted, the contractor shall notify the RE and comply with Standard Specifications Section 4-1.06, "Differing Site Conditions."

Sediment Treatment

- A variety of methods can be used to treat water during dewatering operations from the construction site. The size of particles present in the sediment and/or RWQCB Dewatering Permit or receiving water limitations on sediment are key considerations for selecting sediment treatment option(s); in some cases, the use of multiple devices may be appropriate.
- Refer to the Sediment Treatment Options described in Appendix B of the Field Guide to Construction Site Dewatering to determine the optimal method to achieve sediment removal.
- Refer to the applicable project dewatering and/or stormwater permit for monitoring and sampling forms and requirements.
- Inspect dewatering operation areas at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
- Accumulated sediment removed during the maintenance of a dewatering device may be disposed of outside the right-of-way in conformance with Standard Specifications Section 14-10 Solid Waste Disposal and Recycling.
- Accumulated sediment that is commingled with other pollutants must be disposed of in accordance with all applicable laws and regulations.

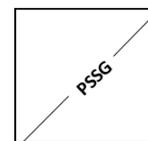
Maintenance and Inspection

- The WPC Manager must take immediate action to prevent non-stormwater discharges from being discharged.
- SWPPP or WPCP
- Dewatering Operations must be discussed in Section 500.4.1 of SWPPP and specific sample collection, collection and parameters in Section 700.2.3.1 if required by a specific RWQCB Dewatering Permit or Section 30.3.1 of the WPCP.

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Paving, Sealing, Sawcutting, and Grinding Operations

NS-3



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose Procedures and practices for conducting paving, sealing, sawcutting, and grinding activities to minimize the transport of pollutants to the storm drain system or receiving water body.

Appropriate Applications These procedures are implemented where operations such as paving, surfacing, resurfacing, grinding, coring, grooving, sealing and sawcutting generate spoils, residue, or process water that may pollute storm water runoff or discharge to the storm drain system or receiving water body.

- Limitations**
- Activities related to paving, sealing, sawcutting, grooving, and grinding operations should be limited when precipitation is forecasted to prevent the triggering for visible and non-visible pollutant monitoring.
 - Discharges of freshly paved surfaces can raise pH and trigger permit violations.

Standards and Specifications **General Requirements**

- Refer to Standard Specifications Section 13-4.03E (7) Paving, Sealing, Sawcutting, Grooving, and Grinding Activities.
- Do not allow the following materials to enter storm drain system and receiving waters: cementitious material, asphaltic material, aggregate or screenings, sawcutting, grooving, and grinding residue, pavement chunks, shoulder backing, methacrylate resin, and sandblasting residue. This list is not exhaustive.
- Drainage inlets shall be protected and linear sediment barriers (such as silt fences, gravel bag berms, or fiber rolls) shall be used to protect receiving waters during operations related to paving, sealing, sawcutting, or grinding.

Paving, Sealing, Sawcutting, and Grinding Operations

NS-3

- Drainage inlets and manholes shall be protected during application of seal coat, tack coat, slurry seal, and/or fog seal. Refer to SE-10, “Temporary Drainage Inlet Protection.”
- Whenever precipitation is forecasted, limit paving, sawcutting, and grinding to places where runoff can be captured. Grinding or grooving of pavement shall not be conducted when precipitation is forecasted unless runoff can be captured.
- Seal coat, tack coat, slurry seal, or fog seal shall not be applied when precipitation is forecasted during the application or curing period.
- Slurry shall be removed with a vacuum immediately after it is produced and shall be prevented from running off the pavement or into lanes open to traffic.
- The residue from grooving and grinding activities shall be collected with a vacuum attachment on the grinding machine and shall be prevented from flowing across the pavement. See also WM-8, “Concrete Waste Management,” and WM-10, “Liquid Waste Management.”
- Material removed from existing roadways may be stockpiled, if allowed, away from drainage inlets and receiving waters in accordance with BMP WM-3, “Stockpile Management” and Standard Specification 13-4.03C(3) Stockpile Management.
- Drip pans or absorbent materials shall be placed under paving equipment when not in use. Refer to WM-4, “Spill Prevention and Control.” Equipment shall be cleaned in accordance with NS-8, “Vehicle and Equipment Cleaning.”
- Do not coat asphalt trucks and equipment with substances that contain soap, foaming agents, or toxic chemicals.

Asphalt Concrete and Concrete Pavement Handling

- Prevent sand and gravel from entering streets, storm drains, and receiving waters.
- Substances used to coat asphalt transport trucks, asphalt trucks, and asphalt spreading equipment shall not contain soap, foaming agents, or toxic chemicals.
- Asphalt spoils must be recycled or disposed of in accordance with WM-5, “Solid Waste Management,” and/or WM-6, “Hazardous Waste Management.”
- AC and PCC grindings, pieces, or chunks approved by the RE for reuse in embankments or shoulder backing shall not be at risk of entering storm drain systems or receiving waters.
- Temporarily protect inlets and receiving waters until the structure is stabilized or permanent controls are in place.

Paving, Sealing, Sawcutting, and Grinding Operations

NS-3

- The reuse of AC or PCC grindings, pieces, or chunks as road base must be placed at least five feet above the seasonal high groundwater elevation with the approval of the RE. Shoulder backing containing Recycled Asphalt Pavement (RAP) shall not be placed within 100 feet measured horizontally from a culvert, watercourse, or bridge and must comply with the 2016 SWMP.
- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate must not be allowed to enter storm drains or receiving waters. Temporarily protect inlets and receiving waters until stabilized.
- Clean asphalt-coated equipment off-site whenever possible. When cleaning dry, hardened asphalt from equipment, manage hardened asphalt debris in accordance with WM-5, “Solid Waste Management,” and/or WM-6, “Hazardous Waste Management,” and NS-8 “Vehicle and Equipment Cleaning” whichever is applicable.
- Allow aggregate rinse to settle. Then, either allow rinse water to dry in a temporary pit as described in WM-8, “Concrete Waste Management,” or dispose in accordance with WM-5, “Solid Waste Management.”

Thermoplastic Striping and Pavement Markers

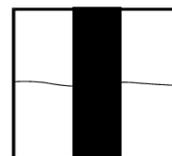
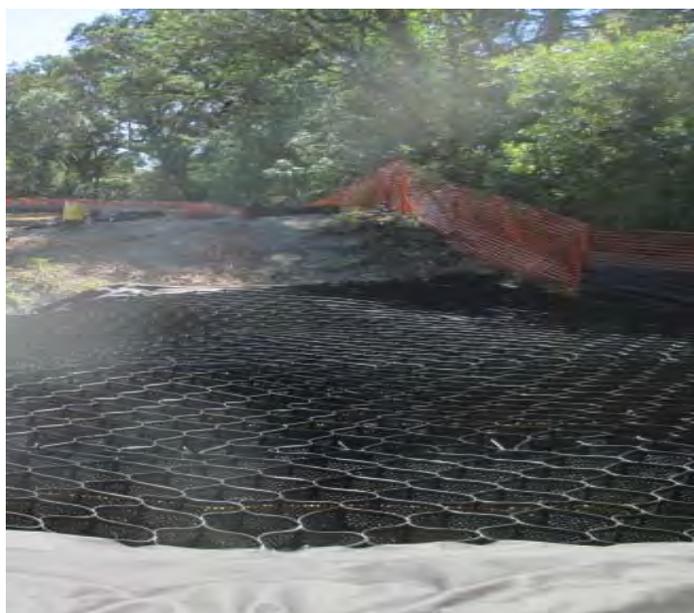
- Contractor shall not pre-heat, transfer, or load thermoplastic within 50 feet of drainage inlets or receiving waters.
- Do not unload, transfer, or load bituminous material for pavement markers within 50 feet of drainage inlets or receiving waters.
- All thermoplastic striper and pre-heater equipment shutoff valves shall be inspected to ensure that they are working properly to prevent thermoplastic from leaking.
- The pre-heater shall be filled carefully to prevent splashing or spilling of hot thermoplastic. Leave six inches of space at the top of the pre-heater container when filling thermoplastic to allow room for material to move when the vehicle is deadheaded.
- Melting tanks shall be loaded with care, a minimum of six inches of freeboard in case of splashing when vehicle is deadheaded. When servicing or filling melting tanks, ensure all pressure is released before removing lids to avoid spills.
- Immediately remove drips, overspray, improper markings, paint, and thermoplastic tracked by traffic with an authorized method.
- Collect and dispose of bituminous material from the roadway after removal of markers in accordance with WM-5, “Solid Waste Management.”

Paving, Sealing, Sawcutting, and Grinding Operations

NS-3

- Clean truck beds daily of loose debris and melted thermoplastic. When possible, recycle thermoplastic material. Thermoplastic waste shall be disposed of in accordance with BMP WM-5, “Solid Waste Management” and/or WM-6, “Hazardous Waste Management, as applicable.
- Maintenance and Inspection
- Inspect and maintain machinery and BMPs regularly to minimize leaks and drips.
 - Ensure that employees and subcontractors are implementing appropriate measures during paving operations.
 - If project operations trigger the IGP (industrial operations located within project limits regardless of whether the facility is within or outside Caltrans’ right-of-way and outside Caltrans’ right-of-way but within project limits), ensure that any run-on or run-off from IGP activities does not have potential to create pollution onto Caltrans right-of-way. Refer to 2016 SWMP Section 7.2 for additional guidance.
- SWPPP or WPCP
- Paving, Sealing, Sawcutting and Grinding Operations must be discussed in Section 500.4 of the SWPPP or Section 30.3.1 of the WPCP.





Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose A temporary stream crossing is a structure placed across a stream or water body that allows vehicles to cross during construction and minimize, reduce, or manage erosion and downstream sedimentation caused by the vehicles.

- Appropriate Applications**
- Where appropriate regulatory permits have been secured and requirements strictly followed.
 - Where construction equipment or vehicles need to frequently cross a waterway.
 - When alternate access routes impose significant constraints.
 - When crossing perennial streams or waterways causes significant erosion.
 - Where construction activities will not last longer than one year.

- Limitations**
- Typically, stream crossings require regulatory permits such as RWQCB 401 Certification, U.S. Army Corps of Engineers 404 permit and approval by California Department of Fish and Wildlife.
 - If numerical-based water quality standards are mentioned in any of these regulatory permits, monitoring and water quality sampling may be required and must comply with Standard Specification 13-1.01C (4) Water Quality Monitoring or the contract special provisions. If monitoring related to these numerical-based water quality standards is not addressed in the contract documents, contact the RE.
 - Ensure that project specific requirements from regulatory permits for the installation, removal or restoration of creek banks are fully implemented.
 - Will usually disturb the waterway during installation and removal.

- Installation may require dewatering or temporary diversion of the stream. See NS-2, “Dewatering Operations” and NS-5, “Clear Water Diversion.”
- May become a constriction in the waterway, which can obstruct flood flow and cause flow backups or washouts. If improperly designed, flow backups can increase the pollutant load through washouts and scouring.
- Use of natural or other gravel in the stream for construction of Cellular Confinement System (CCS) ford crossing will be contingent upon approval by fisheries agencies.
- Ford crossings may degrade water quality due to contact with vehicles and equipment.
- CCS should not be used in excessively high or fast flows.
- Upon completion of construction activities, CCS blocks must be removed from stream.

Standards and Specifications

General Considerations

Location of the temporary stream crossing shall address:

- Site selection where erosion potential is low.
- Areas where the side slopes from highway runoff will not spill into the side slopes of the crossing.

The following types of temporary stream crossings shall be considered:

- Culverts - Used on perennial and intermittent streams.
- Fords - Appropriate during the dry season in arid areas. Used on dry washes and ephemeral streams, and low flow perennial streams. CCS, a type of ford crossing is also appropriate for use in streams.
- Bridges - Appropriate for streams with high flow velocities, steep gradients and/or where temporary restrictions in the channel are not allowed.

Design and installation requires knowledge of stream flows and soil strength. Designs shall be prepared under direction of, and approved by, a registered civil and/or structural engineer. Both hydraulic and construction loading requirements shall be considered with the following:

- Comply with the requirements for culvert and bridge crossings, as contained in the Caltrans Highway Design Manual, particularly if the temporary stream crossing will remain during high flow periods.

- Provide stability in the crossing and adjacent areas to withstand the design flow. The design flow and safety factor shall be selected based on careful evaluation of the risks due to over topping, flow backups, or washout.
- Avoid using oil, AC or other potentially hazardous waste materials for the temporary traveled surface over the stream crossing.

Construction Considerations

- Stabilize construction roadways, adjacent work area and stream bed against erosion.
- Construct during dry periods to minimize stream disturbance and reduce costs.
- Construct at or near the natural elevation of the stream bed to prevent potential flooding upstream of the crossing.
- Install temporary sediment control BMPs in accordance with sediment control BMPs presented in Section 4 to minimize embankment scour due to flow conditions.
- Vehicles and equipment shall not be driven, operated, fueled, cleaned, maintained, or stored in the wet or dry portions of a water body where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as authorized by the construction project regulatory permits, as necessary to complete the work.
- Temporary water body crossings and encroachments shall be constructed to minimize scour. Cobbles used for temporary water body crossings or encroachments shall be clean, rounded river cobble.
- The exterior of vehicles and equipment that will encroach on the water body within the project shall be maintained free of grease, oil, fuel, and residues.
- Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. Precautions shall be taken to avoid damage to vegetation. Disturbed vegetation shall be replaced with the appropriate soil stabilization measures. Appropriate use of ESA fencing should be conducted and maintained in accordance with SS-2 “Preservation of Existing Vegetation.”
- Riparian vegetation, when removed pursuant to the provisions of the work, shall be cut off no lower than ground level to promote rapid re-growth. Access roads and work areas built over riparian vegetation shall be covered by a sufficient layer of clean river run cobble to prevent damage to the underlying soil and root structure. The cobble shall be removed upon completion of project activities.
- Any temporary artificial obstruction placed within flowing water shall only be built from material, such as clean gravel, that will cause little or no siltation.

- Drip pans shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than one hour.

Specific Considerations

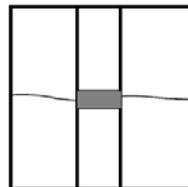
- Culverts are relatively easy to construct and able to support heavy equipment loads.
- Fords are the least expensive of the crossings, with maximum load limits.
- Temporary fords are not appropriate if construction will continue through a period of high flows if thunderstorms are likely, or if the stream is perennial.
- CCS crossing structures consist of clean, washed gravel and cellular confinement system blocks. CCS are appropriate for streams that would benefit from an influx of gravel; for example, salmonid streams, streams or rivers below reservoirs, and urban, channelized streams. Many urban stream systems are gravel-deprived due to human influences, such as dams, gravel mines, and concrete channels.
- CCS allow designers to use either angular or naturally-occurring, rounded gravel, because the cells provide the necessary structure and stability. In fact, natural gravel is optimal for this technique, because of the habitat improvement it will provide after removal of the CCS.
- A gravel depth of 6 to 12 inches for a CCS structure is sufficient to support most construction equipment.
- An advantage of a CCS crossing structure is that relatively little rock or gravel is needed, because the CCS provides the stability.
- Bridges are generally more expensive to design and construct, but provides the least disturbance of the stream bed and constriction of the waterway flows.

Maintenance and Inspection

- Periodic removal of debris behind fords, in culverts, and under bridges.
- Replacement of lost protective aggregate from inlets and outlets of culverts.
- Removal of temporary crossing promptly when it is no longer needed.
- Inspection shall, at a minimum, occur weekly and after each significant rainfall, and include:
 - Checking for blockage in the channel, debris buildup in culverts or behind fords, and under bridges.
 - Checking for erosion of abutments, channel scour, riprap displacement, or piping in the soil.

- Checking for structural weakening of the temporary crossing, such as cracks, and undermining of foundations and abutments.
 - The WPC Manager or QSP must ensure that stream crossings do not create potential for sediment laden discharge or other materials onto the waterbody.
- SWPPP or WPCP
- Temporary Stream Crossing must be discussed in Section 500.4 of the SWPPP or Section 30.3 of the WPCP.

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose Clear water diversion consists of a system of structures and measures that intercept surface water runoff upstream of a project site, transport it around the work area, and discharge it downstream with minimal water quality degradation from either the project construction operations or the construction of the diversion. Clear water diversions are used to reduce sediment pollution from construction work occurring in or adjacent to water.

Isolation techniques are clear water diversion methods that isolate near shore work from a waterbody. Structures commonly used as part of this system include diversion ditches, berms, dikes, slope drains, rock, gravel bags, wood, sheet piles, aqua barriers, cofferdams, filter fabric or turbidity curtains, drainage and interceptor swales, pipes, or flumes.

- Appropriate Applications**
- A clear water diversion is typically implemented where appropriate permits have been secured and work must be performed in a live stream or water body. Work in jurisdictional waters typically require the following, at a minimum, Clean Water Act Section 404, Clean Water Act Section 401 (RWQCB Water Quality Certification), and Fish and Game Code Section 1600 permits.
 - Clear water diversions are appropriate for isolating construction activities occurring within or near a water body such as streambank stabilization, or culvert, bridge, pier or abutment installation. They may also be used in combination with other methods, such as clear water bypasses and/or pumps.
 - Implement SS-12 “Streambank Stabilization” to minimize impacts to streambanks.

- Where working areas encroach on live streams, barriers adequate to prevent the flow of muddy water into streams should be constructed and maintained between working areas and streams. During construction of the barriers, muddying of streams should be held to a minimum.
- Channel diversions are appropriate for small stream where there is adequate right of way to create a temporary channel around a construction work area, and geosynthetics or rock can be used to handle the shear stresses associated with the expected flows.
- Berms are appropriate for small perennial, intermittent, or ephemeral streams with temporary culverts or pipe diversions. Berms may also be used to shift flows to one side or the other within a channel.
- Gravel bag berms (SC-6 “Gravel Bag Berms”) are appropriate for smaller streams where the hydraulic forces and water pressure can be adequately addressed with the weight of gravel-filled bags and plastic sheeting. This method results in a cofferdam-like isolation from the receiving water.
- Cofferdams are appropriate for small streams and lakes to confine flows to one side, create a dry work area, or to berm entire small streams. Typically, this terminology is used in association with structures at Caltrans, though some inflatable cofferdams may be used for smaller applications.
- Pumped diversions are suitable for short-term projects in intermittent and low flow streams. Excavation of a temporary bypass channel, or passing the flow through a pipe (called a “flume”) is appropriate for the diversion of streams less than 20 ft wide, with flow rates less than 100 cfs.
- Piped diversions are appropriate for short-term projects with little base flow.
- Water quality monitoring must typically be performed before and during in-water work, including the installation, operation, and removal of clear water diversions. Follow the requirements outlined in the Standard Specification or special provisions.

Limitations

- Diversion/encroachment activities will usually disturb the waterway during installation and removal of diversion structures.
- Specific permit requirements or mitigation measures, such as those required by the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Federal Emergency Management Agency (FEMA), Regional Water Quality Control Board (RWQCB), etc. may be included in contract documents because of clear water diversion/encroachment activities.
- Diversion/encroachment activities may constrict the waterway, obstruct flood flows and cause flooding or washouts. Diversion structures should not be installed without identifying potential impacts to the stream channel.

- Diversion or isolation activities should not completely dam streamflow.
- The designer should consider the size, depth of water, and risks for temporary stream diversion. Use this BMP and specification for small streams and low risk projects.
- Cofferdams and more elaborate systems should be designed by engineering services staff with the appropriate structural background or by the contractor. The design decision and design parameters should be coordinated by the PDT, so that all permitting and highway design requirements are met.
- Dewatering and removal may require additional sediment control or water treatment (See NS-2, “Dewatering Operations”).
- Heavy equipment driven in wet portions of a water body to accomplish work should be completely clean of petroleum residue, and water levels should be below the gearboxes of the equipment in use, or lubricants and fuels are sealed such that inundation by water should not result in leaks.
- Mechanical equipment operated in the water shall not be submerged to a point above any axle of said mechanical equipment.
- Excavation equipment buckets may reach out into the water to remove or place fill materials. Only the bucket of the crane/ excavator/backhoe may operate in a water body. The main body of the crane/excavator/backhoe shall not enter the water body, except as necessary to cross the stream to access the work site.
- Stationary equipment such as motors and pumps, located within or adjacent to a water body, shall be positioned over drip pans.
- Equipment shall not be parked below the high-water mark unless allowed by a regulatory agency permit or approval.
- Drip pans shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than one hour.
- Where possible, avoid or minimize diversion/encroachment impacts by scheduling construction during periods of low flow or when the stream is dry. See also the project special provisions for scheduling requirements.
- Scheduling shall also consider seasonal releases of water from dams, fish migration and spawning seasons, and water demands due to crop irrigation.
- Materials and equipment should be moved from diversion work area prior to forecasted rain events to prevent non-storm water discharges.

Standards and Specifications

General Requirements

- Most small stream diversions can be designed by the district and coordinated with the HQ OHSD. In many cases the diversion can be located on the plan sheet referencing the non-standard specification for Temporary Creek Diversion.
- Many projects will have multiple culverts, so it may be appropriate to develop a table of the lump sum costs for each system, this should be provided to the RE to help review the Temporary Creek Diversion System Plan, to help them determine if all needed items are included.
- The types of diversion for small to medium sized streams may include:
 - Pumped systems
 - Temporary culverts
 - Inflatable coffer dams (Consult HQ OHSD for specification)
- For larger (large rivers, lakes, bays, and ocean areas) temporary creek diversions that have a higher risk to worker safety and a more extensive design is required to address the forces for the depth and flow of the water, the district's structures representative should be consulted for the design (e.g., larger rivers where coffer dams are required). The engineer must consult and follow the Caltrans Engineering Services Shoring Guidance and consult with Construction as the owner of the specification.
 - Diversion can be constructed from timber, soil, or steel. But in most cases are designed and constructed with steel sheet piles. Refer to 19-3.03C Cofferdams (sheet piles).
 - Guidance: *Caltrans Shoring Guide* (Engineering Services)

Dewatering: *Field Guide to Construction Site Dewatering*, NS-2 "Dewatering Operations," and Section 13-4.03G of the Standard Specifications for use with coffer dams or other large in-water work.
 - May need to treat or control seepage water prior to discharge, consult appropriate requirements for treatment design needs.
- When any artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall, at all times, be allowed to pass downstream to maintain aquatic life downstream.
- Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations.

- Disturbed vegetation shall be replaced with the appropriate soil stabilization measures and in accordance with the project's special provisions.
- Riparian vegetation, when removed pursuant to the provisions of the work, shall be cut off no lower than ground level to promote rapid re-growth. Access roads and work areas built over riparian vegetation shall be covered by a sufficient layer of clean river run rock to prevent damage to the underlying soil and root structure. The rock shall be removed upon completion of project activities.
- Construct diversion structures with materials free of potential pollutants such as soil, silt, sand, clay, grease, or oil.
- Clear water diversions incorporating clean washed gravel may be appropriate for use in salmon spawning streams.
- Coordination with a variety of functional units at the Department may be required to implement this BMP.

Design Considerations

- Does the construction of the temporary diversion system cause more environmental damage to the riparian, wetland, or 100-year floodplain area, than to construct the project without the diversion BMP? This is a consideration for all projects, but is usually appropriate for short term construction projects for temporary or ephemeral streams, where scheduling of the project when the stream is dry, may be more effective than the construction of a large diversion system in a sensitive environmental area, where construction equipment could disturb fragile vegetation, roots, sensitive species, soil structure, and root systems.
- Stream hydrology considerations include: Stream channel geometry, tributary watershed area, stream bed material, and predicted flow rates during construction. Follow methods in HDM Section 810 for the appropriate methods and rates for sizing the temporary diversion system.
- Sizing the temporary diversion. In the past many temporary diversion system guidance documents required mandatory minimum return storms for sizing the systems, for example the 2-year, 5-year, or 10-year, 24-hour return period. This can result in temporary diversion system as large as the drainage system they are replacing and result in large impacts to the stream riparian zone, with large disturbed soil areas. Overly conservative approaches for the hydrology sizing to protect the environment can inadvertently cause other impacts to the environment for its construction. Each project should be sized for the appropriate risks and should be based on regulatory restrictions.
- In coordination with District Hydraulics, consider the consequences for diversion exceedance including; public and work safety, environment, legal, regulatory permit requirements, costs, space, and schedule.

Hydrology Sizing Methods

- The sizing of clear water diversion systems varies by the time of year, local hydrology, and duration of the diversion. If there is a prescriptive storm size in a permit document, then design to the required event size. A 2-year, 24-hour storm event has been used by many as a default event, but more recent studies have shown that this may oversize the system and cause more disturbance in the sensitive stream zone than is necessary.
- Diversion structures must be adequately designed to accommodate fluctuations in water depth or flow volume due to tides, storms, flash floods, etc. Careful analysis of the local hydrology history and risk analysis is required to minimize the diversion impacts.

Temporary Diversions/Encroachments

- Construct diversion channels in accordance with SS-9, “Earth Dikes/Drainage Swales, and Ditches.”
- In high flow velocity areas, stabilize slopes of embankments and diversion ditches using an appropriate liner, in accordance with SS-12 “Streambank Stabilization,” and SS-7, “Plastic Covers & Rolled Erosion Control Products,” or use rock slope protection, as described in Standard Specifications Section 72-2, “Rock Slope Protection.”
- Where appropriate, use natural streambed materials such as large cobbles and boulders for temporary embankment/slope protection, or other temporary soil stabilization methods.
- Provide for velocity dissipation at transitions in the diversion, such as the point where the stream is diverted to the channel and the point where the diverted stream is returned to its natural channel. See also SS-10, “Outlet Protection/Velocity Dissipation Devices.”

Temporary Dry Construction Areas

- When dewatering behind temporary structures to create a temporary dry construction area, such as cofferdams, pass pumped water through a sediment settling device, such as a portable tank, settling basin, or Active Treatment System if necessary, before returning water to the water body; see NS-2, “Dewatering Operations” and Standard Specification 13-8 “Temporary Active Treatment System.”
- If the presence of polluted water or sediment is identified in the contract, the contractor shall implement dewatering pollution controls as required by the contract documents. If the quality of water or sediment to be removed while dewatering is not identified as polluted in the contract documents, but is later determined by observation or testing to be polluted, the contractor shall notify the RE and comply with Standard Specifications Section 4-1.06 “Differing Site Conditions.”

- Any substance used to assemble or maintain diversion structures, such as form oil, shall be non-toxic and non-hazardous.
- Any material used to minimize seepage underneath diversion structures, such as grout, shall be non-toxic, non-hazardous, and as close to a neutral pH as possible.

Instream Construction Sediment Control

There are three different options currently available for reducing turbidity while working in a stream or river. The stream can be:

- Isolated from the area in which work is occurring by means of a water barrier.
- The stream can be diverted around the work site through a pipe or temporary channel.
- One can employ construction practices that minimize sediment suspension.
- The highest hazard for sedimentation from instream construction generally occurs when the sediment control structure is being installed and when it is being removed. Generally, the best time to install the stream isolation or diversion structure is when the stream flow is low. Conversely, the optimum time to remove in-stream diversion or isolation structures may be during the rising limb of a storm hydrograph. A probable “worst time” to release high TSS into a stream system with diminishing aquatic habitat might be when the stream flow is very low; summer low flow, for example. During these times, the flow may be low while the biological activity in the stream is very high. On the other hand, the addition of short-term spike in TSS or sediment during a big storm discharge might have a relatively low impact on the aquatic habitat or turbidity because the stream is already turbid, and the stream energy is capable of transporting both suspended solids, and large quantities of bedload through the system.

Techniques to Minimize Total Suspended Solids (TSS)

- Padding - Padding laid in the stream below the work site may trap some solids that are deposited in the stream during construction. After work is done, the padding is removed from the stream, and placed on the bank to assist in revegetation.
- Clean, washed gravel - Using clean, washed gravel decreases solid suspension, as there are fewer small particles deposited in the stream.

- Excavation using a large bucket - Each time a bucket of soil is placed in the stream a portion is suspended. Approximately the same amount is suspended whether a small amount of soil is placed in the stream, or a large amount. Therefore, using a large excavator bucket instead of a small one, will reduce the total amount of soil that washes downstream.
- Use of dozer for backfilling - Using a dozer for backfilling instead of a backhoe follows the same principles – the fewer times soil is deposited in the stream, the less soil will be suspended.
- Partial dewatering with a pump - Partially dewatering a stream with a pump reduces the amount of water, and thus the amount of water that can suspend sediment.

Washing Fines

- Partial Washing fines is an “in-channel” sediment control method, which uses water, either from a water truck or hydrant, to wash any stream fines that were brought to the surface of the channel bed during restoration, back into the interstitial spaces of the gravel and cobbles. This technique is useful in both intermittent or ephemeral stream channels with gravelly to cobbly substrate and may be useful in perennial streams just prior to removing isolation structures.
- The purpose of this technique is to reduce or eliminate the discharge of sediment from the channel bottom during the first seasonal flows, or “first flush.” Sediment should not be allowed into stream channels; however, occasionally in-channel restoration work will involve moving or otherwise disturbing fines (sand and silt-sized particles) that are already in the stream, usually below bank-full discharge elevation. Subsequent re-watering (resumption of flows) of the channel can result in a plume of turbidity and sedimentation.
- This technique washes the fines back into the channel bed. Bedload materials, including gravel cobbles, boulders and those fines, are naturally mobilized during higher storm flows. This technique is intended to delay the discharge until the fines would naturally be mobilized.
- This technique should be used when construction work is required in channels. It is especially useful in intermittent or ephemeral streams in which work is performed “in the dry,” and which subsequently become re-watered.

Prior to using this technique consider the following:

- The stream must have sufficient gravel and cobble substrate composition.
- The use of this technique requires consideration of time of year and timing of expected stream flows.
- The optimum time for the use of this technique is in the fall, prior to winter flows.

- Consultation with, and approval from the Department of Fish and Wildlife and the Regional Water Quality Control Board may be required.

The following items should be considered when preparing project plans and specifications when this technique is used:

- Apply sufficient water to wash fines, but not cause further erosion or runoff.
- Apply water slowly and evenly to prevent runoff and erosion.
- Consult with Department of Fish and Wildlife and the Regional Water Quality Control Board for specific water quality requirements of applied water (e.g., chlorine).

Isolation Techniques Isolation techniques are methods that isolate near shore work from a waterbody. Techniques include sheet pile enclosures, inflatable cofferdams like Aqua Dam, berms or gravel bag berms (see SC-6, “Gravel Bag Berm”) with impermeable membrane or plastic sheeting, gravel bags, cofferdams, and K-rail.

Filter Fabric Isolation Technique

A filter fabric isolation structure is a temporary structure built into a waterway to enclose a construction area and reduce sediment pollution from construction work in or adjacent to water. This structure is composed of filter fabric, gravel-filled bags, and steel t-posts.

- Filter fabric may be used for construction activities such as streambank stabilization, or culvert, bridge, pier or abutment installation. It may also be used in combination with other methods, such as clean water bypasses and/or pumps.
- This method involves placement of gravel bags or continuous berms to “key-in” the fabric, and subsequently staking the fabric in place.
- If spawning gravel (gravel between 1 and 4 inches) is used, all other components of the isolation can be removed from the stream, and the gravel can be spread out and left as salmon spawning habitat if permitted in the project’s 404 permit. Whether spawning gravel or other types of gravel are used, only clean washed gravel should be used as infill for the gravel bags or continuous berm.
- This is a method that should be used in relatively calm water, and can be used in smaller streams.
- Prior to using this technique consider the following:
 - Do not use if the installation, maintenance and removal of the structures will disturb sensitive aquatic species of concern.

- Not appropriate for projects where dewatering is necessary.
- Not appropriate to completely dam streamflow.
- The following items should be considered when preparing project plans and specifications when this technique is used:
 - For the filter fabric isolation method, a non-woven or heavy-duty fabric (refer to Standard Specifications Section 96-1.02B) is recommended over standard silt fence. Using rolled geotextiles allows non-standard widths to be used.
 - Anchor filter fabric with gravel-filled bags filled with clean, washed gravel. Do not use sand. If a bag should split open, the gravel can be left in the stream if permitted under the project's 404 permit, where it can provide aquatic habitat benefits.
 - Another anchor alternative is a continuous berm, made with the Continuous Berm Machine. This is a gravel-filled bag that can be made in very long segments. The length of the berms is usually limited to 20 ft for ease of handling.
 - Place the fabric on the bottom of the stream, and place either a bag of clean, washed gravel or a continuous berm over the bottom of the fabric, such that a bag-width of fabric lies on the stream bottom. The bag should be placed on what will be the outside of the isolation area.
 - Pull the fabric up, and place a metal t-post immediately behind the fabric, on the inside of the isolation area; attach the fabric to the post with three diagonal nylon ties.
 - Continue placing fabric as described above until the entire work area has been isolated, staking the fabric at least every 6 ft.
 - During construction, inspect daily during the workweek.
 - Schedule additional inspections during storm events.
 - Immediately repair any gaps, holes or scour.
 - Remove sediment buildup.
 - Ensure pipe diversion is properly anchored to prevent shifting or leaking during use.
 - Remove BMP upon completion of construction activity. Recycle or re-use if applicable.

- Re-vegetate areas disturbed by BMP removal if needed.

Turbidity Curtain Isolation Technique

- A turbidity curtain is a fabric barrier used to isolate the near shore work area. The barriers are intended to confine the suspended sediment. The curtain is a floating barrier, and thus does not prevent water from entering the isolated area; rather, it prevents suspended sediment from getting out.
- Turbidity curtains should be used where sediment discharge to a stream is unavoidable. They are used when construction activities adjoin quiescent waters, such as lakes, ponds, lagoons, bays, and slow flowing rivers. The curtains are designed to deflect and contain sediment within a limited area and provide sufficient retention time so that the soil particles will fall out of suspension.
- Prior to using this technique consider the following:
 - Turbidity curtains should not be used in flowing water; they are best suited for use in quiescent ponds, lakes, lagoons, bays, and very slow-moving rivers.
 - Turbidity curtains should not be placed across the entire width of a channel.
 - Removing sediment that has been deflected and settled out by the curtain may create a discharge problem through the re-suspension of particles and by accidental dumping by the removal equipment.
 - Turbidity curtains may require a higher level of maintenance, adjustments, and relocation when deployed in comparison to structural isolation methods. However, turbidity curtains consist of flexible materials and may be repositioned and reconfigured as the limits of construction activity change.
- The following items should be considered when preparing project plans and specifications when this technique is used:
 - Turbidity curtains should be oriented parallel to the direction of flow wherever possible to avoid exerting excessive pressure on the fabric.
 - The curtain should extend the entire depth of the watercourse in calm-water situations.
 - In wave conditions, the curtain should extend to within 1 ft of the bottom of the watercourse, such that the curtain does not stir up sediment by hitting the bottom repeatedly. If it is desirable for the curtain to reach the bottom in an active-water situation, a pervious filter fabric may be used for the bottom 1 ft.

- The top of the curtain should consist of flexible flotation buoys, and the bottom shall be held down by a load line incorporated into the curtain fabric. The fabric shall be a brightly colored impervious mesh.
- The curtain shall be held in place by anchors placed at least every 100 ft, or as recommended by the manufacturer based on site-specific conditions, such as flow rate, wind speeds, currents, tidal influence, and wave action.
- First place the anchors, then tow the fabric out in a furled condition, and connect to the anchors. The anchors should be connected to the flotation devices, and not to the bottom of the curtain. Once in place, cut the furling lines, and allow the bottom of the curtain to sink. A second set of anchors may be required in tidally-influenced waters to secure the curtain against both the flood and ebb tides.
- Sediment that has been deflected and settled out by the curtain may be removed if so directed by the on-site inspector or the RE. Consideration must be given to the probable outcome of the removal procedure. It must be asked if it will create more of a sediment problem through re-suspension of the particles or by accidental dumping of material during removal. It is recommended that the soil particles trapped by the turbidity curtain only be removed if there has been a significant change in the original contours of the affected area in the watercourse.
- Particles should always be allowed to settle for a minimum of 6 to 12 hours prior to their removal or prior to removal of the turbidity curtain.
- The curtain should be inspected daily for holes or other problems, and any repairs needed should be made promptly.
- Allow sediment to settle for 6 to 12 hours prior to removal of sediment or curtain. This means that after removing sediment, wait an additional 6 to 12 hours before removing the curtain.
- To remove, install furling lines along the curtain, detach from anchors, and tow out of the water. Water quality monitoring is typically required before removing the turbidity curtain to verify that the entrained water, sediment, and other potential contaminants, such as sulfides, would not violate a water quality standard when released.

K-rail River Isolation

- This is temporary sediment control, or stream isolation method that uses K-rails to form the sediment deposition area, or to isolate the in-stream or near-bank construction area.
- Barriers are placed end-to-end in a pre-designed configuration and gravel-filled bags are used at the toe of the barrier and also at their abutting ends to seal and prevent movement of sediment beneath or through the barrier walls.

- The K-rail isolation can be used in streams with higher water velocities than many other isolation techniques.

Prior to using this technique consider the following:

- The K-rail method does not allow for full dewatering.
- The following items should be considered when preparing project plans and specifications when this technique is used:
 - To create a floor for the K-rail, move large rocks and obstructions. Place washed gravel and gravel-filled bags to create a level surface for K-rail to sit.
 - Place the bottom two K-rails adjacent to each other, and parallel to the direction of flow; fill the center portion with gravel bags. Then place the third K-rail on top of the bottom two; there should be sufficient gravel bags between the bottom K-rails such that the top one is supported by the gravel. Place plastic sheeting around the K-rails, and secure at the bottom with gravel bags.
 - Further support can be added by pinning and cabling the K-rails together. Also, large riprap and boulders can be used to support either side of the K-rail, especially where there is strong current.
 - The barrier should be inspected at least once daily, and any damage, movement or other problems should be addressed immediately.
 - Sediment should be allowed to settle for at least 6 to 12 hours prior to removal of sediment, and for 6 to 12 hours prior to removal of the barrier.

Stream Diversions

Stream diversions consist of a system of structures and measures that intercept an existing stream upstream of the project and, transports it around the work area, and discharges it downstream. The selection of which stream diversion technique to use depends upon the type of work involved, physical characteristics of the site, and the volume of water flowing through the project.

- Pumped diversions are appropriate in areas where de-watering is necessary.
- Dam-type diversions may serve as temporary access to the site.
- Where work areas require isolation from flows.

Prior to using this technique consider the following:

- Pumped diversions have limited flow capacity.

- Pumped diversion require frequent monitoring of pumps.
- Large flows during storm events can overtop dams.
- Flow diversion and re-direction with small dams involves in-stream disturbance and mobilization of sediment.
- The following items should be considered when preparing project plans and specifications when this technique is used:
 - Installation guidelines will vary based on existing site conditions and type of diversion used.
 - Diversions shall be sized to convey design flood flows.
 - Pump capacity must be sufficient for design flow; the upper limit is approximately 10 cfs (the capacity of two 8 inch pumps).
 - Adequate energy dissipation must be provided at the outlet to minimize erosion.
 - Dam materials used to create dams upstream and downstream of diversion should be erosion resistant; materials such as steel plate, sheetpile, sandbags, continuous berms, inflatable water bladders, etc. would be acceptable.
 - When constructing a diversion channel, begin excavation of the channel at the proposed downstream end, and work upstream. Once the watercourse to be diverted is reached, and the excavated channel is stable, breach the upstream end, and allow water to flow down the new channel. Once flow has been established in the diversion channel, install the diversion weir in the main channel; this will force all water to be diverted from the main channel.
 - Inspect diversion/encroachment structures before and after significant storms, and at least once per week while in service. Inspect daily during the construction.
 - Pumped diversions require frequent monitoring of pumps.
 - Inspect embankments and diversion channels before and after significant storms, and at least once per week while in service for damage to the linings, accumulating debris, sediment buildup, and adequacy of the slope protection. Remove debris and repair linings and slope protection as required. Repair holes, gaps, or scour.

- Upon completion of work, the diversion or isolation structure should be removed and flow should be re-directed through the new culvert or back into the original stream channel. Recycle or re-use if applicable.

SWPPP or WPCP ■ Clear Water Diversion must be discussed in Section 500.4 of the SWPPP or Section 30.3 of the WPCP.

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Illegal Connection and Illicit Discharge Detection and Reporting

NS-6



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose Procedures and practices designed for construction contractors to recognize illegal connections, illicit discharges or illegally dumped or discharged materials on a construction site and report incidents to the RE.

Appropriate Applications

- Illegal connection and Illicit discharge detection and reporting is applicable anytime an illegal connection or illicit discharge is discovered or illegally dumped material is found on the construction site.
- This BMP applies to all construction projects.

Limitations

- Illegal connection and Illicit discharge or dumping, for the purposes of this BMP, refer to discharges and dumping caused by parties other than the contractor.
- Procedures and practices presented in this BMP are general. Contractor shall use extreme caution, immediately notify the RE when illicit connections or illegal dumping or discharges are discovered, and take no further action unless directed by the RE.
- If pre-existing hazardous materials or wastes are known to exist onsite, the contractor's responsibility will be detailed in separate special provisions. Onsite area should be clearly marked and described in the SWPPP or WPCP.

Illegal Connection and Illicit Discharge Detection and Reporting

NS-6

Standards and Specifications **Inspection**

- Inspect site before beginning the job for evidence of Illegal connections or illicit dumping or discharges.

Illegal Connection and Illicit Discharge Detection and Reporting

- Solids - Look for debris or trash piles. Solid waste dumping often occurs on roadways with light traffic loads or in areas not easily visible from the traveled way.
- Liquids – signs of illegal liquid dumping or discharge can include:
 - Visible signs of staining or unusual colors to the pavement or surrounding adjacent soils.
 - Pungent odors coming from the drainage systems.
 - Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes.
 - Abnormal water flow during the dry weather season.
- Urban Areas - Evidence of illegal connections or illicit discharges is typically detected at storm drain outfall locations or at manholes. Signs of an illegal connection or illicit discharge can include:
 - Abnormal water flow during the dry weather season.
 - Unusual flows in subdrain systems used for dewatering.
 - Pungent odors coming from the drainage systems.
 - Discoloration or oily substances in the water or stains and residues detained within ditches, channels or drain boxes.
 - Excessive sediment deposits, particularly adjacent to or near active off-site construction projects.
- Rural Areas - Illegal connections or illicit discharges involving irrigation drainage ditches are detected by visual inspections. Signs of an illicit discharge can include:
 - Abnormal water flow during the dry weather season.
 - Non-standard drainage junction structures.

Illegal Connection and Illicit Discharge Detection and Reporting

NS-6

- Broken concrete or other disturbances at or near junction structures.

Reporting

- Notify the RE of any illegal connections and illicit dumping or discharge incidents at the time of discovery. Do not take further action unless ordered.
- The RE will notify the District Construction Stormwater Coordinator, who should coordinate with the NPDES Coordinator for reporting.

Inspection, Cleanup and Removal

- Notify the RE of any illegal connections and illegal dumping or illicit discharge incidents at the time of discovery. Do not take further action unless ordered.
- The contractor is not responsible for investigation and clean up of illegal connections or dumping or illicit discharges not generated by the contractor. Caltrans may direct the contractor to clean up non-hazardous dumped or discharged material on the construction site. Assume that unlabeled or unidentifiable material is hazardous.
- Inspect the entire project site at least weekly to check for illegal connections or illicit discharges.

SWPPP or WPCP

- Illegal Connection and Illicit Discharge Detection and Reporting must be discussed in Section 500.4.1 of the SWPPP or Section 30.3 of the WPCP.

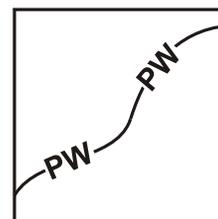


Illegal Connection and Illicit Discharge Detection and Reporting

NS-6

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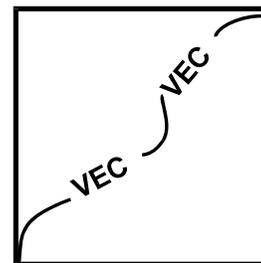


Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** Potable Water/Irrigation management consists of practices and procedures to manage the discharge of potential pollutants generated during discharges from irrigation water lines, landscape irrigation, lawn or garden watering, planned and unplanned discharges from potable water sources, water line flushing, and hydrant flushing.
- Appropriate Applications** Implement this BMP whenever the above activities or discharges occur at or enter a construction site.
- Limitations** ■ None identified.
- Standards and Specifications**
- Inspect irrigated areas within the construction limits for excess watering. Adjust watering times and schedules to ensure that the appropriate amount of water is being used and to minimize runoff. Consider factors such as soil structure, grade, relative compaction, time of year, and type of plant material in determining the proper amounts of water for a specific area.
 - Take precautions to prevent irrigation water from eroding soil, wetting vehicles and pavement, or otherwise causing sediment, hydrocarbons, and other non-visible pollutants that accumulate on those surfaces to discharge into a storm drain system or receiving waterbody.
 - When possible, discharges from water line flushing or temporary Active Treatment Systems (see Appendix C “Temporary Active Treatment System) should be reused for landscaping purposes.
 - Resident Engineer (RE) approval is required prior to commencing any washing activities that could discharge to the storm drain or receiving waterbody.

- Where possible, direct water from off-site sources around or through a construction site in a way that minimizes contact with the construction site.
 - Perform pressure tests on the irrigation system supply lines to test for leaks, which could result in erosion or runoff if breached.
 - Shut off the water source to broken lines, sprinklers, or valves as soon as possible to prevent excess water flow.
 - Protect downstream storm water drainage systems and receiving waters from water pumped or bailed from trenches excavated to repair water lines.
- Maintenance and Inspection
- Repair broken water lines as soon as possible or as directed by the RE.
 - Inspect irrigated areas regularly for signs of erosion and/or discharge.
- SWPPP or WPCP*
- Potable Water/Irrigation must be discussed in Section 500.4 of the SWPPP and/or Section 30.3 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose Vehicle and equipment cleaning procedures and practices are used to minimize or eliminate the discharge of pollutants from vehicle and equipment cleaning operations to storm drain systems or to watercourses.

Appropriate Applications These procedures are applied on all construction sites where vehicle and equipment cleaning is performed.

- Limitations**
- This BMP may be limited or disallowed under regulatory agency permits, particularly near Environmentally Sensitive Areas (ESAs).
 - Generates non-stormwater that requires management, and, in some cases, the disposal of hazardous waste.

Standards and Specifications **General Requirements**

- Limit vehicle and equipment cleaning or washing at the job site except for the safety and protection of the equipment and as needed to comply with regulatory agency permits and approvals.
- Cleaning of vehicles and equipment with soap, solvents or steam shall not occur on the job site unless the RE has been notified in advance and the resulting wastes are fully contained in accordance with Standard Specifications Section 14-11 or 13-4.03D (5), whichever is applicable. Do not use diesel to clean vehicles and minimize the use of solvents.
- Vehicle and equipment wash water shall be contained for percolation or evaporative drying away from storm drain inlets or receiving waters and should not be discharged within the highway right-of-way. Apply other appropriate BMPs as applicable.

- All vehicles/equipment that regularly enter and leave the construction site must be cleaned off-site.
- Resulting wastes and by-products shall not be discharged or buried within the highway right-of-way, and must be captured and recycled or disposed according to the requirements of WM-10, “Liquid Waste Management” or WM-6, “Hazardous Waste Management,” depending on the waste characteristics.

Implementation

- When vehicle/equipment washing/cleaning must occur onsite, and the operation cannot be located within a structure or building equipped with appropriate disposal facilities, the outside cleaning area shall have the following characteristics, and shall be arranged with the WPC Manager, QSD, or QSP as well as the Construction Storm Water Coordinator:
 - Located away from storm drain inlets, drainage facilities, or watercourses.
 - Paved with concrete or asphalt and bermed to contain wash waters and to prevent run-on and runoff.
 - Configured with a sump to allow collection and disposal of wash water.
 - Wash waters shall not be discharged to storm drains or watercourses.
 - Used only when necessary.
- When cleaning vehicles/equipment with water:
 - Use as little water as possible. High pressure sprayers may use less water than a hose, and shall be considered.
 - Use positive shutoff valve to minimize water usage.
 - Facility wash racks shall discharge to a sanitary sewer, recycle system or other approved discharge system and shall not discharge to the storm drainage system or watercourses.

Maintenance and Inspection

- The control measure shall be inspected at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
- Inspect wash area and sump regularly. Remove liquids and sediment as needed or as directed by the RE.

SWPPP or WPCP

- Vehicle Equipment Cleaning must be discussed in Section 500.4.2 of the SWPPP or Section 30.3 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** Vehicle and equipment fueling procedures and practices are designed to minimize or eliminate the discharge of fuel spills and leaks into storm drain systems or to receiving waters.
- Appropriate Applications** These procedures are applied on all construction sites where vehicle and equipment fueling takes place.
- Limitations**
- This BMP may be limited or disallowed under regulatory agency permits, particularly near Environmentally Sensitive Areas (ESAs).
 - Onsite vehicle and equipment fueling should only be used where it's impractical to send vehicles and equipment off-site for fueling.
- Standards and Specifications**
- When fueling must occur onsite, the contractor shall select and designate an area or areas to be used, subject to approval of the RE.
 - Dedicated fueling areas shall be protected from stormwater run-on and runoff, and shall be located at least 50 feet from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
 - Protect fueling areas with berms or dikes to prevent run-on, runoff, and to contain spills.
 - For long-term projects, consider constructing roofs or using portable tents over maintenance and fueling areas.
 - Absorbent spill clean-up materials and spill kits shall be available in fueling areas and on fueling trucks and used on small spills instead of hosing down or burying techniques. Affected absorbent material and spill kits should be removed promptly and disposed of properly after use.

- Drip pans or absorbent pads shall be readily available during vehicle and equipment fueling.
 - Vehicle and equipment fueling areas shall not be left unattended during fueling activities.
 - Nozzles used in vehicle and equipment fueling shall be equipped with an automatic shut-off to control drips.
 - Use vapor recovery nozzles to help control drips as well as air pollution where required by the Air Quality Management Districts.
 - Ensure the nozzle is secured upright when not in use.
 - Fuel tanks shall not be "topped-off."
 - Federal, state, and local requirements shall be observed for any stationary above ground storage tanks. Refer to WM-1, "Material Delivery and Storage" for specifics as to what needs to be included for BMP protection and documented in the SWPPP or WPCP.
 - Portable fuel canisters should be kept in a flammable cabinet when not in use.
- Maintenance and Inspection
- Vehicles and equipment shall be inspected on each day of use for leaks. Leaks shall be repaired immediately or problem vehicles or equipment shall be removed from the project site.
 - Fueling areas and storage tanks shall be inspected at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
 - Immediately cleanup spills and properly dispose of contaminated soil and cleanup materials.
- SWPPP or WPCP
- Vehicle and Equipment Fueling must be discussed in Section 500.4.2 of the SWPPP or Section 30.3 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose

Procedures and practices to minimize or eliminate the discharge of pollutants to the storm drain systems or to receiving waters from vehicle and equipment maintenance activities.

Appropriate Applications

These procedures apply on all construction projects where an onsite uncovered yard area is necessary for storage and maintenance of heavy equipment and vehicles.

Limitations

- This BMP may be limited or disallowed under regulatory agency permits, particularly near Environmentally Sensitive Areas (ESAs).
- Onsite vehicle and equipment maintenance should only be used where it's impractical to send vehicles and equipment off-site for fueling.

Standards and Specifications

- When maintenance must occur onsite, the contractor shall select and designate an area to be used, subject to approval of the RE and implement appropriate controls for the activities to be performed.
- Dedicated maintenance areas shall be on level ground and protected from storm water run-on and runoff, and shall be located at least 50 ft from downstream drainage facilities and receiving waters.
- Protect maintenance areas with berms or dikes to prevent run-on, runoff, and to contain spills.
- For long-term projects, consider constructing roofs or using portable tents over maintenance areas.
- Absorbent spill clean-up materials and spill kits shall be available in maintenance areas and used on small spills instead of hosing down or burying techniques. Affected absorbent material and spill kits should be removed promptly and disposed of properly after use.

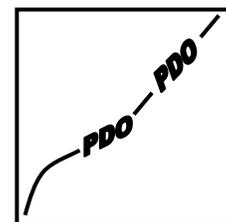
- Drip pans or absorbent pads shall be placed under vehicles and equipment when performing maintenance work that involves fluids. Vehicles and equipment maintenance areas shall not be left unattended during maintenance activities.
- Drip pans or plastic sheeting shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than one hour.
- Properly dispose or recycle used batteries and tires as well as any other vehicle or equipment parts.
- Substances used to coat asphalt transport trucks and asphalt-spreading equipment shall be non-toxic.
- Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
- Do not dump fuels and lubricants onto the ground.
- Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- Do not bury used tires.
- Repair fluid and oil leaks immediately.
- Provide spill containment dikes or secondary containment around stored oil and chemical drums. Refer to WM-1, “Material Delivery and Storage” for details.

Maintenance and Inspection

- Vehicles and equipment shall be inspected on each day of use for leaks. Leaks shall be repaired immediately or removed from the project site.
- Maintenance areas and storage tanks shall be inspected regularly.
- Maintain waste fluid containers in leak proof condition.
- Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.
- Inspection and Maintenance of these areas must be properly documented and the WPC Manager must ensure no potential for discharges occur from these areas as part of the non-visible monitoring requirements.

SWPPP or WPCP

- Vehicle and Equipment Maintenance must be discussed in Section 500.4 of the SWPPP or Section 30.3 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

Definition and Purpose The construction and retrofit of bridges and retaining walls often include driving piles for foundation support and shoring operations. Driven piles are typically constructed of concrete, steel, or timber. Driven sheet piles are used for shoring and cofferdam construction. Proper control and use of equipment, materials, and waste products from pile driving operations will reduce the discharge of potential pollutants to the storm drain system or receiving waters.

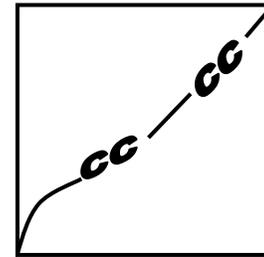
Appropriate Applications These procedures apply to construction sites near or adjacent to surface waters or groundwater where permanent and temporary pile driving operations (impact and vibratory) take place, including operations using pile shells for construction of cast-in-steel-shell and cast-in-drilled-hole piles.

Limitations None identified.

- Standards and Specifications**
- Have spill kits and cleanup materials available at all locations of pile driving. Refer to WM-4 “Spill Prevention and Control.”
 - Place drip pans, absorbent pads, or plastic sheeting with absorbent material under vehicles and equipment performing pile driving activities. Refer to NS-9 “Vehicle and Equipment Fueling” and NS-10 “Vehicle and Equipment Maintenance.”
 - Protect pile driving equipment, including hammers and other hydraulic attachments, by parking them on plywood and covering it with plastic sheeting when precipitation is forecasted.
 - When not in use, store pile driving equipment on level ground away from concentrated flows of storm water, drainage courses, and inlets.
 - Use less hazardous vegetable oil instead of hydraulic fluid, when practicable.

- Keep equipment that is in use in streambeds; or on docks, barges, or other structures over water bodies, leak free. The storage or use of equipment in streambeds or other bodies of water shall comply with all applicable regulatory permits. Refer to NS-13, “Material and Equipment Use Over Water.”
 - Implement other BMPs as applicable, such as NS-2 “Dewatering Operations,” WM-5 “Solid Waste Management,” WM-6 “Hazardous Waste Management,” and WM-10 “Liquid Waste Management.”
- Maintenance and Inspection
- Inspect pile driving areas and equipment for leaks and spills daily when they are in operation or within or next to water.
 - Inspect pile driving areas and equipment for leaks and spills at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
 - Inspect equipment routinely and repair equipment as needed (e.g., worn or damaged hoses, fittings, gaskets).
 - Inspection and Maintenance of these areas must be properly documented and the WPC Manager must ensure no potential for discharges occur from these areas as part of the non-visible monitoring requirements.
- SWPPP or WPCP
- Pile Driving Operations must be discussed in Section 500.4 and 600.2¹ of the SWPPP or Section 30 of the WPCP.

¹Section 600.2 applies to the LTCGP SWPPP



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BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose

Concrete curing is used in the construction of structures such as bridges, retaining walls, and pump houses. Concrete curing includes the use of both chemical and water methods. Proper procedures to minimize any potential for runoff during concrete curing must take place.

Appropriate Applications

All concrete elements of a structure (e.g., footings, columns, abutments, stems, soffit, deck) are subject to curing requirements.

Limitations

None identified.

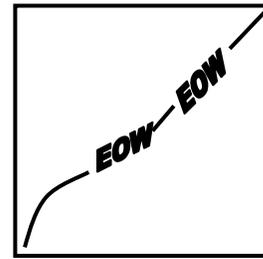
Standards and Specifications

Chemical Curing

- Avoid over-spray of curing compounds.
- Minimize the drift of chemical cure as much as possible by applying the curing compound close to the concrete surface. Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.
- Use proper storage and handling techniques for concrete curing compounds. Refer to WM-1, “Material Delivery and Storage.”
- Protect drain inlets prior to the application of curing compounds. Refer to SC-10, “Temporary Drainage Inlet Protection.”
- Implement WM-4, “Spill Prevention and Control.”

Water Curing for Bridge Decks, Retaining Walls, and Other Structures

- Direct cure water away from inlets and receiving waters to collection areas for removal as approved by the RE and in accordance with all applicable permits.
 - Collect cure water and transport or dispose of water in accordance with all applicable permits
 - Utilize wet blankets or a similar method that maintains moisture while minimizing the use and possible discharge of water.
 - Ensure that employees and subcontractors implement appropriate measures for storage, handling, and use of curing compounds.
 - Inspect any temporary diversion devices, lined channels, or swales for washouts, erosion, runoff or debris. Replace lining and remove debris as necessary.
 - Inspect cure containers and spraying equipment for leaks. Also, inspect concrete curing areas daily when there are ongoing operations.
 - The WPC Manager or QSP must ensure no concrete curing activities occur when rain is forecasted that could lead to a discharge.
 - Concrete Curing must be discussed in Section 500.4 of the SWPPP or Section 30.3 of the WPCP.
- Maintenance and Inspection
- SWPPP or WPCP



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

- Definition and Purpose** Procedures for the proper use, storage, and disposal of materials and equipment on barges, boats, temporary construction pads, or similar locations that minimize or eliminate the discharge of potential pollutants into storm drain inlets or receiving waters.
- Appropriate Applications** These procedures shall be implemented for construction materials and wastes (solid and liquid) and any other materials that may be detrimental if released. Applies where materials and equipment are used on barges, boats, docks, and other platforms over or adjacent to a watercourse.
- Limitations** Specific requirements may be included in the contract documents and permit documents associated with regulatory agencies such as the Regional Water Quality Control Board (RWQCB), U.S. Army Corps of Engineers, and California Department of Fish and Wildlife.
- Standards and Specifications**
- Measures to prevent the discharge of potential pollutants into storm drain inlets or receiving waters while operating equipment or using materials over water are considered BMPs by the regulatory agencies and should be documented in the SWPPP.
 - Implement this BMP in accordance with all necessary permits required for construction within or near receiving waters, such as RWQCB, U.S. Army Corps of Engineers, Department of Fish and Wildlife and other local permitting agencies.

Material and Equipment Use Over Water

NS-13

- Place drip pans and absorbent materials under equipment and vehicles and ensure that an adequate supply of spill cleanup materials is onsite in accordance with a spill response plan, if applicable. Ensure that staff are trained regarding the deployment of the spill response plan.
 - Drip pans shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is expected to be idle for more than one hour.
 - Install watertight curbs or toe boards to contain spills and prevent materials, tools, and debris from falling off the barge, platform, dock, etc.
 - Secure all materials to prevent discharges to receiving waters via wind.
 - Discharges to receiving waters shall be reported to the RE and the WPC Manager immediately upon discovery.
 - Maintain vehicles and equipment in accordance with NS-10, “Vehicle and Equipment Maintenance.” If a leaking line cannot be repaired, remove equipment from over the water and repair immediately.
 - Collect and contain demolished material in accordance with NS-15, “Structure Demolition/Removal Over or Adjacent to Water.”
 - Refer to WM-1, “Material Delivery and Storage” and WM-4, “Spill Prevention and Control.”
 - Ensure the timely and proper removal of accumulated wastes over water. Refer to WM-5, “Solid Waste Management” and WM-6, “Hazardous Waste Management.”
- Maintenance and Inspection
- Inspect vehicles and equipment for leaks and spills daily when they are in operation, make necessary repairs.
 - Ensure that employees and subcontractors implement appropriate measures for storage and use of materials and equipment.
 - Inspect and maintain all associated BMPs and perimeter controls to ensure continuous protection of the watercourse.
 - Inspect materials and equipment for leaks and spills at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
 - Inspect equipment routinely and repair equipment as needed (e.g., worn or damaged hoses, fittings, gaskets).

Material and Equipment Use Over Water

NS-13

- Inspection and Maintenance of these areas must be properly documented and ensure no potential for discharges occur from these areas as part of the non-visible monitoring requirements.
- SWPPP or WPCP ■ Material and Equipment Use Over Water must be discussed in Section 500.4.1 of the SWPPP or Section 30.3.1 of the WPCP.

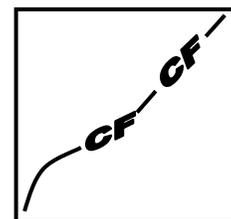


Material and Equipment Use Over Water

NS-13

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BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose Concrete finishing methods are used for bridge deck rehabilitation, paint removal, curing compound removal, and final surface finish appearances. Methods include sand blasting, shot blasting, grinding, or high pressure water blasting. Proper procedures minimize the impact that concrete finishing methods may have on runoff.

Appropriate Applications These procedures apply to all construction locations where concrete finishing operations are performed.

Limitations Specific permit requirements may be included in the contract documents for certain concrete finishing operations.

Standards and Specifications ***General Requirements***

- Follow containment requirements stated in the project special provisions.
- Collect and properly dispose of water and solid waste from high-pressure water blasting operations.
- Collect and properly dispose of water from water blasting operations, sand and solid waste from sandblasting operations.
- Protect drainage inlets within 50 feet of the sandblasting prior to beginning sandblasting operations. Refer to SC-10, “Temporary Drainage Inlet Protection.”
- Implement SC-7, “Street Sweeping” within the sand blasting and surrounding area.
- Minimize the drift of dust and blast material as much as possible by keeping the blasting nozzle close to the surface.

- Discharges to waterways shall be reported to the RE by the WPC Manager immediately upon discovery.

Other Considerations

- Direct water from blasting operations away from inlets and receiving waters to collection areas for removal (e.g., dewatering) as approved in advance by the RE and in accordance with applicable permits.
- When blast residue contains a potentially hazardous waste, refer to WM-6, “Hazardous Waste Management.”
- Implement WM-8, “Concrete Waste Management” in combination with this BMP.

Maintenance and Inspection

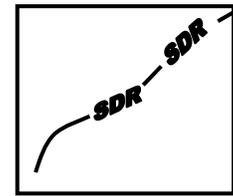
- At a minimum, inspect containment structures, if any, for damage or voids prior to use each day and prior to a likely forecasted rain event.
- At the end of each work shift, remove and contain the liquid and solid wastes from containment structures, if any, and from the general work area.
- Inspect concrete finishing areas at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
- Inspection and Maintenance of these areas must be properly documented and ensure no potential for discharges occur from these areas as part of the non-visible monitoring requirements.

SWPPP or WPCP

- Concrete Finishing must be discussed in Section 500.4 of the SWPPP or Section 30.3.1 of the WPCP.

Structure Demolition/Removal Over or Adjacent to Water

NS-15



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input checked="" type="checkbox"/>
Materials and Waste Management	<input type="checkbox"/>

- Definition and Purpose** Procedures to protect water bodies from debris and wastes associated with structure demolition or removal over or adjacent to receiving waters.
- Appropriate Applications**
- Full bridge demolition and removal projects.
 - Partial bridge removal (e.g., barrier rail, edge of deck) associated with bridge widening projects.
 - Projects that involve concrete channel removal.
 - Any other project with structure removal that could potentially affect water quality.
- Limitations** Specific requirements may be included in the contract documents and permit documents associated with regulatory agencies such as the Regional Water Quality Control Board, U.S. Army Corps of Engineers, and California Department of Fish and Wildlife.
- Standards and Specifications**
- General Requirements**
- A plan summarizing material containment, collection, and handling may be required to be submitted and fully implemented with the SWPPP.
 - Do not allow demolished material to enter storm drain systems and receiving waters. Use covers and platforms authorized by the RE to collect debris.
 - Collect and contain all demolished material within the containment system including process water and visible dust produced during demolition and cleaning operations daily. Handle debris according to Standard Specifications Section 13-4.03D.

Structure Demolition/Removal Over or Adjacent to Water

NS-15

- Implement in combination with NS-13, “Material and Equipment Use Over Water” and WM-04 “Spill Prevention and Control,” for handling of materials and equipment.
- Routinely sweep and vacuum work area to remove excess dust and debris in accordance with SC-07, “Street Sweeping.”
- Use inlet protection in accordance with SC-10, “Temporary Drainage Inlet Protection,” to protect storm drain inlets.
- Refer to NS-5, “Clear Water Diversion” to direct water away from work areas.
- Stockpile accumulated debris and waste generated during demolition away from drainage inlets and receiving waters and in accordance with WM-3, “Stockpile Management.”
- For structures containing hazardous materials (e.g., lead paint or asbestos) refer to WM-6, “Hazardous Waste Management.” For demolition work involving soil excavation around lead-painted structures, refer to WM-7, “Contaminated Soil Management.”
- Discharges to drainage inlets and receiving waters shall be reported to the RE and WPC Manager immediately upon discovery. A written discharge notification must follow.
- Keep adequate spill kit material onsite in accordance with a spill response plan, if applicable. Ensure that staff are trained regarding the deployment of the spill response plan.
- Ensure safe passage of wildlife, refer to Standard Specifications 83-3 Concrete Barriers.

Other Considerations

- Use attachments on construction equipment, such as backhoes and debris baskets, or barges to catch debris from demolition operations. Use plastic bibs to prevent hydraulic fuel leaks.
- Install perimeter controls and secondary containment to prevent leaks and spills from entering receiving waters. Perimeter controls and secondary containment may include sealed plywood and/or plastic sheeting, plastic liners and/or tarps, netting, silt fences, drip pans, containment booms and berms, and absorbent material.



Structure Demolition/Removal Over or Adjacent to Water

NS-15

- Maintenance and Inspection**
- Contractor must inspect demolition areas and containment systems over or adjacent to receiving waters daily when operations are ongoing.
 - Any debris-catching devices and containment systems shall be emptied daily. Collected debris shall be removed and stored away from the drainage inlets and receiving waters and protected from run-on and runoff.
 - Inspect demolition and containment systems over or adjacent to for leaks and spills at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
 - Inspection and Maintenance of these areas must be properly documented and ensure no potential for discharges occur from these areas as part of the non-visible monitoring requirements.
- SWPPP or WPCP**
- Structure Demolition/Removal Over or Adjacent to Water must be discussed in Section 500.4.1 of the SWPPP or Section 30 of the WPCP

Structure Demolition/Removal Over or Adjacent to Water

NS-15

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Section 8

Waste Management and Materials Pollution Control BMPs

8.1 Waste Management and Materials Pollution Control

Waste management and materials pollution control BMPs, like non-stormwater management BMPs, are source control BMPs that prevent pollution by limiting or reducing potential pollutants at their source before they come in contact with stormwater. These BMPs also involve day-to-day operations of the construction site and are under the control of the Contractor, and are additional “good housekeeping practices,” which involve keeping a clean, orderly construction site.

8.1.1 Waste Management BMPs

Waste management consists of implementing procedural and structural BMPs for handling, storing, and disposing of wastes generated by a construction project to prevent the release of waste materials into stormwater discharges.

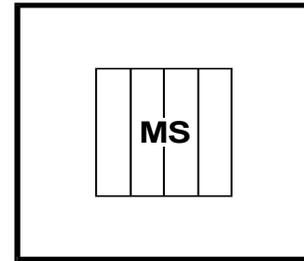
8.1.2 Materials Pollution Control BMPs

Materials pollution control (also called materials handling) consists of implementing procedural and structural BMPs for handling, storing, and using construction materials to prevent the release of those materials into stormwater discharges. The objective is to reduce the opportunity for rainfall to come in contact with these materials. These controls must be implemented for all applicable activities, material usage and site conditions.

Table 8-1 lists the waste management and materials pollution control BMPs.

Table 8-1. Waste Management and Materials Pollution Control BMPs	
ID	BMP Name
WM-1	Material Delivery and Storage
WM-2	Material Use
WM-3	Stockpile Management
WM-4	Spill Prevention and Control
WM-5	Solid Waste Management
WM-6	Hazardous Waste Management
WM-7	Contaminated Soil Management
WM-8	Concrete Waste Management
WM-9	Sanitary and Septic Waste Management
WM-10	Liquid Waste Management

The remainder of this section shows the working details for each of the waste management and materials pollution control BMPs.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose Procedures and practices for the proper handling and storage of materials in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or to receiving waters.

Appropriate Applications These procedures are implemented at all construction sites with delivery and storage of the following:

- Hazardous chemicals such as:
 - Acids
 - lime
 - glues
 - adhesives
 - paints
 - solvents
 - curing compounds
- Soil stabilizers and binders
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease

- Asphalt and concrete components
- Pesticides and herbicides
- Other materials that may be detrimental if released to the environment.

Limitations

- Space limitation may preclude indoor storage.
- Storage sheds must meet building & fire code requirements and be leak free.

Standards and Specifications

General

- Train employees and subcontractors on the proper material delivery and storage practices.
- Temporary storage area shall be located away from vehicular traffic.
- Safety Data Sheets (SDS) shall be supplied to the RE for all materials stored. Can be done at any time but at least 5 days prior to material being used or stored onsite.
- Must comply with Caltrans Standard Specification 13-4, “Job Site Management”, and 14-11, “Hazardous Waste and Contamination.”

Material Storage Areas and Practices

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall be placed in temporary containment facilities for proper storage.
- Each temporary containment facility shall have a permanent cover and side wind protection or be covered during non-working days and whenever a storm event is forecasted.
- A temporary containment facility shall provide for a spill containment volume able to contain precipitation from a 24-hour, 25-year storm event, plus the greater of ten percent of the aggregate volume of all containers or 100 percent of the capacity of the largest container within its boundary, whichever is greater.
- A temporary containment facility shall be impervious to the materials stored therein for a minimum contact time of 72 hours.
- A temporary containment facility shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as a hazardous waste unless testing determines them to be non-hazardous. All collected liquids or non-hazardous liquids shall be sent to an approved disposal site.

- Sufficient separation shall be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain, bagged and boxed materials shall be covered during non-working days and prior to rain events.
- Stockpiles shall be protected in accordance with WM-3, “Stockpile Management.”
- Have proper storage instructions posted at all times in an open and conspicuous location and include it as an informal training component of the tailgates and ongoing WPC training.
- Do not store hazardous chemicals, drums, or bagged materials directly on the ground. Place these items on a pallet, under cover in secondary containment.
- Keep ample supply of appropriate spill clean up material near storage areas.
- Also, see WM-6, “Hazardous Waste Management,” for storing of hazardous materials.

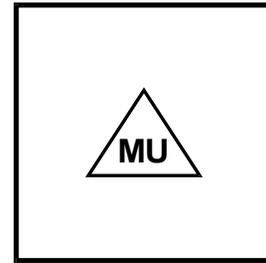
Material Delivery Practices

- Keep an accurate, up-to-date inventory of material delivered and stored on-site.
- Employees trained in emergency spill clean-up procedures shall be present when dangerous materials or liquid chemicals are unloaded.

Spill Clean-up

- Contain and clean up any spill immediately.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose any hazardous materials or contaminated soil.
- See WM-4, “Spill Prevention and Control,” for spills of chemicals and/or hazardous materials.

- Maintenance and Inspection
 - Storage areas shall be kept clean, well organized, and equipped with ample clean-up supplies as appropriate for the materials being stored.
 - Perimeter controls, containment structures, covers, and liners shall be repaired or replaced as needed to maintain proper function.
 - Inspect storage areas before, during and after rainfall events, and at least weekly during other times. Collect and place into drums any spills or accumulated rainwater and dispose of properly.
 - Material Delivery and Storage areas must be shown on the WPCDs and reflect current site conditions.
- SWPPP or WPCP
 - Material Delivery and Storage must be discussed in Section 500.4.2 of the SWPPP or Section 30.3.2 of the WPCP.



Standard Symbol

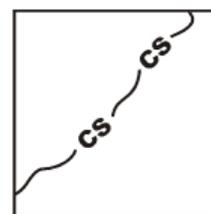
BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose These are procedures and practices for use of construction materials in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or to receiving waters.

Appropriate Applications This BMP applies to all construction projects. These procedures apply when the following materials are used or prepared on site:

- Hazardous chemicals such as:
 - Acids
 - lime
 - glues
 - adhesives
 - paints
 - solvents
 - curing compounds
- Soil stabilizers and binders
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease
- Asphalt and concrete components
- Pesticides and herbicides

- Other materials that may be detrimental if released to the environment
- Limitations** Safer alternative building and construction products may not be available or suitable in every instance.
- Standards and Specifications**
 - Safety Data Sheets (SDS) shall be supplied to the RE for all materials.
 - Latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, may be disposed of with other construction debris.
 - Do not remove the original product label, it contains important safety and disposal information. Use the entire product before disposing of the container.
 - Mix paint indoors, or in a containment area. Never clean paintbrushes or rinse paint containers into a street, gutter, storm drain or near a water body. Dispose of any paint thinners, residue and sludge(s), that cannot be recycled, as hazardous waste.
 - For water-based paint, clean brushes to the extent practical, and rinse to a drain leading to a sanitary sewer where permitted, or into a concrete washout pit. For oil-based paints, clean brushes to the extent practical and filter and reuse thinners and solvents.
 - Use recycled and less hazardous products when practical. Recycle residual paints, solvents, non-treated lumber, and other materials.
 - Use materials only where and when needed to complete the construction activity. Use safer alternative materials as much as possible.
 - Do not over-apply fertilizers and pesticides. Prepare only the amount needed. Strictly follow the recommended usage instructions.
 - Application of herbicides and pesticides shall be performed by a licensed applicator. Document the location, chemicals applied, applicants name and qualifications.
 - Contractors are required to complete the “Report of Chemical Spray Forms” when spraying herbicides and pesticides.
 - Keep an ample supply of spill clean up material near use areas. Train employees in spill clean up procedures.
 - Avoid exposing applied materials to rainfall and runoff unless sufficient time has been allowed for them to dry.
- Maintenance and Inspections**
 - Inspect storage areas before, during and after rainfall events, and at least weekly during other times. Collect and place into drums any spills or accumulated rainwater and dispose of properly.
 - Spot check employees and subcontractors throughout the job, include appropriate practices as part of the informal tailgate training.
- SWPPP or WPCP**
 - Material Use must be discussed in Section 500.4 of the SWPPP or Section 30.3 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose	Stockpile management procedures and practices are designed to reduce or eliminate air and storm water pollution from stockpiles of soil, and paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate subbase or pre-mixed aggregate, asphalt binder (so called “cold mix” asphalt) and pressure treated wood.
Appropriate Applications	Implemented in all projects that stockpile soil and other materials.
Limitations	Use of plastic cover might be restricted depending on the location of the site and regulatory permits.
Standards and Specifications	<ul style="list-style-type: none"> ■ Stockpiles must comply with Standard Specification 13-4.03C (3) Stockpile Management. ■ Protection of stockpiles is a year-round requirement. ■ Locate stockpiles a minimum of 50 ft. away from concentrated flows of storm water, drainage courses, and inlets. ■ Utilize run-on and run-off BMPs to ensure stockpile materials are protected and do not have the potential to discharge material. ■ Implement wind erosion control practices as appropriate on all stockpiled material. For specific information see WE-1, “Wind Erosion Control.” ■ Stockpiles of contaminated soil shall be managed in accordance with WM-7, “Contaminated Soil Management.” ■ Bagged materials should be placed on pallets and under cover.

Protection of Inactive Stockpiles

Inactive stockpiles of the identified materials shall be protected further as follows:

- Soil stockpiles:
 - soil stockpiles shall be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times. If no longer needed, they should be removed and disposed of properly.
- Stockpiles of portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, or aggregate subbase:
 - the stockpiles shall be covered or protected with a temporary perimeter sediment barrier at all times. If no longer needed, they should be removed and disposed of properly.
- Stockpiles of “cold mix”:
 - Cold mix stockpiles shall be placed on and covered with plastic or comparable material at all times and surround by a berm.
- Stockpiles/Storage of pressure treated wood with copper, chromium, and arsenic or ammonical, copper, zinc, and arsenate:
 - Treated wood shall be covered with plastic or comparable material and placed on pallets.

Protection of Active Stockpiles

Active stockpiles shall be protected further as follows:

- All stockpiles shall be covered, stabilized, or protected with a temporary linear sediment barrier prior to the onset of precipitation.
- Stockpiles of “cold mix” shall be placed on and covered with plastic or comparable material prior to the onset of precipitation.
- All Stockpiles should be removed from the site and disposed of properly.

Maintenance and Inspections

- Inspect Stockpile Management areas before, during and after rainfall events, and at least weekly during other times.
- Repair and/or replace perimeter controls and covers to keep Stockpile Management functioning properly.
- Stockpile Management areas must be shown on the WPCDs and reflect site conditions.

SWPPP or WPCP

- Stockpile Management must be discussed in Section 500.4.2 of the SWPPP or Section 30.3.2 of the WPCP.

Stockpile Management

WM-3

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose These procedures and practices are implemented to prevent and control spills in a manner that minimizes or prevents the discharge of spilled material to the drainage system or watercourses.

Appropriate Application This best management practice (BMP) applies to all construction projects. Spill control procedures are implemented anytime chemicals and/or hazardous substances are stored. Substances may include, but are not limited to:

- Soil stabilizers/binders.
 - Dust Palliatives.
 - Herbicides.
 - Growth inhibitors.
 - Fertilizers.
 - Deicing/anti-icing chemicals.
 - Fuels.
 - Lubricants.
 - Other petroleum distillates.
- To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes shall be contained and cleaned up immediately.

- Limitations**
- This BMP only applies to spills caused by the contractor. Other spills or discharges observed or discovered must be reported to the RE.
 - Procedures and practices presented in this BMP are general. Contractor shall identify appropriate practices for the specific materials used or stored on-site and follow the appropriate Safety Data Sheets (SDS).

- Standards and Specifications**
- Must comply with Caltrans Standard Specifications 13-4.03B Spill Prevention and Control.
 - To the extent that it doesn't compromise clean up activities, spills shall be covered and protected from stormwater run-on.
 - Spills shall not be buried or washed with water. Potable water has chlorine and therefore should not be allowed to be discharged off the project site.
 - Used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose shall be stored and properly disposed of.
 - Water used for cleaning and decontamination shall not be allowed to enter storm drains or watercourses and shall be collected and disposed of in accordance with WM-10, "Liquid Waste Management."
 - Water overflow or minor water spillage shall be contained and shall not be allowed to discharge into drainage facilities or watercourses.
 - Proper storage, clean-up and spill reporting instruction for hazardous materials stored or used on the project site shall be posted at all times in an open, conspicuous and accessible location.
 - Waste storage areas shall be kept clean, well organized and equipped with ample clean-up supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers and liners shall be repaired or replaced as needed to maintain proper function.

Education

- Educate employees and subcontractors on what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.

- The WPC Manager shall oversee and enforce proper spill prevention and control measures.
- The list of reportable quantities can be found at <https://www.bnl.gov/esh/env/compliance/docs/SaraTitleList.pdf>.

Cleanup and Storage Procedures

- Minor Spills:
 - Minor spills typically involve small quantities of oil, gasoline, paint, etc., which can be controlled by the first responder at the discovery of the spill.
 - Use absorbent materials on small spills rather than hosing down or burying the spill.
 - Remove the absorbent materials promptly and dispose of properly.
 - The practice commonly followed for a minor spill is:
 - Contain the spread of the spill.
 - Recover spilled materials.
 - Clean the area and/or properly dispose of contaminated materials.
- Semi-Significant Spills:
 - Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.
- Clean-up spills immediately:
 - Notify the WPC Manager immediately. The WPC Manager shall notify the RE and prepare the proper notifications as required.
- Contain spread of the spill.
 - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials.
 - If the spill occurs in dirt areas, immediately contain the spill. Dig up and properly dispose of contaminated soil.
 - If the spill occurs during rain, cover spill with tarps to prevent contaminating runoff.

- Significant/Hazardous Spills:

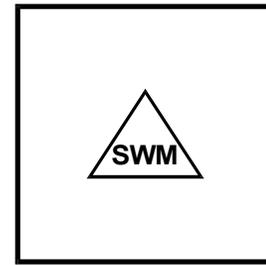
- For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, the following steps shall be taken:
 - Notify the RE immediately and follow up with a written report.
 - Notify the local emergency response by dialing 911. In addition to 911, the contractor will notify the proper county officials. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
 - Notify the Governor's Office of Emergency Services Warning Center, (800) 852-7550 or 1-916-845-8911.
 - For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor shall notify the National Response Center at (800) 424-8802.
 - Notification shall first be made by telephone and followed up with a written report. The reporting form is located at <http://www.caloes.ca.gov/FireRescueSite/Documents/304%20-%20Written%20Report%20Form.pdf>.
 - The services of a spills contractor or a Haz-Mat team shall be obtained immediately. Construction personnel shall not attempt to clean up the spill until the appropriate and qualified staff have arrived at the job site.
 - Other agencies which may need to be consulted include, but are not limited to, the Fire Department, the Public Works Department, the Coast Guard, the Highway Patrol, the City/County Police Department, Department of Toxic Substances, California Division of Oil and Gas, Cal/OSHA, RWQCB, etc.

Maintenance and Inspection

- Verify weekly that spill control clean-up materials are located near material storage, unloading, and use areas.
- Update spill prevention and control plans and stock appropriate clean-up materials when changes occur in the types of chemicals used or stored onsite.
- Improper clean-up might trigger need for water quality or soil testing. The WPC Manager should be proactive in ensuring controls are in place and adequate to contain and prevent further issues.

SWPPP or WPCP

- Spill Prevention and Control must be discussed in Section 500.4 of the SWPPP or Section 30.3.2 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose Solid waste management procedures and practices are designed to minimize or eliminate the discharge of pollutants to the drainage system or to water bodies as a result of the creation, stockpiling, or removal of construction site wastes.

Appropriate Applications Solid waste management procedures and practices are implemented on all construction projects that generate solid wastes.

Solid wastes include but are not limited to:

- Construction wastes including brick, mortar, timber, steel and metal scraps, sawdust, pipe and electrical cuttings, non-hazardous equipment parts, styrofoam and other materials used to transport and package construction materials.
- Highway planting wastes, including vegetative material, plant containers, and packaging materials.
- Litter, including food containers, beverage cans, coffee cups, paper bags, plastic wrappers, and smoking materials, including litter generated by the public.

Limitations None identified.

Standards and Specifications **Education**

- The WPC Manager shall oversee and enforce proper solid waste procedures and practices.

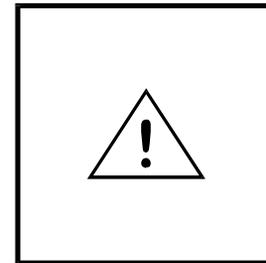
- Instruct employees and subcontractors on identification of solid waste and hazardous waste.
- Educate employees and subcontractors on solid waste storage and disposal procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings and tailgate sessions).
- Require that employees and subcontractors follow solid waste handling and storage procedures.
- Prohibit littering by employees, subcontractors, and visitors.
- Wherever possible, minimize production of solid waste materials.
- Must comply with Standard specification 14-10 Solid Waste Disposal and Recycling and 13-4 Job Site Handling.

Collection, Storage, and Disposal

- Dumpsters of sufficient size and number shall be provided to contain the solid waste generated by the project and be properly serviced. Must ensure that containers are watertight and have a cover.
- Littering on the project site shall be prohibited.
- To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines shall be a priority.
- Trash receptacles shall be provided in the Contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Construction debris and litter from work areas within the construction limits of the project site shall be collected and placed in watertight dumpsters at least weekly regardless of whether the litter was generated by the Contractor, the public, or others. Collected litter and debris shall not be placed in or next to drain inlets, storm water drainage systems or watercourses.
- Full dumpsters shall be removed from the project site and the contents shall be disposed of outside the highway right-of-way in conformance with the provisions in the Standard Specifications Section 14-10 Solid Waste Disposal and Recycling.
- Litter stored in collection areas and containers shall be handled and disposed of by trash hauling contractors.
- Construction material visible to the public shall be stored or stacked in an orderly manner to the satisfaction of the RE.

- Stormwater run-on shall be prevented from contacting stored solid waste by berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.
 - Solid waste storage areas shall be located at least 50 ft. from drainage facilities and watercourses and shall not be located in areas prone to flooding or ponding.
 - Except during fair weather, construction and highway planting waste not stored in watertight dumpsters shall be securely covered from wind and rain by covering the waste with tarps or plastic sheeting.
 - Dumpster washout on the project site is not allowed.
 - Notify trash hauling contractors that only watertight dumpsters are acceptable for use on-site.
 - Plan for additional containers during the demolition phase of construction.
 - Plan for more frequent pickup during the demolition phase of construction.
 - Construction waste shall be stored in a designated area and shown in the WPCDs.
 - Segregate potentially hazardous waste from non-hazardous construction site waste.
 - Keep the site clean of litter debris.
 - Make sure that toxic liquid wastes (e.g., used oils, solvents, and paints) and chemicals (e.g., acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
 - Dispose of non-hazardous waste in accordance with Standard Specification 14-10 Solid Waste Disposal and Recycling.
 - For disposal of hazardous waste, see BMP WM-6, “Hazardous Waste Management.” Have hazardous waste hauled to an appropriate disposal and/or recycling facility.
 - Salvage or recycle useful vegetation debris, packaging and/or surplus building materials when practical. For example, trees and shrubs from land clearing can be converted into wood chips, then used as mulch on graded areas. Wood pallets, cardboard boxes, and construction scraps can also be recycled.
- Maintenance and Inspection ■ The WPC Manager shall monitor onsite solid waste storage and disposal procedures.

- Specific locations for Solid Waste Storage or Containment must be shown in the WPCDs and must be inspected and maintained regularly.
- SWPPP or WPCP
- Solid Waste Management must be discussed in Section 500.4 of the SWPPP or Section 30.3.2 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose These are procedures and practices to minimize or eliminate the discharge of pollutants from construction site hazardous waste to the storm drain systems or to watercourses.

- Appropriate Applications**
- This best management practice (BMP) applies to all construction projects.
 - Hazardous waste management practices are implemented on construction projects that generate waste from the use of:
 - Petroleum Products
 - Asphalt Products
 - Concrete Curing Compounds
 - Pesticides
 - Palliatives
 - Acids
 - Paints
 - Stains
 - Solvents
 - Septic Wastes
 - Wood Preservatives

- Roofing Tar, or
- Any materials deemed a hazardous waste in California, Title 22 Division 4.5, or listed in 40 CFR Parts 110, 117, 261, or 302.

- Limitations**
- Nothing in this BMP relieves the Contractor from responsibility for compliance with federal, state, and local laws regarding storage, handling, transportation, and disposal of hazardous wastes.
 - This BMP does not cover aerially deposited lead (ADL) soils. For ADL soils refer to WM-7, “Contaminated Soil Management,” and the project special provisions.

Standards and Specifications

Education

- Educate employees and subcontractors on hazardous waste storage and disposal procedures.
- Educate employees and subcontractors on potential dangers to humans and the environment from hazardous wastes.
- Instruct employees and subcontractors on safety procedures for common construction site hazardous wastes.
- Instruct employees and subcontractors in identification of hazardous and solid waste.
- Hold regular meetings to discuss and reinforce hazardous waste management procedures (incorporate into regular safety meetings and tailgate sessions).
- The WPC Manager must oversee and enforce proper hazardous waste management procedures and practices.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.

Storage Procedures

- Wastes shall be stored in sealed containers constructed of a suitable material and shall be labeled as required by Title 22 CCR, Division 4.5 and 49 CFR Parts 172,173, 177 and 178, 179.
- All hazardous waste shall be stored, transported, and disposed as required in Title 22 CCR, Division 4.5 and 49 CFR 261-263.

- Waste containers shall be stored in temporary containment facilities that shall comply with the following requirements:
 - Temporary containment facility shall provide for a spill containment volume able to contain precipitation from a 24-hour, 25-year storm event, plus the greater of ten percent of the aggregate volume of all containers or 100 percent of the capacity of the largest tank within its boundary, whichever is greater.
 - Temporary containment facility shall be impervious to the materials stored there for a minimum contact time of 72 hours.
 - Temporary containment facilities shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks accumulated rainwater and spills shall be placed into drums after each rainfall. These liquids shall be handled as a hazardous waste unless testing determines them to be non-hazardous. Non-hazardous liquids shall be sent to an approved disposal site.
 - Sufficient separation shall be provided between stored containers to allow for spill cleanup and emergency response access.
 - Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
 - Temporary containment facilities shall be covered during non-working days, and prior to rain events. Covered facilities may include use of plastic tarps for small facilities or constructed roofs with overhangs. A storage facility having a solid cover and sides is preferred to a temporary tarp. Storage facilities shall be equipped with adequate ventilation.
- Drums shall not be overfilled and wastes shall not be mixed.
- Unless watertight, containers of dry waste shall be stored on pallets.
- Paint brushes and equipment for water and oil based paints shall be cleaned within a contained area and shall not be allowed to contaminate site soils, watercourses or drainage systems. Waste paints, thinners, solvents, residues, and sludges that cannot be recycled or reused shall be disposed of as hazardous waste. When thoroughly dry, latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths shall be disposed of as solid waste.
- Ensure that adequate hazardous waste storage volume is available.
- Ensure that hazardous waste collection containers are conveniently located.

- Designate hazardous waste storage areas on site away from storm drains or watercourses and away from moving vehicles and equipment to prevent accidental spills.
- Minimize production or generation of hazardous materials and hazardous waste on the job site.
- Use containment berms in fueling and maintenance areas and where the potential for spills is high.
- Segregate potentially hazardous waste from non-hazardous construction site debris.
- Keep liquid or semi-liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.
- Clearly label all hazardous waste containers with the waste being stored and the date of accumulation.
- Place hazardous waste containers in secondary containment.
- Do not allow potentially hazardous waste materials to accumulate on the ground.
- Do not mix wastes.

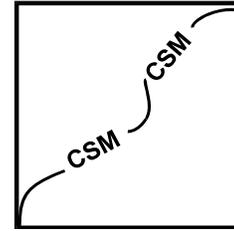
Disposal Procedures

- Waste shall be disposed of outside the highway right-of-way within 90 days of being generated, or as directed by the RE. In no case, shall hazardous waste storage exceed requirements in Title 22 CCR, Section 66262.34.
- Waste shall be disposed of by a licensed hazardous waste transporter at an authorized and licensed disposal facility or recycling facility utilizing properly completed Uniform Hazardous Waste Manifest forms.
- An ELAP accredited laboratory shall sample waste and analyze it to determine the appropriate disposal facility.
- Make sure that toxic liquid wastes (e.g., used oils, solvents, and paints) and chemicals (e.g., acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for solid waste construction debris.
- Properly dispose of rainwater in secondary containment that may have mixed with hazardous waste.
- Recycle any useful material such as used oil or water-based paint when practical.

- Attention is directed to "Hazardous Material", "Contaminated Material", and "Aerially Deposited Lead" of the contract documents regarding the handling and disposal of hazardous materials.
- Maintenance and Inspection
- The WPC Manager or QSP shall monitor on-site hazardous waste storage and disposal procedures.
 - Waste storage areas shall be kept clean, well-organized, and equipped with ample clean-up supplies as appropriate for the materials being stored.
 - Storage areas shall be inspected in conformance with the provisions in the contract documents. At a minimum, storage areas must be inspected before, daily during extended storm event, after every storm event and weekly year-round. Perimeter controls, containment structures, covers, and liners shall be repaired or replaced as needed to maintain proper function.
 - Hazardous spills shall be cleaned up and reported in conformance with the applicable Safety Data Sheet (SDS) and the instructions posted at the project site.
 - The National Response Center, at (800) 424-8802, shall be notified of spills of Federal reportable quantities in conformance with the requirements in 40 CFR parts 110, 117, and 302.
 - Copy of the hazardous waste manifests shall be provided to the RE.
- SWPPP or WPCP
- Hazardous Waste Management must be discussed in Section 500.4 of the SWPPP or Section 30.3 of the WPCP.

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Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose These are procedures and practices to minimize or eliminate the discharges of pollutants to the drainage system or to receiving waters from contaminated soil.

- Appropriate Applications**
- Contaminated soil management is implemented on construction projects where soil contamination may have occurred due to spills, illicit discharges, and leaks from underground storage tanks.
 - It may also apply to highway widening projects in older areas where median and shoulder soils may have been contaminated by aerially deposited lead (ADL).

Limitations The procedures and practices presented in this best management practice (BMP) are general. The contractor shall identify appropriate practices and procedures consistent with the plans and specifications for the specific contaminants known to exist or discovered on site.

Standards and Specifications ***Identifying Contaminated Areas***

- Contaminated soils are often identified during project planning and development with known locations identified in the plans and specifications. The contractor shall review applicable reports and examine applicable call-outs in the plans and specifications.
- The contractor may discover contaminated soils not identified in the plans and specifications by observing:
- Spills and leaks, discoloration, odors or abandoned underground tanks or pipes.

- Spills and leaks caused by the contractor are the contractor's responsibility for removal, testing, and disposal.

If unanticipated asbestos or hazardous substances are discovered, that were not released by the contractor, the contractor shall stop work in that area and immediately notify the RE. The contractor shall not resume work in the area until directed to do so.

Education

- Prior to performing any excavation work at the locations containing material classified as hazardous, employees and subcontractors shall complete a safety training program which meets 29 CFR 1910.120 and 8 CCR 5192 covering the potential hazards as identified.
- Educate employees and subcontractors in identification of contaminated soil and on contaminated soil handling, containment and disposal procedures.
- Hold regular meetings to discuss and reinforce contaminated soil handling, containment and disposal procedures (incorporate into regular safety meetings and tailgates).

Handling Procedures for Material with Aerially Deposited Lead (ADL)

- Materials from areas designated as containing (ADL) may, if allowed by the contract special provisions, be excavated, transported, and used in the construction of embankments and/or backfill.
- Must comply with Standard specification requirements outlined in Section 14-11 Hazardous Waste and Contamination.
- Must comply with the DTSC ADL agreement for specific requirements regarding handling, stockpiling and hauling of material.
- Excavation, transportation, and placement operations shall result in no visible dust.
- Use caution to prevent spillage of lead containing material during transport.
- Monitor the air quality during excavation of soils contaminated with lead.

Handling Procedures for Contaminated Soils

- Contaminated soil shall be disposed of properly in compliance with the specifications and all applicable regulations. in Title 22, CCR, Division 4.5 and section 14-11 of the specifications.
- If required by the specifications test contaminated soils at a SWRCB ELAP certified laboratory.

- If the soil is contaminated, work with the local regulatory agencies to develop options for treatment and/or disposal.
- Avoid temporary stockpiling of contaminated soils or hazardous material.
- If temporary stockpiling is allowed by the specifications.
- Place plastic sheeting or tarps underneath material and cover the stockpile with plastic sheeting or tarps if required by the specifications.
- Install a berm around the stockpile to prevent run-on or run-off from leaving the area.
- Do not stockpile in or near storm drains or receiving water.
- Install berms or run-on controls to prevent stormwater from commingling with contaminated areas.
- Contaminated material and hazardous material on exteriors of transport vehicles shall be removed and placed either into the current transport vehicle or the excavation prior to the vehicle leaving the exclusion zone.
- Monitor the air quality during excavation operations if required.
- Procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work, including registration for transporting vehicles carrying the contaminated material and the hazardous material.
- Collect water from decontamination procedures and treat and/or dispose of it at an appropriate disposal site.
- Collect non-reusable protective equipment, once used by any personnel, and dispose of at an appropriate disposal site.
- Install temporary security fence to surround and secure the exclusion zone. Remove fencing when no longer needed.
- Excavation, transport, and disposal of contaminated material and hazardous material shall be in accordance with the rules and regulations of the following agencies (the specifications of these agencies supersede the procedures outlined in this BMP):
 - United States Department of Transportation (USDOT).
 - United States Environmental Protection Agency (USEPA).
 - California Environmental Protection Agency (CAL-EPA).

- California Division of Occupation Safety and Health Administration (CAL-OSHA).
- Local regulatory agencies.

Procedures for Underground Storage Tank Removals

- If an unknown underground storage tank is discovered, the contractor shall stop work in that area and immediately notify the RE. The contractor shall not resume work in the area until directed to do so.
- If tank removal operations are required by the contract, follow the contract requirements for obtaining permits and approval from the federal, state, and local agencies, which have jurisdiction over such work.
- If tank removal operations are required by the contract, the underground storage tank, any liquid and/or sludge found within the tank, and all contaminated substances and hazardous substances removed during the tank removal shall be transported to disposal facilities as required by the contract Specifications.

Water Control

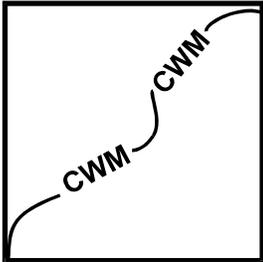
- Take all necessary precautions and preventive measures to prevent the flow of water, including ground water, from mixing with contaminated or hazardous materials or entering contaminated soil excavations. Such preventative measures may consist of, but are not limited to: berms, cofferdams, grout curtains, freeze walls, and seal course concrete or any combination thereof.
- If water does enter an excavation and becomes contaminated, such water, when necessary to proceed with the work, shall be dewatered consistent with NS-2, “Dewatering Operations” and the Caltrans *Field Guide to Construction Site Dewatering* Manual, and in compliance with the specifications.

Maintenance and Inspection

- The WPC Manager shall monitor on-site contaminated soil storage and disposal procedures.
- Monitor the air quality during excavation operations if required
- Manage contaminated soils and hazardous substances/waste under the appropriate federal, state, and local requirements.
- Inspect stockpiles, hazardous waste receptacles and storage areas regularly.

SWPPP or WPCP

- Contaminated Soil Management must be discussed in Section 500.4 of the SWPPP or Section 30.3.2 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose These are procedures and practices that are designed to minimize or eliminate the discharge of concrete waste materials to the storm drain systems or watercourses.

- Appropriate Applications**
- Concrete waste management procedures and practices are implemented on construction projects where concrete is used as a construction material or where concrete dust and debris result from demolition activities.
 - Where slurries containing portland cement concrete (PCC) or asphalt concrete (AC) are generated, such as from sawcutting, coring, grinding, grooving, and hydro-concrete demolition.
 - Where concrete trucks and other concrete-coated equipment are washed on site, when approved by the Resident Engineer (RE). See also NS-8, "Vehicle and Equipment Cleaning."
 - Where mortar-mixing stations exist.

Limitations ■ None identified.

- Standards and Specifications**
- Education**
- Educate employees, subcontractors, and suppliers on the concrete waste management techniques described herein.
 - The WPC Manager shall oversee and enforce concrete waste management procedures.

Concrete Demolition Wastes

- Stockpile concrete demolition wastes in accordance with BMP WM-3, “Stockpile Management.”
- Disposal of hardened PCC and AC waste shall be in conformance with Standard Specifications Section 14-10 Solid Waste Disposal and Recycling.

Concrete Slurry Waste Management and Disposal

- PCC and AC waste shall not be allowed to enter storm drainage systems or watercourses.
- A sign shall be installed adjacent to each temporary concrete washout facility to inform concrete equipment operators to utilize the proper facilities.
- The WPCM must ensure that onsite concrete working tasks are being monitored, such as saw cutting, coring, grinding and grooving to ensure proper methods are implemented.
- Residue from saw cutting, coring and grinding operations shall be picked up by means of a vacuum device. Residue shall not be allowed to flow across the pavement and shall not be left on the surface of the pavement. See also NS-3, “Paving and Grinding Operations.”
- Vacuumed slurry residue shall be disposed in accordance with WM-5, “Solid Waste Management” and Standard Specifications Section 7-1.13. Slurry residue shall be temporarily stored in a facility as described in “Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures” below), or within an impermeable containment vessel or bin.
- Collect and dispose of all residues from grooving and grinding operations in accordance with Standard Specifications Section 14-10 Solid Waste Disposal and Recycling and Standard Specifications 14-11 Hazardous Waste and Contamination.

Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures

- Temporary concrete washout facilities shall be located a minimum of 50 ft. from storm drain inlets, open drainage facilities, and watercourses, unless determined infeasible by the RE. Each facility shall be located away from construction traffic or access areas to prevent disturbance or tracking.
- A sign shall be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities. The sign shall be installed as shown on the plans and in conformance with the provisions in Standard Specifications Section 56-2, Overhead Sign Structure.

- Temporary concrete washout facilities shall be constructed above grade or below grade at the option of the Contractor. Temporary concrete washout facilities shall be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations.
- Temporary washout facilities shall have a temporary pit or bermed areas of sufficient volume to completely contain all liquid and waste concrete materials generated during washout procedures.
- Perform washout of concrete mixers, delivery trucks, and other delivery systems in designated areas only.
- Wash concrete only from mixer chutes into approved concrete washout facility. Washout may be collected in an impermeable bag or other impermeable containment devices for disposal.
- Pump excess concrete in concrete pump bin back into concrete mixer truck.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete shall be broken up, removed, and disposed of in conformance with the provisions in Standard Specifications Section 7-1.13 or 15-3.02.

Temporary Concrete Washout Facility Type “Above Grade”

- Temporary concrete washout facility Type “Above Grade” shall be constructed as shown on Page 6 or 7, with a recommended minimum length and minimum width of 10 ft, but with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations. The length and width of a facility may be increased, at the Contractor’s expense, upon approval from the RE.
- Straw bales, wood stakes, and sandbag materials shall conform to the provisions in SC-9, "Straw Bale Barrier."
- Plastic lining material shall be a minimum of 10-mil polyethylene sheeting and shall be free of holes, tears or other defects that compromise the impermeability of the material. Liner seams shall be installed in accordance with manufacturers’ recommendations.

- Portable delineators shall conform to the provisions in Standard Specifications Section 12-3.04, "Portable Delineators." The delineator bases shall be cemented to the pavement in the same manner as provided for cementing pavement markers to pavement. Portable delineators shall be applied only to a clean, dry surface.

Temporary Concrete Washout Facility (Type Below Grade)

- Temporary concrete washout facility Type "Below Grade" shall be constructed as shown on page 6, with a recommended minimum length and minimum width of 10 ft. The quantity and volume shall be sufficient to contain all liquid and concrete waste generated by washout operations. The length and width of a facility may be increased, at the Contractor's expense, upon approval of the RE. Lath and flagging shall be commercial type.
- Plastic lining material shall be a minimum of 10-mil polyethylene sheeting and shall be free of holes, tears or other defects that compromise the impermeability of the material. Liner seams shall be installed in accordance with manufacturers' recommendations.
- The soil base shall be prepared free of rocks or other debris that may cause tears or holes in the plastic lining material.
- Temporary washout facilities shall implement BMPs to prevent run-on and run-off from the facility.

Removal of Temporary Concrete Washout Facilities

- When temporary concrete washout facilities are no longer required for the work, as determined by the RE, the hardened concrete shall be removed and disposed of. Disposal of PCC dried residues, slurries or liquid waste shall be disposed of outside the highway right-of-way in conformance with provisions of Standard Specifications Section 7-1-13. Materials used to construct temporary concrete washout facilities shall become the property of the Contractor, shall be removed from the site of the work, and shall be disposed of outside the highway right-of-way.
- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be backfilled and repaired in conformance with the provisions in Standard Specifications Section 15-1.02, "Preservation of Property."

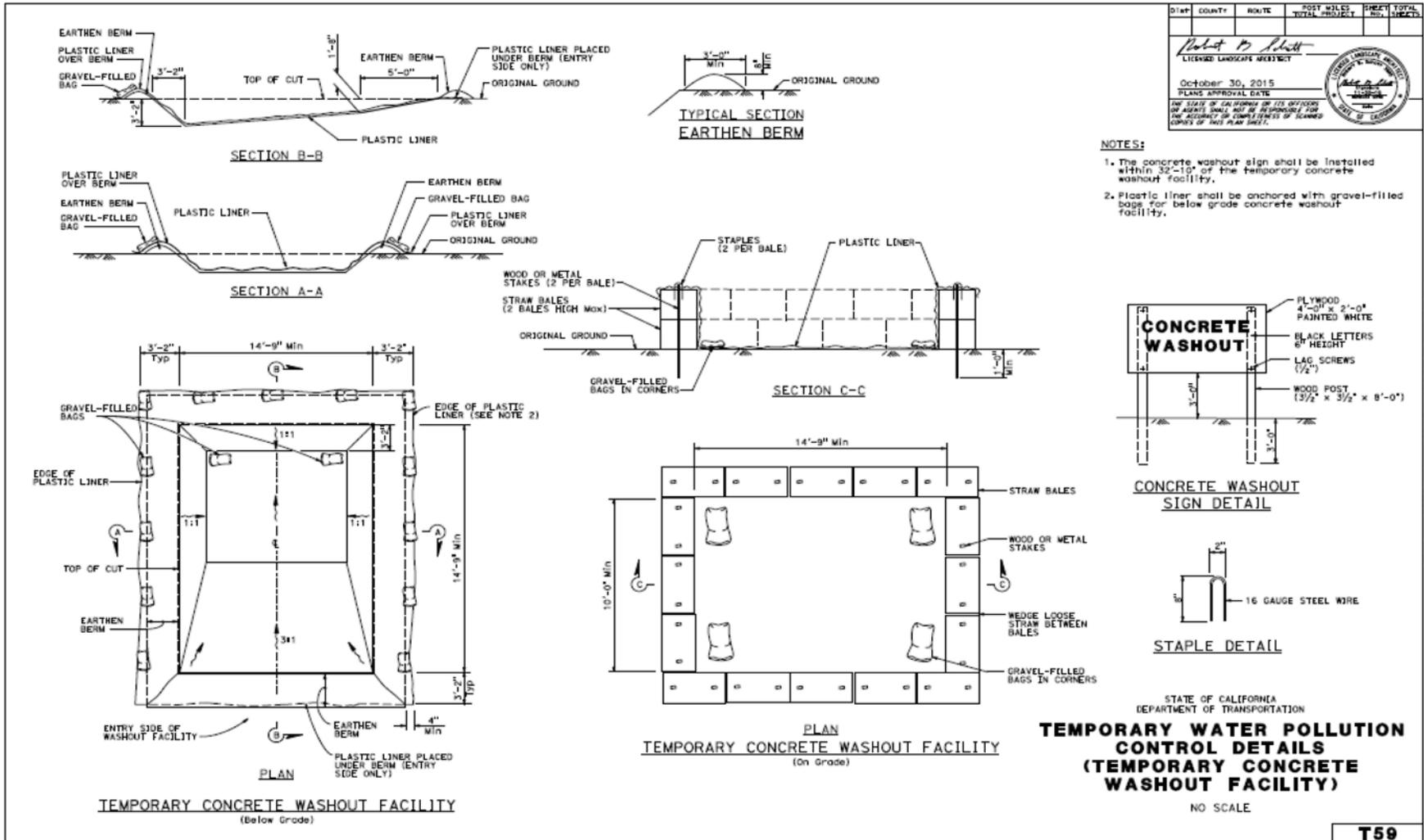
Maintenance and Inspection

- Inspect Concrete Waste Management areas before, during and after rainfall events, and at least weekly during other times.
- The WPC Manager shall monitor concrete working tasks, such as sawcutting, coring, grinding and grooving daily to ensure proper methods are employed or as directed by the RE.

- Temporary concrete washout facilities shall be maintained to provide adequate holding capacity with a minimum freeboard of 4 inches for above grade facilities and 12 inches for below grade facilities.
 - Maintaining temporary concrete washout facilities shall include removing and disposing of hardened concrete and returning the facilities to a functional condition.
 - Hardened concrete materials shall be removed and disposed of in conformance with the provisions in Standard Specifications Section 7-1.13 or 15-3.02.
 - Existing facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.
 - Temporary concrete washout facilities shall be inspected for damage (i.e. tears in polyethylene liner, missing sandbags, etc.). Damaged facilities shall be repaired.
 - Inspection and Maintenance of these areas must be properly documented and ensure no potential for discharges occur from these areas as part of the non-visible monitoring requirements.
- SWPPP or WPCP ■ Concrete Waste Management must be discussed in Section 500.4.2 of the SWPPP or Section 30.3.2 of the WPCP.

Concrete Waste Management

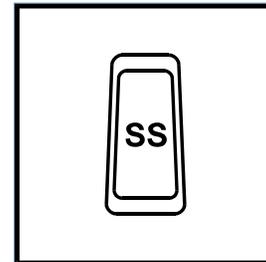
WM-8



2015 STANDARD PLAN T59

Sanitary and Septic Waste Management

WM-9



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

- Definition and Purpose** Procedures and practices to minimize or eliminate the discharge of construction site sanitary and septic waste materials to the storm drain system or to receiving waters.
- Appropriate Applications** Sanitary/septic waste management practices are implemented on all construction sites that use temporary or portable sanitary and septic waste systems.
- Limitations** None identified.
- Standards and Specifications** **Education**
- Educate employees, subcontractors, and suppliers on sanitary and septic waste storage and disposal procedures.
 - Educate employees, subcontractors, and suppliers of potential dangers to humans and the environment from sanitary/septic wastes.
 - Instruct employees, subcontractors, and suppliers in identification of sanitary/septic waste.
 - Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings and tailgates).
 - Establish a continuing education program to indoctrinate new employees.

Sanitary and Septic Waste Management

WM-9

Storage and Disposal Procedures

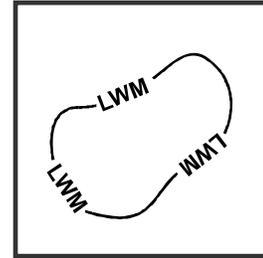
- Temporary sanitary facilities shall be located away from drainage facilities, receiving waters, and from traffic circulation.
- When subjected to high winds or risk for overtopping, temporary systems must be properly secured.
- Wastewater shall not be discharged or buried within the highway right-of-way.
- Sanitary and septic systems that discharge directly into sanitary sewer systems, where permissible, shall comply with the local health agency, city, county, and sewer district requirements.
- If using an on-site disposal system, such as a septic system, comply with local health agency requirements.
- Properly connect temporary sanitary facilities that discharge to the sanitary sewer system to avoid illicit discharges.
- Ensure that sanitary and septic facilities are maintained in good working order by a licensed service.
- Use only reputable, licensed sanitary/septic waste haulers.

Maintenance and Inspection

- Inspect onsite sanitary and septic waste storage and disposal procedures at least weekly, prior to a forecasted rain event, daily during extended rain events and post-storm events.
- Locations for portable Sanitary Systems must be shown on the WPCDs and reflect current site conditions.

SWPPP or WPCP

- Sanitary and Septic Waste Management must be discussed in Section 500.4.2 of the SWPPP or Section 30.3.2 of the WPCP.



Standard Symbol

BMP Objectives	
Soil Stabilization	<input type="checkbox"/>
Sediment Control	<input type="checkbox"/>
Tracking Control	<input type="checkbox"/>
Wind Erosion Control	<input type="checkbox"/>
Non-Stormwater Management	<input type="checkbox"/>
Materials and Waste Management	<input checked="" type="checkbox"/>

Definition and Purpose Procedures and practices to prevent discharge of pollutants to the storm drain system or to receiving waters as a result of the creation, collection, and disposal of non-hazardous liquid wastes.

Appropriate Applications Liquid waste management is applicable to construction projects that generate any of the following non-hazardous byproducts, residuals, or wastes:

- Drilling slurries and drilling fluids.
- Grease-free and oil-free wastewater and rinse water.
- Dredgings.
- Other non-storm water liquid discharges not permitted by separate permits.

- Limitations**
- Disposal of some liquid wastes may be subject to specific laws and regulations, or to requirements of other permits secured for the construction project (e.g., NPDES permits, Army Corps permits, Coastal Commission permits, etc.).
 - Does not apply to dewatering operations (see NS-2, “Dewatering Operations”), solid waste management (see WM-5, “Solid Waste Management”), hazardous wastes (see WM-6, “Hazardous Waste Management”), or concrete slurry residue (see WM-8, “Concrete Waste Management”).

- Does not apply to non-stormwater discharges permitted by any NPDES permit held by the pertinent Caltrans District, unless the discharge is determined by Caltrans to be a source of pollutants. Typical permitted non-stormwater discharges can include: water line flushing; landscape irrigation; diverted stream flows; rising ground waters; uncontaminated pumped ground water; discharges from potable water sources; foundation drains; irrigation water; springs; water from crawl space pumps; footing drains; lawn watering; flows from riparian habitats and wetlands; and, discharges or flows from emergency firefighting activities. See 2016 SWMP for complete list of permitted non-stormwater discharges.

Standards and Specifications

General Practices

- Must comply with Standard Specification 13-4.03 Spill Prevention and Control.
- The WPC Manager shall oversee and enforce proper liquid waste management procedures and practices.
- Instruct employees and subcontractors how to safely differentiate between non-hazardous liquid waste and potential or known hazardous liquid waste.
- Instruct employees, subcontractors, and suppliers that it is unacceptable for any liquid waste to enter any storm drainage structure, waterway, or receiving water.
- Educate employees and subcontractors on liquid waste generating activities, and liquid waste storage and disposal procedures.
- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings and tailgates).
- Verify which non-stormwater discharges are permitted by the Caltrans NPDES permit; different regions might have different requirements not outlined in this permit. Some listed discharges may be prohibited if Caltrans determines the discharge to be a source of pollutants.
- Apply the NS-8, “Vehicle and Equipment Cleaning” BMP for managing wash water and rinse water from vehicle and equipment cleaning operations.

Containing Liquid Wastes

- Drilling residue and drilling fluids shall not be allowed to enter storm drains and receiving waters and shall be disposed of outside the highway right-of-way in conformance with the provisions in Standard Specifications.
- If an appropriate location is available, as determined by the RE, drilling residue and drilling fluids that are exempt under California Code of Regulations (CCR) Title 23 §2511(g) may be dried by infiltration and evaporation in a containment facility constructed in conformance with the

provisions concerning the Temporary Concrete Washout Facilities detailed in WM-08, “Concrete Waste Management.”

- Liquid wastes generated as part of an operational procedure, such as water-laden dredged material and drilling mud, shall be contained and not allowed to flow into drainage channels or receiving waters prior to treatment.
- Contain liquid wastes in a controlled area, such as a holding pit, sediment basin, roll-off bin, or portable tank.
- Containment devices must be structurally sound and leak free.
- Containment devices must be of sufficient quantity or volume to completely contain the liquid wastes generated.
- Take precautions to avoid spills or accidental releases of contained liquid wastes. Apply the education measures and spill response procedures outlined in WM-4, “Spill Prevention and Control.”
- Do not locate containment areas or devices where accidental release of the contained liquid can threaten health or safety, or discharge to water bodies, channels, or storm drains.

Capturing Liquid Wastes

- Capture all liquid wastes running off a surface, which has the potential to affect the storm drainage system, such as wash water and rinse water from cleaning walls or pavement.
- Do not allow liquid wastes to flow or discharge uncontrolled. Use temporary dikes or berms to intercept flows and direct them to a containment area or device for capture.
- If the liquid waste is sediment laden, use a sediment trap SC-3, “Sediment Trap/Curb Cutback” for capturing and treating the liquid waste stream, or capture in a containment device and allow sediment to settle.

Disposing of Liquid Wastes

- Typical method is to dewater the contained liquid waste, using procedures such as described in NS-2, “Dewatering Operations”, and SC-2, “Sediment/Desilting Basin”; and dispose of resulting solids per WM-5, “Solid Waste Management.”
- Method of disposal for some liquid wastes may be prescribed in Water Quality Reports, NPDES permits, Environmental Impact Reports, 401 Water Quality Certifications or 404 permits, local agency discharge permits, etc., and may be defined elsewhere in the special provisions.

- Liquid wastes, such as from dredged material, may require testing and certification whether it is hazardous or not before a disposal method can be determined.
 - For disposal of hazardous waste, see WM-6, “Hazardous Waste Management.”
 - If necessary, further treat liquid wastes prior to disposal. Treatment may include, though is not limited to, sedimentation, filtration, and chemical neutralization.
- Maintenance and Inspection
- Spot check employees and subcontractors at least monthly throughout the job to ensure appropriate practices are being employed. At a minimum, liquid waste containment areas must be inspected before, during and after rain events, findings must be properly documented and any deficiencies timely corrected.
 - Remove deposited solids in containment areas and capturing devices as needed, and at the completion of the task. Dispose of any solids as described in WM-5, “Solid Waste Management.”
 - Inspect containment areas and capturing devices frequently for damage, and repair as needed.
 - Improper storage, containment or disposal might trigger sampling requirements per section 700 of the SWPPP.
 - Locations for Liquid Waste Management must be shown on the WPCDs and reflect current site conditions.
- SWPPP or WPCP
- Liquid Waste Management must be discussed in Section 500.4 of the SWPPP or Section 30.3 of the WPCP.

Appendix A: Definition of Terms

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Appendix A

Definition of Terms

Active Areas. An area where soil disturbing activities have occurred at least once within 14 days.

Areas of Construction. All areas subject to land surface disturbance activities related to the project including, but not limited to, project staging areas, immediate access areas and storage areas.

Active Treatment System (ATS). A treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment.

Air Deposition. Airborne particulates from construction activities.

Best Available Technology Economically Achievable (BAT). As defined by USEPA, BAT is a technology-based standard established by the CWA as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT). As defined by USEPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, total suspended sediment (TSS), fecal coliform, pH, oil and grease.

Best Management Practices (BMPs). BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Caltrans Permit. The Caltrans Statewide NPDES Permit for discharges from Caltrans properties, facilities, and activities (Order No. 2012-011-DWQ, NPDES No. CAS000003), issues by the SWRCB.

Construction Activity. Includes clearing, grading, or excavation and Contractor activities that result in soil disturbance.

Construction Site. The area involved in a construction project as a whole.

Construction Site BMPs. Temporary control practices (BMPs) that are required only temporarily to address a short-term stormwater contamination threat as a result of construction activities. For example, silt fences are located near the base of newly graded slopes that have substantial area of exposed soil. Then, during rainfall, the silt fences allow capture of sediment from erosion of the slopes.

Contractor. Party responsible for carrying out the contract per plans and specifications. The Standard Specifications and contract special provisions contain stormwater protection requirements the Contractor must address.

Contractor-Support Facilities. Contractor-support facilities include: Staging areas, storage yards for equipment and materials, mobile operations, batch plants for Portland Cement Concrete and Hot Mix Asphalt, crushing plants for rock and aggregate, other facilities installed for Contractor convenience such as haul roads.

Debris. Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

Direct Discharge. When surface runoff directly enters the surface water body without first flowing through a municipal separate storm sewer system (MS4).

Discharge. Any release, spill, leak, pump, flow, escape, dumping, or disposal of any liquid, semi-solid or solid substance.

Disturbed Soil Areas (DSAs). Areas of exposed, erodible soil, including stockpiles, that are within the construction limits and that result from construction activities.

Drainage Area. The area of land that drains water, sediment, pollutants, and dissolved materials to a common outlet.

Effluent. Any discharge of water by a discharger either to the receiving water or beyond the property boundary controlled by the discharger.

Environmental Protection Agency (EPA). Agency that issued the regulations to control pollutants in stormwater runoff discharges (The Clean Water Act and NPDES permit requirements).

Erosion. The process, by which soil particles are detached and transported by the actions of wind, water, or gravity.

Erosion Control BMPs. Vegetation, such as grasses and wildflowers, and other materials, such as straw, fiber, stabilizing emulsion, protective blankets, etc., placed to stabilize areas of disturbed soils, reduce loss of soil due to the action of water or wind, and prevent water pollution.

Exempt Construction Activities. Activities exempt from the CGP, including routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility; and emergency construction activities required to protect public health and safety. Local permits may not exempt these activities.

Existing vegetation. Any vegetated area that has not already been cleared and grubbed.

Final Stabilization. All soil disturbing activities at each individual parcel within the site have been completed in a manner consistent with the requirements in this General Permit.

Forecasted Storm Event. A storm that produces or is forecasted to produce at least 0.10 inch of precipitation within a 24-hour period.

General Permit. The Construction General Permit for Storm Water Discharges Associated with Construction Activity (Order No. 2009-000-DWQ, NPDES Permit CAS000002) and amendments (Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ) issued by the SWRCB.

Good Housekeeping. A common practice related to the storage, use, or cleanup of materials, performed in a manner that minimizes the discharge of pollutants.

Good Housekeeping BMPs. BMPs designed to reduce or eliminate the addition of pollutants to construction site runoff through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions. Grading Phase (part of the Grading and Land Development Phase) includes reconfiguring the topography and slope including; alluvium removals; canyon cleanouts; rock undercuts; keyway excavations; land form grading; and stockpiling of select material for capping operations.

Illegal Connection. Discarding or disposal within the Caltrans right-of-way, properties or facilities, either intentionally or unintentionally, of trash or other wastes in non-designated areas that may contribute to stormwater pollution.

Illegal Dumping. An engineered conveyance that is connected to an MS4 without authorization by local, state, or federal statutes, ordinances, codes or regulations.

Illicit Discharge. Any discharge to an MS4 that is prohibited under local, state, or federal statutes, ordinances, codes or regulations. It includes all non-stormwater discharges except conditionally exempt non-stormwater discharges.

Inactive Construction Area. Any area not considered to be an active construction area. Active construction areas become inactive construction areas whenever construction activities are expected to be discontinued for a period of 14 days or longer.

Indirect Discharge. When surface runoff enters the surface water body through an MS4 stormwater conveyance system or unlisted tributary before reaching the surface water.

National Pollutant Discharge Elimination System (NPDES) Permit. A permit issued pursuant to the CWA that requires the discharge of pollutants to waters of the United States from stormwater be controlled.

Non-Storm Water Discharges. Non-Storm Water Discharges are discharges that do not originate from forecasted storm events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

Non-Visible Pollutants. Pollutants associated with a specific site or activity that can have a negative impact on water quality, but cannot be seen through observation (ex: chlorine). Such pollutants being discharged are not authorized.

pH. Unit universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Pollution. The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water. An alteration of the quality of the water of the state by waste to a degree, which unreasonably affects either the waters for beneficial uses or facilities that serve these beneficial uses.

Post-Construction BMPs. Structural and non-structural controls which detain, retain, or filter the release of pollutants to receiving waters after final stabilization is attained.

Qualified SWPPP Developer (QSD). Individual who is authorized to develop and revise SWPPPs.

Qualified SWPPP Practitioner (QSP). Individual assigned responsibility for non-storm water and storm water visual observations, sampling and analysis, and responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

Receiving Waters. All surface water bodies within the permit area.

Regional Water Quality Control Board (RWQCB). California agencies that implement and enforce CWA Section 402(p) NPDES permit requirements, and are issuers and administrators of these permits as delegated by USEPA. There are nine regional boards working with the SWRCB.

Resident Engineer (RE). The Caltrans representative charged with administration of construction contracts. The RE decides questions regarding acceptability of material furnished and work performed. The RE has "contractual authority" to direct the Contractor and impose sanctions if the Contractor fails to take prompt and appropriate action to correct deficiencies. The following contractual sanctions can be imposed by the RE: (a) withholding payments (or portions of payments), (b) suspending work, (c) bringing in a separate Contractor to complete work items (the Contractor is billed for such costs), (d) assessing liquidated damages including passing along fines for permit violations, (e) initiating cancellation of the construction contract.

Routine Maintenance. Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Runoff Control BMPs. Measures used to divert run-on from off-site and runoff within the site.

Runoff Effect. The effect that a particular soil stabilization product has on the production of stormwater runoff. Runoff from an area protected by a particular product may be compared to the amount of runoff measured for bare soil

Run-on. Discharges that originate off-site and flow onto the property of a separate project site.

Sediment. Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sedimentation. Process of deposition of suspended matter carried by water, wastewater, or other liquids, by gravity. It is usually accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.

Sediment Control BMPs. Practices that trap soil particles after they have been eroded by rain, flowing water, or wind. They include those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped (e.g., silt fence, sediment basin, fiber rolls, etc.).

Sheet Flow. Flow of water that occurs overland in areas where there are no defined channels where the water spreads out over a large area at a uniform depth.

Soil Amendment. Any material that is added to the soil to change its chemical properties, engineering properties, or erosion resistance that could become mobilized by storm water.

State Water Resources Control Board (SWRCB). California agency that implements and enforces CWA Section 402(p) NPDES permit requirements, is issuer and administrator of these permits as delegated by EPA. Works with the nine Regional Water Quality Control Boards.

Storm Drain System. Streets, gutters, inlets, conduits, natural or artificial drains, channels and watercourses, or other facilities that are owned, operated, maintained and used for the purpose of collecting, storing, transporting, or disposing of stormwater.

Stormwater. Rainfall runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

Stormwater Pollution Prevention Plan (SWPPP). A plan required by the CGP or the LTCGP that includes site map(s), an identification of construction/contractor activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants. It must be prepared and authorized before construction begins. A SWPPP prepared in accordance with the Special Provisions and the Handbooks will satisfy Standard Specifications Section 13 Water Pollution Control

Temporary Construction Site BMPs. Construction Site BMPs that are required only temporarily to address a short-term stormwater contamination threat. For example, silt fences are located near the base of newly graded slopes that have a substantial area of exposed soil. Then, during rainfall, the silt fences filter and collect sediment from runoff flowing off the slope.

Water Pollution Control Manager (WPC Manager). The person responsible for the implementation of the SWPPP or WPCP, whichever is applicable for the project. The WPC Manager must be a QSP whenever the project requires a WPCP. The WPC Manager must be a QSD whenever the project requires a SWPPP.

Water Pollution Control Program (WPCP). A WPCP is a plan to identify water quality management practices to be implemented that must be prepared for all construction projects that do not require preparation of a SWPPP. For Caltrans projects disturbing more than one acre, a SWPPP satisfies the requirement for a WPCP.

Waters of the United States. Generally, refers to surface waters, as defined by the federal Environmental Water quality objectives are defined in the California Water Code as limits or levels of water quality constituents or characteristics, which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

Appendix B: Selection of Temporary Soil Stabilization Controls

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Appendix B

Selection of Temporary Soil Stabilization Controls

Temporary Soil Stabilization BMPs (SS BMPs) are designed to eliminate or reduce the erosion of disturbed soil areas and to reduce the transport of sediment and pollutants by stormwater during construction. SS BMPs are used to bind soil particles together, or coat the disturbed soil surface area, thereby protecting the disturbed soil area from the erosive forces of water and wind.

Section 3 of this Manual provides guidance on the selection, limitations, installation, and maintenance for approved SS BMPs. This appendix provides additional details for Field Staff and Contractors on relevant factors to consider for selecting appropriate products for project specific construction sites/areas.

Caltrans has approved six types of SS BMPs (Standard Specifications Section 13-5) listed below. These BMPs are to be applied to disturbed soil areas to eliminate or reduce erosion and the potential transport and discharge of sediment and other pollutants from Caltrans right-of-way. The SS BMPs listed as sub bullets are acceptable alternatives because they have the same general function. For example, when a project requires the use of Mulch (SS-3) both Temporary Hydraulic Mulch or Temporary Bonded Fiber Matrix Hydraulic Mulch can be used to meet the requirement.

- Mulch (SS-3)
 - Temporary Hydraulic Mulch
 - Temporary Bonded Fiber Matrix Hydraulic Mulch
- Temporary Hydroseed (SS-4)
- Soil Binders (SS-5)
 - Temporary Cementitious Binder Hydraulic Mulch
 - Temporary Soil Binder
- Temporary Tacked Straw (SS-6)
 - Temporary Tacked Straw
- Temporary Rolled Erosion Control Products (SS-7)
 - Temporary Erosion Control Blanket
 - Erosion Control Blanket
 - Temporary Covers
- Temporary Wood Mulch (SS-8)
 - Temporary Mulch

Subsection B.1 includes general factors that should be considered when the SS BMPs listed above may be selected. Subsection B.2 includes a flowchart and tables that will guide the user through the site evaluation to optimize the selection of SS BMPs for the specific construction area. Subsection B.3 includes some general description of sediment control BMPs, as they should be used in conjunction with SS BMPs to optimize BMP coverage and comply with Permit requirements.

B.1 – General factors to consider for maximizing usage of Temporary Soil Stabilization BMPs

Understanding the characteristics of a construction site/area, including how it will impact stormwater and how stormwater will impact it, is important for SS BMP planning and selection. The following characteristics must be considered before selecting a SS BMP(s).

- Preparing soil to optimize SS BMP effectiveness
 - The proper application of SS BMPs can be improved by ensuring that the area(s) that will receive SS BMPs have adequate soil preparation, whether it is track walking the slope, imprinting, or using soil amendments, or to ensure long-term vegetation sustainability having seed testing done prior to seeding the area. These techniques, in conjunction with the selection of correct SS BMP, can prevent sediment-laden discharges, reduce the need for continuous maintenance, and increase establishment of permanent vegetative cover.
- Proper Timing for application of SS BMPs
 - Consider the timing of construction as it relates to the seasonal distribution of erosive rainfall and the climate regime that the construction site/area is located in. Large areas of California are located in a Mediterranean climate regime where summers are hot and dry and winters are cool and rainy. Simply timing the application of stabilization measures prior to the beginning of the rainy season in late fall makes a significant difference in erosion and sediment delivery rates. Construction during a period of high erosive potential requires a much shorter bare soil period and will influence the choice of sediment controls. Those sediment controls that provide instant protection will be preferred over those requiring germination and establishment of vegetation.
- Determining the Specific Soil Erosivity Potential
 - A proper evaluation of the soil erosive potential and sediment delivery rates for the project specific construction site/area during the planned construction period is crucial to preventing both multiple applications of SS BMPs and sediment-laden discharges. Caltrans has a variety of tools available, from their refined RUSLE, which conform to Caltrans construction sites and is more user friendly, to the Caltrans Landscape Architecture Toolbox which can be accessed via http://www.dot.ca.gov/hq/LandArch/16_la_design/guidance/roadside_safety_tb/index.htm. The RUSLE assessment and the Landscape Toolbox can be used to evaluate soil conditions, erosivity potential, and proposed soil stabilization concepts for any construction sites/areas, even those that are less than an acre in size, and not subject to CGP or LTCGP.

B.2 Site Evaluation

The following flowchart and tables are an abridged and modified summary of the *Guidance for Temporary Soil Stabilization* (July 2003) and it is intended to be used to determine the most appropriate SS BMP to be deployed. All steps shown in Figure B-1 must be completed.

Step 1 – Start.

The Construction Field Staff or Contractor should use Figure B-1, the guidance provided in this section, and the tables that follow to determine the best option to stabilize the project specific construction site/area.

Continue to the next step.

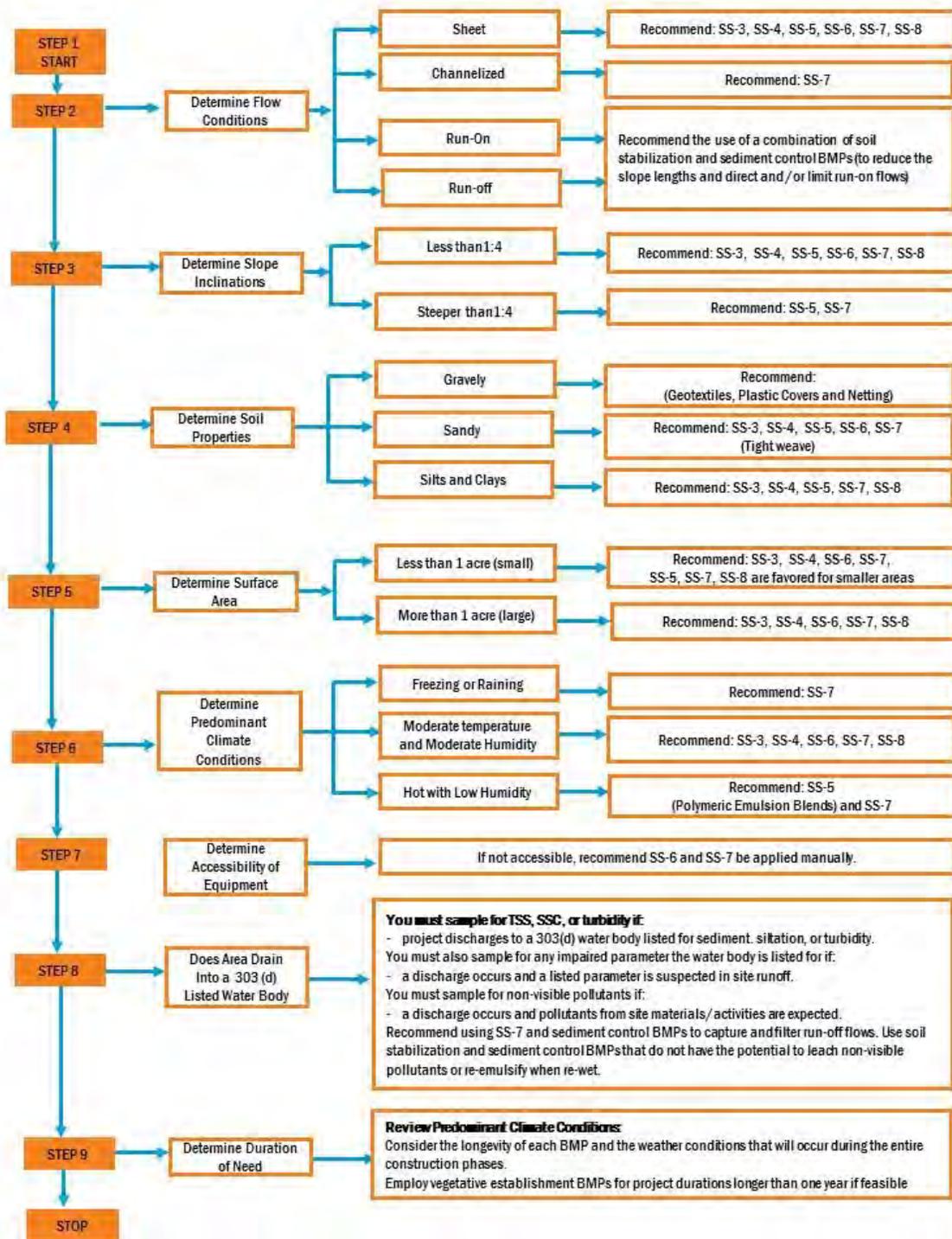


Figure B-1. Consideration of Temporary SS BMPs

Step 2-Assess the flow conditions for the area that will receive the SS BMP.

- Sheet Flow
- Channelized Flow
- Run-on Flow
- Run-off Flow

As velocities increase, the options for SS BMPs decrease. Areas that will receive direct run-on or run-off must be hydraulically evaluated to ensure there will be no additional sediment deposition. It is recommended to use a combination of SS BMPs and Temporary Sediment Control BMPs (SC BMPs) to control impacts due to run-on or run-off.

There are specific inspection requirements in the CGP or the LTCGP that must be complied with and documented by the QSP or QSD as noted in the flowchart.

Continue to the next step.

Step 3-Assess the Slope Inclination and Slope Length of area that will receive the SS BMP.

- Less than 1:4 (V:H)
- Greater than 1:2 (V:H)

The slope length is measured or calculated along the continuous inclined surface. A discrete slope can be measured between the following criteria:

- From the top of the slope to the toe of the slope (if there are no benches¹)
- From the top of the slope to the bench directly below within the slope.
- From a bench within the slope to the bench directly below within the slope.
- The lowest bench within the slope to the toe of the slope.

Continue to the next step.

Step 4-Assess the soil properties and erodibility for the area that will receive the SS BMP

Soil properties relate to available soil moisture, available soil nutrients for plant growth, and depth and presence of rock fragments that hinder temporary and permanent seeding establishment. When choosing temporary measures on various soils, the larger concern is the erosion potential (erodibility) of the soil.

soil erosion rates can be predicted by RUSLE2 on construction sites/areas. RUSLE2 uses USDA Soil Survey data which contains the soil erodibility or K factor for all mineral soils. RUSLE2 requires a K factor to run so in cases where the soil has been disturbed or when no soil K factors range from 0.01 to 0.64. The higher the k the higher the potential erosion rate.

Table B.2-1 provides the soil properties in relation to the Unified Soil Classification and USDA Texture.

¹ A bench is a drainage feature or a Temporary Sediment Control BMP that intercepts surface flow and conveys the resulting concentrated flow away from the slope.

Table B.2-1 Soil properties						
USDA Texture	Unified Soil Classification	K factor Undisturbed Condition	General Erodibility	K factor Highly Disturbed Conditions	Hydrologic Class	General Runoff Classification
Gravelly Clay	GC	0.17	Low	-	D	Highest
	GC	0.24	Moderately Low	-	D	Highest
Gravelly Clay Loam	GC-Gm	0.2	Low	-	C	Moderately High
	GC-GM	0.28	Moderately Low	-	C	Moderately High
Gravelly Loam	GC-GM	0.2	Low	-	A	Lowest
	GC-GM	0.05	Very Low	-	A	Lowest
Gravelly Sand	GW	0.02	Very Low	-	A	Lowest
	GP	0.05		-		
Gravelly Sandy Clay Loam	GP-GC	0.2	Low	-	C	Moderately High
	GP-GC	0.28	Moderately Low	-	C	Moderately High
Gravelly Sandy Loam	GP-GM	0.15	Low	-	B	Moderately Low
	GP-GM	0.2	Low	-	B	Moderately Low
Gravelly Silt Loam	GW-GM	0.24	Moderately Low	-	C	Moderately High
	GW-GM	0.32	Moderate	-	C	Moderately High
Gravelly Silty Clay	GW-GC	0.15	Low	-	D	Highest
	GW-GC	0.2	Low	-	D	Highest
Gravelly Silty Clay Loam	GW-GM	0.24	Moderately Low	-	C	Moderately High
	GW-GM	0.32	Moderate	-	C	Moderately High
Clay	CH	0.32	Moderate	0.17	D	Highest
	CH	0.32	Moderate	0.11	D	Highest
	CH	0.28	Moderate	0.16	D	Highest
Clay Loam	CL	0.32	Moderate	0.23	C	Moderately High
	CL	0.24	Moderate	0.18	C	Moderately High
	CL	0.37	Moderately High	0.29	D	Highest
	CL	0.28	Moderate	0.18	C	Moderately High
	CL	0.32	Moderate	0.26	D	Highest
	CL	0.37	Moderately High	0.29	C	Moderately High
Loam	ML	0.32	Moderate	0.38	C	Moderately High
	ML	0.24	Moderate	0.29	C	Moderately High
	ML	0.37	Moderately High	0.43	D	Highest
	ML	0.28	Moderate	0.35	D	Highest
	ML	0.32	Moderate	0.4	D	Highest
	ML	0.37	Moderately High	-	D	Highest
Loamy Sand	SM	0.17	Low	0.13	A	Lowest
Loamy Coarse Sand	SM	0.2	Low	-	A	Lowest

Table B.2-1 Soil properties						
USDA Texture	Unified Soil Classification	K factor Undisturbed Condition	General Erodibility	K factor Highly Disturbed Conditions	Hydrologic Class	General Runoff Classification
Loamy Fine Sand	SM	0.19	Low	-	A	Lowest
Loamy Very Fine Sand	SM	0.2	Low	-	A	Lowest
Sand	SW-SP	0.15	Low	0.069	A	Lowest
Fine Sand	SW	0.11	Low	-	A	Lowest
Very Fine Sand	SW	0.11	Low	-	A	Lowest
Sandy Clay Loam	SW-SC, SP-SC	0.32	Moderate	0.18	C	Moderately High
	SW-SC, SP-SC	0.24	Moderate	0.13	C	Moderately High
	SW-SC, SP-SC	0.37	Moderately High	0.23	D	Highest
	SW-SC, SP-SC	0.28	Moderate	0.2	C	Moderately High
	SW-SC, SP-SC	0.32	Moderate	0.16	D	Highest
	SW-SC, SP-SC	0.37	Moderately High	-	C	Moderately High
Sandy Loam	SW-SM, SP-SM	0.24	Moderate	0.33	B	Moderately Low
Coarse Sandy Loam	SW-SM	0.33	Moderate	-	B	Moderately Low
Fine Sandy Loam	SW-SM	0.33	Moderate	-	B	Moderately Low
Sandy Loam	SW-SM, SP-SM	0.28	Moderate	0.35	C	Moderately High
Sandy Loam	SW-SM, SP-SM	0.2	Low	0.23	B	Moderately Low
Sandy Loam	SW-SM, SP-SM	0.24	Moderate	0.3	C	Moderately High
Sandy Loam	SW-SM, SP-SM	0.28	Moderate	-	B	Moderately Low
Very Fine Sandy Loam	SW-SM	0.33	Moderate	-	B	Moderately Low
Silt	MI	0.57	Very High	0.57	C	Moderately High
Silt Loam	MI, CI	0.37	Moderately High	0.42	C	Moderately High
	ML, CL	0.28	Moderate	0.33	C	Moderately High
	ML, CL	0.43	Moderately High	-	C	Moderately High
	ML, CL	0.43	Moderately High	0.47	D	Highest
	ML, CL	0.37	Moderately High	0.44	D	Highest
	ML, CL	0.32	Moderate	0.39	C	Moderately High
Silty Clay	CI	0.28	Moderate	0.18	D	Highest
	CL	0.32	Moderate	0.18	D	Highest

Table B.2-1 Soil properties						
USDA Texture	Unified Soil Classification	K factor Undisturbed Condition	General Erodibility	K factor Highly Disturbed Conditions	Hydrologic Class	General Runoff Classification
	CL	0.28	Moderate	0.17	D	Highest
	CL	0.37	Moderately High	0.29	C	Moderately High
	CL	0.28	Moderate	0.2	C	Moderately High
Silty Clay Loam	CI	0.43	Moderately High	-	C	Moderately High
	CL	0.43	Moderately High	0.33	D	Highest
	CL	0.32	Moderate	0.26	C	Moderately High
	CL	0.37	Moderate	0.29	D	Highest

Continue to the next step.

Step 5-What is the total surface area that will receive the SS BMP

Surface area is the amount of disturbed soil area on the construction site/area that will require protection from erosion with various SS BMPs. Surface area categories are grouped in the following way:

- Small: 1 acre or less
- Large: 1 acre or more

In order to maximize effectiveness, the field staff must ensure that the surface area to be stabilized is adequate for the stabilization crew to complete their application prior to onset of rain, and can be accessed as discussed in steps below

Continue to the next step.

Step 6-What is the Predominant Climate Atmospheric Condition on the day the soil stabilization will be installed

Atmospheric conditions on the day of installation can limit the type of BMP that can be applied to the disturbed soil area because some SS BMPs are not effective in extreme weather conditions such as snow or heat. Other BMPs may require drying times and should not be applied to slopes while it is raining. Climate variations are caused primarily by distance from the coast and elevation. When selecting SS BMPs consider the temperature ranges, frequency and intensity of rainfall, wind, and humidity.

Continue to the next step.

Step 7- Any issues with Accessibility of Equipment

The accessibility of equipment refers to whether a road or pad capable of supporting equipment for applying SS BMPs is within range of the disturbed soil area. If the construction site/area does not have vehicular access, only SS BMPs applied manually are applicable.

Continue to the next step.

Step 8-Where is the site discharging to, any 303(d) Listed Water Bodies?

Within the Clean Water Act regulations, Section 303(d) listed water bodies that are impaired by various pollutants and are designated for developing Total Maximum Daily Loads (TMDLs). If a construction site drains into a Section 303(d) listed water body, understanding and meeting the required TMDL is essential for compliance.

It is essential to understand site run-off dynamics and control needs. The limitations of the SS BMPs, with respect to their potential water quality impacts, must be clearly understood. Proper selection and installation of SS BMPs can facilitate compliance by eliminating pollutants that discharge into Section 303(d) listed water bodies.

Continue to the next step.

Step 9- What is the duration of need?

The timeframe for which SS BMPs are needed will depend on the construction schedule and has a direct correlation to the longevity of the temporary SS BMP selected. Longevity ranges are typically:

- Less than 3 months
- Between 3 and 12 months
- Greater than 12 months
 - Stop.

Construction site/area characteristics applicable to the SS BMPs are provided in Table B.2.2 while the timing and cost associated with the SS BMPs are provided in Table B.2.3.

Table B.2-2 - Applicability of Temporary Soil Stabilization BMPs to Site Characteristics

Type	Method of Binding	Class	Flow Conditions	Max Slope Inclination (V:H) ⁽¹⁾	Surface Area	Atmospheric Conditions	Accessibility	Drains to 303(d) Listed Water Body	Duration of Need ⁽²⁾	Initial Erosion Prevention Effectiveness (4)	Decomposition Rate per day (5)
Hydraulic Mulch	NA	Biodegradable				A	B	C,D	3 to 12 months	87%	0.0039
Hydraulic Matrix	NA	Biodegradable				A	B	C,D	Less than 3 months	88%	0.0039
Bonded Fiber Matrix	NA	Biodegradable		1:2	large	A	B	C,D	3 to 12 months	91%	0.0039
Mechanically Bonded Fiber Matrix	NA	Biodegradable and Photodegradable	Sheet			A	B	C,D		90%	0.0058
Hydroseed (standalone)	NA	NA		1:3		A	B	D		17%	N/A
Hydroseed with Hydraulic Mulch	NA	NA				A	B	C		84%	0.0058
Hydroseed with Soil Binder	NA	NA		1:2	small to large	A	B	C	Greater than 12 months	28%	0.023
Hydroseed with Straw Mulch Integrated	NA	NA				A	B	D		90%	0.008
Hydroseed - Straw Mulch and Soil Binder	NA	NA				A	B	C,D		91%	0.008
Hydroseed with Rolled Erosion Control Products	NA	NA	Channelized and Sheet	1:1	small	A	E	D		84%	0.0015
Guar	NA	Plant-Based Material (Short Lived)				A	B	C,D	Less than 3 months	80%	0.046
Starch	NA	Plant-Based Material (Short Lived)				A	B	C,D	3 months	25%	0.046
Psyllium	NA	Plant-Based Material (Long Lived)				A	B	C,D	Between 3 and 12 months	30%	0.023
Pitch & Rosin Emulsion	NA	Plant-Based Material (Long Lived)	Sheet	1:2	large	A	B	C,D		70%	0.017
Liquid Polymers of Methacrylates & Acrylates	NA	Polymeric Emulsion Blends				A	B	C,D	Less than 3 months	unrated	unrated

Table B.2-2 – Applicability of Temporary Soil Stabilization BMPs to Site Characteristics

Type	Method of Binding	Class	Flow Conditions	Max Slope Inclination (V:H) ⁽¹⁾	Surface Area	Atmospheric Conditions	Accessibility	Drains to 303(d) Listed Water Body	Duration of Need ⁽⁹⁾	Initial Erosion Prevention Effectiveness ⁽⁴⁾	Decomposition Rate per day ⁽⁵⁾
Copolymers of Sodium Acrylates & Acrylamides	NA					A	B	C,D		unrated	unrated
	NA					A	B	C,D	Between 3 and 12 months	30-60%	0.017
	NA					A	B	C,D	Greater than 12 months	unrated	unrated
Acrylic Copolymers & Polymers	NA		Sheet	1:2		A	B	C,D		unrated	unrated
	NA	Cementitious-Based Binders				A	B	C,D		80%	0.017
Gypsum	Integrated	NA			small to large	A	B	D		89%	0.008
	Soil Binder	NA				A	B	C,D		89%	0.008
	RECP	NA				A	E	D	Between 3 and 12 months	89%	0.008
Geotextiles ⁽²⁾ - Woven	NA	Non-Biodegradable	Channelized and/or Sheet	1:1		all	E	D		92%	0.0013
	NA	Non-Biodegradable				all	E	D		98%	0.002
Plastic Covers ⁽²⁾ - Rolled Plastic Sheeting											
	NA	Photodegradable			small	all	E	D	Greater than 12 months	92%	0.0013
Erosion Control Blankets - Jute	NA					all	E	D	Between 3 and 12 months	65%	0.0039
	NA	Biodegradable	Sheet	1:2		all	E	D	Greater than 12 months	80%	0.008
Erosion Control Blankets - Straw Blanket	NA					all	E	D		85%	0.0015
	NA	Biodegradable		1:1.5		all	E	D	Greater than 12 months	70-85%	0.0015
Erosion Control Blankets - Coconut Fiber Blanket	NA					all	E	D			
	NA					all	E	D			

Table B.2-2 – Applicability of Temporary Soil Stabilization BMPs to Site Characteristics

Type	Method of Binding	Class	Flow Conditions	Max Slope Inclination (V:H) ⁽¹⁾	Surface Area	Atmospheric Conditions	Accessibility	Drains to 303(d) Listed Water Body	Duration of Need ⁽³⁾	Initial Erosion Prevention Effectiveness ⁽⁴⁾	Decomposition Rate per day ⁽⁵⁾
Erosion Control Blankets - Straw Coconut Fiber Blanket	NA					all	E	D		85%	0.003
Erosion Control Blankets - Wood Fiber Blanket	NA		Sheet	1:2		all	E	D	Between 3 and 12 months	80%	0.0019
Erosion Control Blankets - Excelsior (Curled Wood Fiber)	NA	Biodegradable and Photodegradable	Sheet	1:2		all	E	D		70%	0.0019
Erosion Control Blankets - Biodegradable Fibers with Synthetic Netting	NA			1:1.5		all	E	D		80%	0.0019
Mats ⁽³⁾ - Biodegradable Fibers with Synthetic Netting	NA			1:1.5		all	E	D	Greater than 12 months	85%	0.0039
Mats ⁽³⁾ - Synthetic Fiber with Synthetic Netting	NA	Non-Biodegradable	Channelized and/or Sheet	1:1		all	E	D		85%	0.0013
Mats ⁽³⁾ - Bonded Synthetic Fibers	NA			1:1	Small	all	E	D		85%	0.0013
Compost/Recycled Green Material	NA	NA	Sheet	1:3		A	B, E	C, D	Between 3 and 12 months	67%	0.0069
Shredded Wood/Bark	NA	NA		1:3		A	B, E	C, D		71%	0.0023

Reference: Guidance for Temporary Soil Stabilization (Caltrans, 2003)

Reference: Guidance for Temporary Soil Stabilization (Caltrans, 2003)

NA – Not Applicable

(1): Conservative Maximum Slope Inclination (V:H) recommended by Caltrans for product applicability, manufacturer may recommend greater slope inclinations

(2): Are not applicable with hydroseeding. Plastic materials should not be used for more permanent applications, near ESAs, or where prohibited by regulatory permits.

(3): Using hydroseed with turf reinforcement mats in channelized flow situations may have limited success due to potentially turbulent flows.

A: The BMP cannot be applied during a storm event or freezing conditions. Avoid applying in strong winds and over spraying. B: The disturbed soil area must be accessible to equipment.

B: If disturbed soil area drains to 303(d) listed water body, potential non-visible pollutant.

C: If disturbed soil area drains to 303(d) listed water body, potential pollutants if breach or malfunction occurs.

D: The product is applied manually; therefore, road or pad proximity limitations do not affect their applicability.

F: May be difficult to insert pins into frozen ground.

G: Data obtained from the URS Greiner Woodward Clyde, Soil Stabilization for Temporary Slopes, 1999

Table B.2-3 – Time and Cost Associated with Temporary Soil Stabilization BMPs

Type	Delivery Time ^(v)	Installation Time	Time Until Effective	Cost of Installation ^(x)
	days	hours/acre	days	\$/acre
HYDRAULIC MULCH (SS-3)				
Hydraulic Mulch	3-7	4 ⁽¹⁾	1 to 2	900 - 1,300
Hydraulic Matrix	3-7	4 ⁽¹⁾	1 to 2	900 - 1,300
Bonded Fiber Matrix	3-7	4 ⁽¹⁾	1 to 2	5,000 - 6,500
Mechanically Bonded Fiber Matrix	3-7	4 ⁽¹⁾	1 to 2	5,000 - 6,500
HYDROSEEDING (SS-4)				
Stand Alone	3-14	4 ⁽¹⁾	28 ^(w)	870 - 2,170
Hydraulic Mulch	3-14	4 ⁽¹⁾	28 ^(w)	2,170 - 3,470
Soil Binder	3-14	4 ⁽¹⁾	28 ^(w)	1,570 - 3,670
Straw Mulch	3-14	6 ⁽²⁾	28 ^(w)	2,670 - 4,270
Straw Mulch and Soil Binder	3-14	10 ⁽³⁾	28 ^(w)	3,370 - 5,770
Rolled Erosion Control Products	3-14	43 ⁽⁴⁾	28 ^(w)	6,870 - 57,170
SOIL BINDERS (SS-5)				
Guar	3-7	4 ⁽¹⁾	12 - 18 ^(y)	700 - 900
Starch	3-7	4 ⁽¹⁾	9 - 12 ^(y)	700 - 900
Psyllium	3-7	4 ⁽¹⁾	12 - 18 ^(y)	700 - 900
Pitch & Rosin Emulsion	3-7	4 ⁽¹⁾	19 - 24 ^(y)	1,200 - 1,500
Liquid Polymers of Methacrylates & Acrylates	7-14	4 ⁽¹⁾	12 - 18 ^(y)	700 - 1,500
Copolymers of Sodium Acrylates & Acrylamides	7-14	4 ⁽¹⁾	12 - 18 ^(y)	700 - 1,500
Poly-Acrylamides & Copolymer of Acrylamides	7-14	4 ⁽¹⁾	4 - 8 ^(y)	700 - 1,500
Hydro-Colloid Polymers	7-14	4 ⁽¹⁾	0 - 4 ^(y)	700 - 1,500
Acrylic Copolymers & Polymers	3-7	4 ⁽¹⁾	36 - 48 ^(y)	700 - 1,500
Gypsum	3-7	4 ⁽¹⁾	4 - 8 ^(y)	800 - 1,200

Table B.2-3 – Time and Cost Associated with Temporary Soil Stabilization BMPs

Type	Delivery Time ^(v) days	Installation Time hours/acre	Time Until Effective days	Cost of Installation ^(x) \$/acre
STRAW MULCH (SS-6)				
integrated	3-5	2 ⁽¹⁾	ASAA	1,800 - 2,100
Wheat, Rice, or Barley soil binder	3-5	6 ⁽⁶⁾	1 to 2	2,500 - 3,600
Rolled Erosion Control Product	3-5	106 ⁽⁶⁾	ASAA	6,800 - 8,600
ROLLED EROSION CONTROL PRODUCTS (SS-7)				
Woven	3-5	15 ^(1,z)	ASAA	12,000 - 28,000
Rolled Plastic Sheeting	3-5	15 ^(1,z)	ASAA	0.19 - 0.28 (\$/ft ²)
Plastic Netting	7-14	15 ^(1,z)	ASAA	5,000 - 6,500
Plastic Mesh	7-14	15 ^(1,z)	ASAA	3,000 - 3,500
Jute	3-5	15 ^(1,z)	ASAA	6,000 - 7,000
Straw Blanket	3-5	15 ^(1,z)	ASAA	8,000 - 10,500
Coconut Fiber Blanket	3-5	15 ^(1,z)	ASAA	13,000 - 14,000
Coconut Fiber Mesh	3-5	15 ^(1,z)	ASAA	30,000 - 33,000
Straw Coconut Fiber Blanket	3-5	15 ^(1,z)	ASAA	10,000 - 12,000
Wood Fiber Blanket	3-5	15 ^(1,z)	ASAA	8,000 - 10,500
Excelsior (Curled Wood Fiber)	3-5	15 ^(1,z)	ASAA	8,000 - 10,500
Biodegradable Fibers with Synthetic Netting	7-14	15 ^(1,z)	ASAA	30,000 - 36,000
Biodegradable Fibers with Synthetic Netting	7-14	39 ^(1,z)	ASAA	30,000 - 36,000
Synthetic Fiber with Synthetic Netting	7-14	39 ^(1,z)	ASAA	34,000 - 40,000
Bonded Synthetic Fibers	7-14	39 ^(1,z)	ASAA	45,000 - 55,000
WOOD MULCH (SS-8)				
Compost/Recycled Green Material	3-5	130 ⁽¹⁾	ASAA	900 - 1,200
Shredded Wood/Bark	3-5	130 ⁽¹⁾	ASAA	4,000 - 9,000

Reference: Guidance for Temporary Soil Stabilization (Caltrans, 2003)

ASAA- As soon as applied



- (1): Assumes a 2-man crew with one 3000-gallon water truck (or access to water) that can cover 2 acres per day. Actual installation time may vary depending on location and field conditions.
- (2): Assumes installation of hydroseed is done by a 2-man crew with one 3000-gallon water truck (or access to water) that can cover 2 acres per day. Followed by the application of straw mulch that is bound to the soil by integration (crimped or punched). Also, assumes that the straw mulch is applied by a 6-man crew with 2 straw blowers that can cover 4 acres per day. Actual installation time may vary depending on location and field conditions.
- (3): Assumes the application (first pass) of the hydroseed is done by a 2-man crew with one 3000-gallon water truck (or access to water) that can cover 2 acres per day. Followed by the application of straw mulch (second pass) that will be bound together by a soil binder. Assumes the straw mulch is applied by a 6-man crew with 2 straw blowers that can cover 4 acres per day. Followed by the application of the soil binder (third pass). Assumes the application of the soil binder is done by a 2-man crew with one 3000-gallon water truck (or access to water) that can cover 2 acres per day. Actual installation time may vary depending on location and field conditions.
- (4): Assumes the application of the hydroseed is done by a 2-man crew with one 3000-gallon water truck (or access to water) that can cover 2 acres per day. Assumes the application of the rolled erosion control product is done by a 2-man crew. Actual installation time may vary depending on location and field conditions.
- (5): Assumes the straw mulch (first pass) is applied by a 6-man crew with 2 straw blowers that can cover 4 acres per day. Followed by the application of the soil binder (second pass). Assumes the application of the soil binder is done by a 2-man crew with one 3000-gallon water truck (or access to water) that can cover 2 acres per day. Actual installation time may vary depending on location and field conditions.
- (6): Assumes the straw mulch (first pass) is applied by a 6-man crew with 2 straw blowers that can cover 4 acres per day. Assumes the application of the rolled erosion control product is done by a 2-man crew. Actual installation time may vary depending on location and field conditions.
- (7): Assumes that the rolled erosion control product is installed by a 2-man crew.
- (8): Assumes the use of a skid steel loader to apply the mulch, 1 equipment operator, and a 4-man crew to spread the wood mulch. Actual installation time may vary depending on location and field conditions.
- (X): Data obtained from the Caltrans, Erosion Control Manual (Draft), Training Materials, 2003
- (Y): Data obtained from the URS Greiner Woodward Clyde, Soil Stabilization for Temporary Slopes, 1999.
- (Z): Data obtained from RS Means, site work and Landscape Cost Data, 22nd ed. 2003

For current cost estimates for soil stabilization methods, the Caltrans Landscape Architecture Toolbox should be reviewed at: http://www.dot.ca.gov/hq/LandArch/16_la_design/guidance/roadside_safety_tb/index.htm

B.3 Additional BMPs Used with SS BMPs

SS BMPs are more effective when used in conjunction with Temporary Sediment Control BMPs (SC BMPs) and other SS BMPs. To properly stabilize slopes and remove sediment from stormwater, other conditions must be addressed such as, directing and/or slowing concentrated flow, reducing slope lengths, and capturing sediment entrained in stormwater. Therefore, it is required that SS BMPs and SC BMPs are used in conjunction to comply with the General Construction Permit rules regarding erosion and sediment control.

Slope inclination and slope length are the most important factors affecting the installation of combined stabilizations BMPs and SC BMPs, as these factors have the largest potential impact on erosion rates. A combined increase in slope inclination and slope length will require an increase in the use of SS BMPs and SC BMPs.

To limit the erosive effects of stormwater flow the slope lengths shall be broken up with SC BMPs such as fiber rolls or gravel bags as follows:

- If the slope inclination is 1:4 (V:H) or flatter, break up the slope length with sediment control BMPs at intervals no greater than 20 feet.
- If the slope length is between 1:4 (V:H) and 1:2 (V:H), break up the slope length with sediment control BMPs at intervals no greater than 15 feet.
- If the slope inclination is 1:2 (V:H) or greater, break up the slope length with sediment control BMPs at intervals no greater than 10 feet.

Listed below are the SC BMPs applied to compliment the SS BMPs that cover or bind the soil of the disturbed soil areas (Standard Specifications 13-6 and 13-10). The information below also includes a brief explanation of their purpose and applications. Refer Section 4 of this Manual for details regarding the Limitations, Standards and Specifications, and design of SC BMPs. SC BMPs are implemented on a project-by-project basis and with other SS BMPs.

- Temporary Earthen Berm
- Temporary Silt Fences
- Temporary Reinforced Silt Fences
- Temporary Large Sediment Barrier
- Temporary Check Dams
- Temporary Straw Bale Barrier
- Temporary Drainage Inlet Protection
- Temporary Fiber Rolls
- Temporary Gravel Bag Berms
- Compost Socks
- Flexible Sediment Barriers

Appendix C: Active Treatment Systems

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Appendix C

Active Treatment Systems

C.1 Introduction

Temporary Active Treatment Systems (ATS) apply conventional water treatment technologies, in use for over a century, to stormwater quality. Neither the CGP nor the LTCGP requires the use of an ATS, but for waters and sites where the reliability of the stormwater quality is of concern, these systems may be used.

C.1.1 Overview

An ATS may be considered for a project under the following conditions:

- When necessary to meet water quality standards (WQS) of the receiving water.
- When necessary to meet the effluent limits of the CGP or LTCGP for turbidity and pH in stormwater.

Under the CGP and the LTCGP, an ATS is recommended for use at high risk work sites, including:

- Where space limits installation of properly-sized containment and detention facilities, such as a sediment trap (see SC-3 “Sediment Trap”) or sediment/desilting basin (see SC-2 “Sediment/Desilting Basin”).
- Where clay and/or highly erosive soils are present.
- Where the site has very steep slopes
- Where project work necessitates on-going and large amounts of disturbed soil area during the rainy season
- Where the project site is highly susceptible to stormwater run-on resulting in erosion and sediment-laden run-off.

An ATS uses a coagulant for the treatment of water with a sedimentation basin (or basins) for facilitating turbidity reduction. In addition, pH adjustment plus bag/cartridge/sand filters may be included. The exact configuration and sizing of the ATS will depend on the anticipated quantity and quality of the water to be treated, the amount of time needed for treatment, and receiving water requirements.

Coagulation can be used to destabilize suspended particles and remove them from suspension, which forms a byproduct referred to as floc or flocculant. There are many different coagulants for use; a coagulant may use different chemical properties and may be suited for different types of water conditions to be treated. Potential chemical residual (i.e., coagulant residual) in the treated effluent must be monitored and managed to attain applicable effluent limits prior to discharge.

An ATS is recommended to remove particles below 0.02 mm and may be warranted for locations that must meet strict turbidity requirements. Some receiving waters may be listed for other parameters of concern for which an ATS might be recommended; however, not all pollutants can be treated with readily available ATS technology.

C.1.2 CGP and LTCGP

An ATS, as covered by the CGP or the LTCGP, is used for the treatment of stormwater discharges generated from precipitation that falls on or runs through the construction area during a rain event. Other water generated from construction operations is considered non-stormwater.

In some cases, ATS designers may wish to include non-stormwater treatment as an aspect of, or supplement to, the ATS system. When doing so, any non-stormwater comingled with stormwater may both alter the performance values of the selected coagulant and place different or additional demands upon the other selected ATS components. These modifications of the system will need to be evaluated and if necessary coverage under a supplemental NPDES Permit, in addition to the CGP or LTCGP, may be required.

C.1.3 General Requirements

The following general requirements are applicable to projects that utilize an ATS:

1. Standard Specification Section 13-8 includes provisions for treating and discharging uncontaminated groundwater and accumulated stormwater from excavations or other areas with a temporary ATS.
2. Submit an ATS Plan to the RE within 20 days of contract approval. The ATS Plan must comply with Standard Specification Section 13-8.01C(2). At least 14 days prior to the planned operation of the ATS, the ATS Plan is required to be submitted electronically to the SWRCB and applicable RWQCB. Each element of the ATS Plan including but not limited to O&M Manual, Monitoring, Sampling & Reporting Plan including QA/QC, Health & Safety Plan, and Spill Prevention Plan must be assessed and evaluated to ensure compliance and functionality with the CGP or LTCGP operational requirements.
3. The design, installation, operation, and monitoring of the temporary ATS and monitoring of the treated effluent must comply with Attachment F of NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002).
4. For a project within the Lake Tahoe Hydrologic Unit, the design, installation, operation, and monitoring of the temporary ATS and monitoring of the treated effluent must comply with Attachment E of the NPDES General Permit for General Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, counties of Alpine, El Dorado, and Placer, (Order No. R6T-2016-0010, and NPDES No. CAG616002).
5. For a project within the Lake Tahoe Hydrologic Unit, the discharger must perform toxicity testing that complies with Standard Specification Section 13-8.01D(2) if operating a temporary ATS in batch-treatment mode.
6. Training must be provided to each operator of the ATS.
7. The ATS must be designed for the site conditions and anticipated flow rate and must include (1) a treatment system, (2) a collection and conveyance system, and (3) a discharge method and location.
8. The ATS must be capable of capturing and treating within a 72-hour period a volume equal to the runoff from a 10-year, 24-hour rain event using a watershed coefficient of 1.0.
9. The control system must default to recirculation or shutoff during a power failure or catastrophic event.
10. The control system must control the amount of the coagulant to prevent overdosing. The coagulant must be mixed rapidly into the water to insure proper dispersion.
11. Pumps and piping must comply with Standard Specification Section 74-2.
12. Discharges may be made into a sanitary sewer system however; the effluent discharge must comply with the publicly-owned treatment works (POTW) requirements and must meet all criteria as set forth in any issued Batch Discharge Permit. The POTW Batch Discharge Permit should be secured

as part of the ATS planning process to ensure access and feasibility of discharging expected water quantities. This option is frequently utilized for short term or low volume discharges. The Department does not pay for obtaining the municipal batch discharge permit or for discharging the water.

13. Submit documentation for the delivery and removal of ATS components.
14. If observations and measurements confirm that a residual chemical or water quality standard is exceeded, submit the notice of discharge within 24 hours after exceeding the limits per the requirements of the CGP or the LTCGP.
15. Water discharged from a temporary ATS must comply with the Numeric Effluent Limits (NEL) for discharge effluents and the receiving waters.
16. If an NEL is exceeded, notify the RE and submit a Numeric Effluent Limitation Violation Report- ATS Discharge (CEM-2063¹) within 6 hours. For a project in the Lake Tahoe Hydrologic Unit, the Numeric Effluent Limitation Violation Report- Lake Tahoe Hydrologic Unit – Lake Tahoe Hydrologic Unit (CEM-2063T²) must be submitted within 2 hours. The analytical results less than the method detection limits must be reported as less than the method detection limits. In compliance with the CGP or LTCGP, electronic filing of the exceedance report to the SWRCB and RWQCB shall occur within 24 hours of either obtaining the results or identifying the exceedance.
17. Calibrate the flow meter and devices for taking water quality measurements under the manufacturer's instructions as outlined in the ATS Plan.
18. Monitoring equipment must be interfaced with the control system of the ATS to provide shutoff or recirculation whenever effluent readings do not comply with the turbidity and pH limits.
19. Monitoring equipment for the ATS must record data at least once every 15 minutes and cumulative flow data daily. The recording system must have the capacity to record a minimum of 7 days of continuous data.

C.2 ATS Selection Criteria

In general, ATS selection is driven by the available area, and the soil type of the site. Each of these will drive the selection of an ATS that would reliably meet the requirements of the CGP or the LTCGP.

C.2.1 Risk Level

Generally, projects designated as Risk Level 1 under the CGP should implement typical Construction Site BMPs. Project designated as Risk Level 2 or 3 under the CGP should use the following factors to determine whether traditional BMPs are sufficient or an ATS is appropriate for use. The following factors should also be used for projects subject to the LTCGP.

C.2.2 Potential Storage Area and Peak Stormwater Flow

Project sites with enough potential storage area to detain the estimated quantity of stormwater from a rain event and allow sediment to settle out of suspension by gravity may be able to avoid using an ATS. These areas can be used for storage of water with enough detention (dwell) time to settle significant quantities of particles prior to discharge. The minimum detention time can be determined by dividing the available storage by the peak flow expected from a 5 year-24-hour storm. If the minimum detention time of a sedimentation basin can meet the minimum compliance requirements for sedimentation, an ATS is generally not required for turbidity removal. Other considerations that may influence minimum detention time and should be evaluated include, but are not limited to:

¹ This form can be found at: <http://www.dot.ca.gov/hq/construc/forms/CEM2063.pdf>

² This form can be found at: <http://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=CEM2063T>

- The time required to treat stormwater from successive rain events.
- The quantity of stormwater that may run-on into the project.
- Conditions caused by on-going construction activities.

The above listed conditions are examples that may trigger the need for an ATS.

Determine the area available for potential stormwater storage (A_p). This can include assigned stormwater treatment locations, existing storage areas, or space outside of the construction footprint which is available for use. Often, these areas will necessitate an engineered design and construction specific to the location used, plus a management understanding of detention time commitment and the need to use this dedicated space exclusively for stormwater detention and treatment.

C.2.3 Soil Type

The minimum detention time required for a construction site will depend on the predominant soil type. Fine soils, such as clay, will remain suspended for much longer times than coarser soils, such as sand. To determine the initial minimum detention time required, the composition of the soil within the construction site must be determined. Anticipating and estimating for changing soil conditions from construction activities that affect and change the soil dynamics (e.g., mixing of soil types, compaction, cut/fill areas) may complicate this calculation. Repetitive rain events will also affect the evaluation.

C.2.4 Settling Velocity and Required Settling Area

A calculation of the maximum area for potential treatment must be made. Initially calculate the peak stormwater flow from the site based upon disturbed soil area and the rainfall intensity from a 5 year – 24-hour rain event using the Rational Equation (though this peak flow does not need to be the design flow of a potential ATS). Next, determine the predominant soil type within the construction area. Conservative estimates will use the minimum particle diameter of each soil type (sand, silt, or clay) in conjunction with Stokes Law to determine the settling velocity of the sediment.

Other methods or models may be substituted for Stokes Law if more information is readily available for project soils. Dividing the peak stormwater flow by the settling velocity will determine the minimum area required (A_r) for settling without active treatment. Note that these calculations should take into consideration the changing soil conditions and dynamics based on the phase and stage of the project, scope of soil work being performed, and other issues related to scheduled soil work.

C.2.5 Determine Appropriate Device

Comparing the minimum area required (A_r) to the potential area available (A_p) will determine whether an ATS may be necessary. If the area available is significantly larger (>20 percent) than the area required, evaluate BMPs based upon site characteristics. If the area required is significantly larger than the area available (>20 percent), then an ATS must be considered. If the area available and the area required are similar, only RL 3 sites should consider ATS as they require more reliability than RL 2 sites. If the design can be refined, such as increasing potential storage area or improving the accuracy of the settling velocity calculation, re-evaluate the site. If no other options are available, an ATS is recommended.

The CGP contains direction for implementation of ATS. Risk level 2 projects do not have NELs for pH and turbidity, unless an ATS is used. Therefore, careful evaluation is necessary before selection; check with the District/Regional Design Stormwater Coordinator.

C.3 Factors Affecting Preliminary Design

C.3.1 Pollution Prevention/Sediment Mitigation

Actions to reduce the quantity of sediment in stormwater directed to storage should be implemented in the work area regardless of the decision to use an ATS. With an ATS these measures can lead to more efficient treatment and operational cost savings. Closing off or stabilizing unused portions of the site will reduce the quantity of stormwater that could be impacted by construction activities. Focused consideration should be given to evaluating and installing run-on control and bypass controls means to reduce and minimize the amount of stormwater that would require treatment. Minimizing sheet flow and concentrated flows from up-slope areas and/or drainages coming into the project is critical to reducing not only the quantity of water requiring treatment but also the causative effects of scouring or transport of sediment in run-on water.

To prevent significant sediment loading to an ATS all applicable Construction Site BMPs, especially those that provide erosion and sediment control at the source and within conveyances, should be implemented. If stormwater run-on cannot be prevented from entering the project, installation of lined drainage ditches, bypass piping, or other means, should be considered to direct flows away from disturbed soil areas and steep slopes. This can minimize treatment requirements for run-on. The use of plastic cover is often a significant and beneficial implementation control to prevent direct contact of stormwater with disturbed soil. With plastic cover, the clean run-off can be re-routed, preventing it from entering the ATS collection system.

To minimize stormwater treatment, evaluate and design for the temporary redirection and bypass of roadway runoff to prevent contact with project disturbed soil areas when feasible. If project plans call for the abandonment or removal of existing storm drain conveyances, outfalls, inlets, or lined drainages consider scheduling the work after the rainy season. Considering staging and phasing of project work, evaluate adjustments to the schedule to minimize the removal of existing constructed storm drain systems until the next dry season approaches.

C.3.2 Collection System/Discharge Piping

Collection piping is required to convey the water generated onsite to the treatment system (i.e., the ATS and its component systems). The size and quantity of piping will be determined by the layout and terrain of the disturbed construction area. It may be necessary to include pumps to move large quantities of water across the site. It is also possible for the site to implement multiple ATS systems. Discharge piping and pumps are required to convey treated effluent to the appropriate discharge location. Proper sizing is required to prevent flow backup or sedimentation within the pipe. Some considerations when designing for and installing collection systems include the following:

- Can the stormwater draining toward the ATS collection system be directed through a lined drainage ditch or conveyance piping by which scour will not create additional sediment?
- Can the stormwater draining toward the ATS collection system be filtered by perimeter barriers such as filter lined drainage rock, silt fence, gravel bag check dams, etc., before entering the conveyance?
- Can the conveyance sump (where the pumps are placed) be designed large enough to ensure enough area to handle the run-on water?
- Can the conveyance sumps be designed and situated to prevent direct intake of silt, sediment, or soils? Can filters, screens, or protective barriers be installed that surround the sumps and/or pumps to minimize the up-take of transported heavier fines, particulates or floating materials, vegetative detritus, etc.?
- Can the conveyance pump be so situated by which it can be easily accessed or withdrawn for maintenance or replaced if needed?

- Can the pumps and conveyance piping and/or hose leading to the ATS system from the conveyance sump-pumps be designed to maximize speed of conveyance thereby preventing the sump-pump locations from flooding during peak runoff?

C.3.3 Storage/Pre-Sedimentation

If it is necessary to store large quantities of water onsite during significant rain events, locations such as swales, basins, and other areas conducive for storage may be used to retain water prior to treatment. These locations provide an additional benefit of settling out some sediment before treatment with an ATS. Design of these storage locations should be in accordance with criteria for those BMPs.

Systems with a high sediment loading may necessitate pretreatment. Pretreatment typically consists of a pre-sedimentation basin such as a weir tank for the removal of easily settleable sediment loads. Pretreatment can improve coagulant usage and effectiveness, as well as reduce the quantity of flocculant sludge, thus minimizing costs. Systems with pre-sedimentation and storage can be sized to smaller peak flows as large storms can be stored and treated over longer durations. The trade-off will depend on both the amount of storage and design capacity of the system. Additional considerations related to storage and pre-sedimentation may include:

- Can existing long term excavations, or existing curbed and/or walled in areas be used for temporary storage?
- Can a retention basin be constructed and excavated deep enough (or have above ground walls constructed) to minimize the footprint of the required area needed for holding the estimated maximum quantity of collected stormwater prior to conveyance to the ATS? Are there natural, pre-existing areas in the construction work area where stormwater can be collected for holding prior to conveyance? Can the holding areas be lined to minimize the up-take of resident loose sediment or soils?

C.3.4 Treatment Components

Different components may be used within the ATS. These components interact with each other and need to be considered individually and as an integrated treatment system. Recirculation piping will be necessary to meet turbidity and pH discharge requirements. Table C-1 and C-2 summarize many of the components available for integration into a temporary ATS and associated materials.

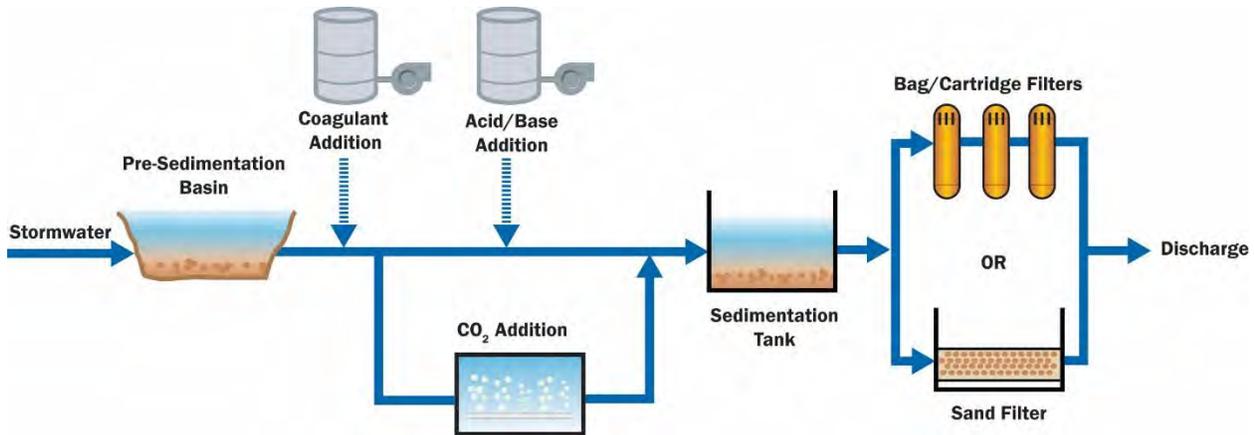


Figure C-1. Potential Treatment Schematic

Table C-1. Potential ATS Components	
Component	Use
Coagulant Dosing Equipment	Chemical for forming floc and removing turbidity
pH Adjustment Dosing Equipment	Chemical for adjusting pH within proper range
Sedimentation Tank (or Basin)	Gravity particulate removal and sludge removal/collection
Bag/Cartridge/Media Filters	Filters for particle removal

C.3.4.1 Coagulation and Flocculation

Different coagulants are available for use within an ATS system. The choice of a coagulant is an important consideration to achieve turbidity removal requirements. The anticipated water quality of the site based on existing soil/sediment conditions and scheduled contractor work will define which coagulants may be effective at forming floc and improving water quality. Coagulant dosing rates and usage will vary depending on the water quality, flow volumes, and coagulant selection. If evaluation and assessment of the performance values and parameters of a coagulant in relationship to the known and expected project conditions is required to achieve treated effluent quality values.

Some coagulants that have been used on past projects include Chitosan, Ferric Chloride, and Alum. Use of other coagulants/polymers may be more difficult for the RWQCB to approve due to uncertainties about potential effects on water quality. Regardless of the coagulant choice, monitoring of residual chemical in the discharge would likely be required.

Equipment such as a chemical feed pump, a rapid mixer (static or mechanical), and sufficient sedimentation will be necessary to properly dose any coagulant. A streaming current detector should be used to monitor and adjust coagulant dose.

A Coagulant-Handling Work Plan is required as part of the ATS Plan and should be prepared for any coagulant used to ensure protection from potentially toxic effects on both human and wildlife due to exposure from high concentrations of residue coagulant. At a minimum, the Coagulant-Handling Plan should include coagulant storage, monitoring, and disposal during the lifespan of the ATS.

When operating the ATS in a Batch Treatment Mode, the CGP requires acute toxicity testing and has specific criteria for testing methodology, laboratory analysis, and quality assurance. All toxicity testing data performed during ATS operation is required to be electronically uploaded to the State Water Boards Storm Water Multi-application and Reporting Tracking System (SMARTS).

Table C-2. Potential ATS Chemicals

Class of Chemical	Chemical	Advantages	Disadvantages	Approximate Cost
pH Decrease	Hydrochloric Acid (HCl)	Low Dose	Safety Concerns	
	Sulfuric Acid (H ₂ SO ₄)	Low Dose	Safety Concerns	
	Carbon Dioxide (CO ₂)	Inert, Self-Buffering	Mechanically Intensive, Requires Diffuser/Basin	
pH Increase	Sodium Hydroxide (NaOH)	Low Dose	Safety Concerns	
Coagulant	Alum	Lower Cost	Drops pH, Can Require High Dose	
	Ferric (Chloride/Sulfate)	Lower Cost	Drops pH, Can Require High Dose	
	Chitosan	Low Dose	May Not Work Well for Certain Soils	\$2,500 per Tote

C.3.4.2 pH Adjustment

For certain systems, pH adjustment may be necessary to maintain receiving water integrity. Certain site conditions may adversely affect pH and certain coagulant choices can alter pH and should be considered. There are multiple methods for pH adjustment depending on the water quality of the site and each method has inherent strengths and weaknesses dependent upon the condition under which it is used. Each option considered for use should be evaluated for its potential affect upon other aspects and components of the treatment system, both from a physical and chemical perspective. The nature of pH adjustment can not only be highly corrosive to the ATS equipment, but may also present a heightened risk to occupational health of the ATS operator or maintenance technician.

Carbon Dioxide (CO₂) can be used to lower the pH. CO₂ gas is bubbled through water forming carbonic acid (H₂CO₃) and thereby reducing pH. Carbon dioxide is mechanically more intensive, but the gas is much safer to store onsite. The CO₂ system requires a bubble diffuser and a separate basin for proper implementation.

Strong acids and bases may also be used; dosing generally occurs alongside coagulant addition. Dosing rates will vary depending on water quality, receiving water quality, and acid/base selection. Strong acids/bases have safety concerns associated with storage and dosing. In addition, acid/base selection is important to prevent possible interactions with other treatment components. Strong acids (e.g., hydrochloric acid, sulfuric acid) and bases (e.g., sodium hydroxide) would provide rapid pH response for most waters; an advantage to all the acids and bases listed in the table below is that the corresponding counter-ions (e.g., sulfate, chloride, sodium) are not expected to react with constituents in the treatment system. In contrast, some acids (e.g., citric acid) introduce counter ions (citrate) that can have undesirable side-effects, such as promoting bacterial growth or inhibiting floc formation.

Table C-3. Suggested pH Adjustment Chemicals

Acids	Bases
Carbon Dioxide (CO ₂) – Bubble Carbon Dioxide will form carbonic acid and drop pH	Sodium Hydroxide (NaOH)
Sulfuric Acid (H ₂ SO ₄) – strong acid	
Hydrochloric Acid (HCl)	

C.3.4.3 Sedimentation Tanks

Sedimentation tanks are required to settle floc formed from coagulation. Sedimentation tanks must provide sufficient area and retention time to allow adequate settling of solids. Sedimentation tanks as opposed to weir tanks are recommended for use with high sediment loads. Weir tanks may be used for systems that have minimal influent sediment loading. Higher sediment loads will quickly fill weir tanks and would require sludge removal at higher frequencies compared to sedimentation tanks. Calculating accurate coagulant dosing rates based on site conditions should allow more accurate estimates of sedimentation tank(s) loading of settled floc and therefore lead to selection of the right size tanks. It is important to provide sufficient area for the settling of solids because accumulated floc increases treatment times and therefore reduces the amount of water that can be treated during rain events. In some cases, it may be more desirable to over-estimate the required area.



Figure C-2. Sedimentation Tank

C.3.4.4 Bag/Cartridge/Media Filter

Bag, cartridge, or media filters provide additional particle removal prior to discharge. Bag and cartridge filters pass water through mesh filters reducing particle sizes to a predetermined size. Media filters use sand or other granular media to remove particles. Bag and cartridge filters are removed, changed out and discarded. Media filters use treated water to backwash the filter and remove particles.

It may be necessary to reduce turbidity to approximately 25 NTU or below prior to filtration to prevent excessive buildup on the filter. For bag and cartridge filters, higher turbidity levels passed to the filters will cause increased frequency of change-out and likely increase operational costs. For sand filters, more frequent backwashing will be required which will cause greater work, more chemical usage, and more clean water for backwashing. When backwashing is required the on-going affect upon the treatment process must be calculated into the required treatment rate. When backwashing occurs, less influent is treated in that time.



Figure C-3. Bag/Cartridge Filters

C.3.4.5 Power Sources

An uninterruptible power supply and standby electric generator is recommended for any ATS system. Storms can routinely interrupt power supply systems; thus, it is necessary to provide a backup in such circumstances. An audible or observable alarm should be an aspect of the ATS design to notify personnel in the event of a power outage. Consequences from a non-operable ATS during a critical time may lead to project site flooding and potentially to a discharge with exceedances.

C.3.4.6 SCADA Monitoring Equipment

Supervisory Control and Data Acquisition (SCADA) systems are standard technology used to monitor and control all monitoring and mechanical systems within an ATS. These systems can record and store all relevant data to the project. Remote operation of an ATS is possible through SCADA systems, but connection stability must be maintained to ensure proper operation.

ATS effluent discharges should meet the requirements of the CGP or LTCGP. Monitoring equipment must be installed. These include, but are not limited to, turbidimeter, pH meters, and flow meters. These meters must be calibrated as recommended by the manufacturer or regulator. The frequency of calibration and a documented process to retrieve and verify data should be specified to the contractor and may be required by the RWQCB. In addition, some water quality analysis will be needed to be conducted by outside labs for analysis such as total suspended solids (TSS), settleable solids (SS), or residual chemicals. Validate and maintain the sensors in the in-line ATS system that communicate values to the SCADA system regularly. If these sensors are not functioning properly, the SCADA data may be of limited value. Note: the CGP requires that all field recorded monitoring data including but not limited to turbidity, pH, residual chemical, flow rate, and volume be electronically uploaded every 30 days minimum to the State Water Board.

C.4 Active Treatment System Sizing

The size of the treatment system will be dependent on the acreage of the active disturbed soil area. The system is required to be sized such that the runoff from a 10-year 24-hour rain event would be captured and treated within 72 hours. Storms that are greater than the design event may cause the ATS to exceed the CGP restrictions. In these circumstances, the RWQCB will still expect the contractor to make efforts for meeting the CGP or other requirements.

C.4.1 Construction Area

The area of the basin will be defined by the contributing drainage area of the disturbed construction site. The contributing drainage areas will be defined by the designer depending on the orientation of the construction site. For long or flat construction sites, it may be necessary to subdivide the site and set up separate ATS locations. The conveyance systems required to funnel stormwater to a central ATS location may be prohibitive for certain site orientations.

If multiple receiving waters are present in the site, each receiving water basin may require a separate ATS to maintain watershed integrity. For some receiving waters, BMPs may be sufficient to meet turbidity goals.

C.4.1.1 Flowrate

Peak flowrate can be calculated for each area by the Rational Formula:

$$Q = C \times I \times A \quad (\text{Eqn. 1})$$

Q = Peak Runoff Rate, Cubic Feet per Second

C = Dimensionless Runoff Coefficient (use 1.0)

I = Rainfall intensity, Inches per Hour (10-year, 24-hour)

A = Basin Area, Acres

The rainfall intensity will vary by project location.

Per the Standard Specification Section 13-8, the designer shall use a runoff coefficient value of 1.0.

Basin area is the total contributing drainage area to the BMP or ATS.

C.4.1.2 Sedimentation Residence Time

Hydraulic Retention Time should be between 2 and 4 hours to allow sufficient floc settlement to meet turbidity requirements.

$$\text{HRT} = V/Q \quad (\text{Eqn. 2})$$

HRT = Hydraulic Retention Time, Hours

V = Volume of Sedimentation Basin, Gallons

Q = Flowrate, Gallons per Hour

C.5 Maintenance and Inspection

The ATS requires regular maintenance to ensure it is properly functioning and to prevent leaks. Repair or replace any component of the dewatering equipment that is not functioning properly or as required by the operations and maintenance outlined in the ATS Plan. The detail in the ATS Plan should be of significant nature to clarify most aspects of ATS function and servicing. Each piece of equipment to be used in the ATS needs to be fully described including its purpose and its inter-relationship to the other equipment. Inclusion of manufacturer specification sheets in the ATS Plan is of high value and should be considered. Descriptions of how to assess the ATS components for performance values is instrumental in trouble-shooting deficient operation. A section within the ATS Plan on maintenance scenarios and trouble-shooting examples for commonly known conditions or operational failures is highly recommended. Trouble-shooting questions could include the following:

- Is increased time required because the holding tank is reduced in capacity due to accumulated floc?
- Is increased time required because not enough coagulant is being dosed which could be caused by a degraded sensor?

The inclusion of set procedural steps for bringing on-line each piece of equipment of the ATS system and determinants of how to balance the system is invaluable when attempting to maximize operation or solve a functional problem. These aspects of an ATS Plan, if not considered in the planning stage and left out of the ATS Plan, could lead to failures of the system and on-going repeat deficiencies.

Remove sediment from the storage or treatment cells as necessary to ensure the cells maintain their required water storage and treatment capability. Sediments removed from the uncontaminated areas during maintenance of the treatment system may be dried, distributed uniformly, and stabilized at a location within the project limits where authorized. Generally accumulated floc from treatment, and any associated captured sediment in the system, is disposed of at a landfill permitted to receive such a waste stream.

If observations and measurements determine that the water quality limits are exceeded, immediately stop the discharge, notify the ATS designer, and start corrective measures to change, repair, or replace the equipment and procedures used to treat the water. If a situation occurs in which the operational perimeters of the ATS are exceeded or the criteria for allowed discharges values are compromised, the information must be retained for recordkeeping and reporting purposes. All corrective actions taken including time periods of non-compliance, and/or time periods to institute corrective actions, should be recorded. Record the quantity of discharge that may have been non-compliant. All test reports and records may be included in the report to the RWQCB. If a piece of equipment failed, broke, or an operation process was not followed this information should be noted to allow assessment of reasons for failure and corrective measures to be implemented to prevent a reoccurrence.

After the designer inspects and authorizes your corrective measures, resume treatment and discharge activities under the startup-phase sampling requirements before resuming regular-phase sampling. Ensure that all required recordkeeping and reporting is completed including submittal of Monthly Monitoring Reports and Exceedance Reports, if applicable.

While the ATS is in operation, at a minimum the following must be monitored:

- Influent and effluent turbidity and pH
- Residual chemical
- Effluent flow rate and volume

If treatment is on-going with dosing and injection of chemicals, the retention of recordkeeping data of the monitored pH and turbidity values is critical for the time periods and is required by the CGP. Uploading and saving of the data regularly as an aspect of the SCADA system, with on-going back-up and downloading to retain the monitored information, is recommended. Use of a standard time-period to backup data, such as every 72 hours, is recommended. The ability to perform both assessment and determination of compliance with instantaneous maximum discharge limitations, in addition to daily 24-hour averaging for turbidity values, is only feasible if the monitoring data is captured and available for evaluation.

Field ATS operator visual monitoring of the system readouts is standard operating procedure with physical documentation on daily logs that validate the data read-outs. The retention of data for on-going pH monitoring and discharge is an aspect of the CGP compliance process of recordkeeping. Without this data, the ability to validate adherence to Permit criteria is limited and not easily defensible with the RWQCB.

If the ATS discharges treated effluent, prepare a daily inspection report including monitoring information and submit within 24 hours, or as required. The ATS Plan should describe the information to include in the reports. Prepare a template form to clarify the required report information in advance. Adjust the template accordingly to accommodate changing conditions, when required. The daily inspection report will at a minimum include:

- Discharge volumes
- Water quality monitoring records
- Quantities (generally in gallons) of dosed coagulants in addition to pH chemical adjustment additives
- Significant repair or maintenance performed on the ATS including but not limited to clean-out of tanks or treatment vessels, maintenance or replacement of sensors or electronic monitoring equipment or components, replacement of pipes, pumps, injection devices, etc. It is important to document the process of ATS upkeep to demonstrate due diligence in maximizing the system's operation effectiveness and efficiency. This will be important if the system has an accidental upset, failure, or improper discharge.
- Discharge point information that includes:
 - Date and time
 - Weather conditions, including wind direction and velocity
 - A notation describing if a rain event has been continuous is recommended. If the on-site rain gauge is accessible for measurement, including this information can assist in illustrating the demand for the ATS. NOAA weather report data can validate that the rain event exceeds the design capacity of the ATS therefore clarifying maximization of discharge limitations.
 - Presence or absence of water fowl or aquatic wildlife
 - Color and clarity of the effluent discharge
 - Erosion or ponding downstream of the discharge point
 - This is applicable if not discharging to a storm drain inlet or piped outfall
 - Photographs labeled with the time, date, and location

C.6 Other ATS Considerations

If an ATS will be utilized on a project site for multiple rainy seasons, there are critical elements to both maintaining the ATS and sustaining its operational lifetime including:

- Ensure the ATS designer is experienced in treatment processes and regulatory requirements, and that the assigned operator(s) of the system are required to have demonstrated experience, knowledge, and skills in ATS operation, maintenance, field testing, data recordkeeping, and reporting.
- Selection during planning of equipment and materials that will withstand weather and environmental degradation. For example, choose piping that is UV resistant and sufficiently flexible to withstand some movement, and choose the proper tank such as double lined or walled to minimize breakthrough and leaking.
- Design the ATS layout to minimize movement and or relocation during the lifetime of the project to minimize potential for breakage, misalignment, or disruption of functional operations. This extends to the pre-planning and construction of appropriate collection and conveyance systems based on the staging and phasing of the project. If a substantially sized collection basin is required to hold the stormwater prior to treatment, then the location must be determined beforehand. Commit space for ATS usage during the lifetime of the system and include space to allow access for maintenance and repair.
- If a substantial number of collection sump/pumps will be required to convey the stormwater from multiple locations throughout the project, then the locations, conveyance piping, and drainage ditches must be depicted on plans and must account for scheduled construction work to prevent conflict of alignment. This consideration is to prevent damage to collection apparatus and to ensure stoppage of non-compliant stormwater discharges during critical periods of forecasted rain.

- If a complex ATS is required, ensure that the ATS Plan is critically evaluated for all operational components including engineering, field work, and administrative controls. Securing all requisite water quality data relative to the anticipated treatment scope and planning will be instrumental to the ATS selection and successful operation. Resourcing available technical information from CASQA, or leading industry providers of such systems, will be helpful.
- Dependent upon the project location, site receiving water bodies, discharge locations, and outfalls storm drain systems may not be allowed to receive the ATS treated effluent. Occasionally a point of discharge will be found to be infeasible due to a sensitive receiving water body, local ecological system, or tidally influenced drainage. In this case, a different discharge option must be explored to allow ATS treated effluent disposal.
- Supplemental and extended piping and pumping layouts may be required to convey the effluent to an acceptable location or to facilitate a discharge to a POTW, when feasible. During the planning phase, the discharge limitations and the local conditions must be evaluated. Early confirmation that selected discharge options are acceptable is desirable.

C.7 Treatment Considerations for Non-Stormwater and Groundwater

Most often construction projects require the management and treatment of stormwater. At times, construction projects may be required to consider management and treatment of groundwater and other non-stormwater due to the complexity and scheduling of different types of work. General site factors to consider in determining the most appropriate management or treatment strategy for the project site include but are not limited to project duration, location, size, affected waterbodies or sources, differing drainages and discharge points (natural and manmade), and pertinent historical and environmental protection considerations. A determination of whether water treatment (of any type) should be done together or as a separate treatment process must be made. These issues must be assessed and understood to achieve a successful treatment plan.

Project excavation work or ground disturbing activities may necessitate managing and treating groundwater in addition to managing construction impacted stormwater runoff. Previous fuel leaks, VOC spills, past chemical discharges, or introduction of hazardous contaminants during the construction phase will likely need management and treatment consideration.

A dual use stormwater/non-stormwater treatment system, if feasible, may be designed to treat and discharge the different water sources. Alternatively, separate treatment systems may be designed. When determining which system is most appropriate, consider first the maximum quantity of stormwater verse the maximum quantity of non-stormwater (e.g., groundwater, co-mingled surface water) that must be managed or treated. Consider the complexity of the treatment science that must be applied to achieve permit discharge requirements and to meet receiving water criteria. Consider also available space on the project site. Is there enough room to accommodate the temporary holding and storage of separate water sources during the treatment process? Can the system be designed to work in tandem to treat both water sources at the same time based on different treatment requirements? Is there a demand for separate treatment trains?

Coverage under different NPDES Permits for specific water sources often dictate the approach and desired outcome of treatment including but not limited to sampling, analysis, monitoring, recordkeeping, and reporting. The differing water management and treatment needs may be combined however insightful planning is critical. For example, the treatment of brackish groundwater from structure dewatering verse extracted groundwater polluted by petroleum products is different when compared to each other and when compared to the CGP and/or LTCGP. While the treatment process will be different, the goal of treatment is the same, to achieve an acceptable discharge water quality.

On occasion a project specific NPDES Permit may be issued to address project conditions that require additional water treatment considerations. In most instances, when multiple water sources require management and treatment during project work, a comprehensive evaluation of treatment options will be required. The evaluation should focus on project needs to better understand if a single treatment system designed to operate in an alternative manner would work, or perhaps a dual treatment system designed to achieve separate water quality objectives may be most appropriate for the project. These example considerations are not exhaustive and professional expertise in the decision-making process of water treatment system choice and design is recommended.

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ATTACHMENT J-7

Industrial Sites Task Force

Irma R. Muñoz, Los Angeles Regional Quality Control Board

Hugh Marley and Renee Purdy, Los Angeles Regional Quality Control Board

Bruce Reznik, Los Angeles Water Keeper

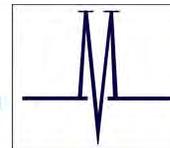
Jeff Ferano, SA Recycling

James Simonelli, California Metals Coalition

Councilwoman Judy Nelson, City of Glendora



Industrial Sites Task Force



Agenda

- Welcome
- Introductions of Task Force Members
- Remarks from Irma Muñoz, Chairwoman of the Los Angeles Regional Quality Control Board
- 5 Minute presentation from each task force members
- Comments and question

LA REGIONAL WATER QUALITY CONTROL BOARD

Compliance Assurance

Stormwater Industrial General Permit & The Upper San Jose Creek Watershed Pilot Project



Background

Stormwater Industrial General Permit

- **Stormwater Industrial General Permit**
 - Adopted in 2014
 - Regulates the discharge of stormwater from industries
 - Defines the types of industries that need coverage
 - Requirements include
 - Monitoring stormwater discharges
 - Implementing Best Management Practices
 - Good Housekeeping Practices
 - Protect activities and equipment from exposure to rain
- Currently 3,441 facilities enrolled

INSPECTION PERFORMANCE

Stormwater FY 15/16 – 16/17

Permit Type	Facilities Regulated	FY 15/16	FY 16/17
		Inspections Completed	Inspections Completed
Const.	1,285	405	413
Indust.	3,088	610	857
Non-Filers			208
Total Inspections		1,015	1,270

Background (cont.)

MS4 Permit

Waste Discharge Requirements For Municipal Separate Storm Sewer System (MS4) Discharges

- 86 Permittees

Part VI.A.2.a requires that Permittees:

- hold dischargers to its MS4 accountable for their contributions of pollutants and flows through ordinances and permits
- use enforcement mechanisms to require compliance
- conduct inspections, surveillance, and monitoring to determine compliance
- require control measures or BMPs be in place and maintained

Background (Cont)

Part VI.D.6 requires that MS4 Permittees:

1. implement an industrial/commercial facilities program designed to prevent discharge from causing a violation of Water Quality Standards
2. maintain a database of all industrial and commercial facilities that are critical sources of storm water pollution
3. notify the owner/operator of each site of the applicable BMPs
4. inspect critical commercial and industrial sources
5. require implementation of source control BMPs
6. use progressive enforcement to ensure facilities comply with storm water requirements

WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) DISCHARGES WITHIN THE COASTAL WATERSHEDS OF LOS ANGELES COUNTY, EXCEPT THOSE DISCHARGES ORIGINATING FROM THE CITY OF LONG BEACH MS4

Construction Plan Review and Approval Procedures

- I. Each Permittee shall develop procedures to review and approve relevant construction plan documents.
- II. The review procedures shall be developed and implemented such that the following minimum requirements are met:
- (1) Prior to issuing a grading or building permit, each Permittee shall require each operator of a construction activity within its jurisdiction to prepare and submit an ESCP prior to the disturbance of land for the Permittee's review and written approval. The construction site operator shall be prohibited from commencing construction activity prior to receipt of written approval by the Permittee.
 - (2) ES
 - (3) At
 - (4) Th
 - (5) Ea
 - (6) Ea
 - (7) Ea
- document that q
manag
inform
update the ESCP to reflect current conditions, or failing to properly and/or adequately implement the ESCP may result in revocation of grading and/or other permits or other sanctions provided by law."
- (8) Prior to issuing a grading or building permit, each Permittee must verify that the construction site operators have existing coverage under applicable permits, including, but not limited to the State Water Board's Construction General Permit, and State Water Board 401 Water Quality Certification.
 - (9) Each Permittee shall develop and implement a checklist to be used to conduct and document review of each ESCP.



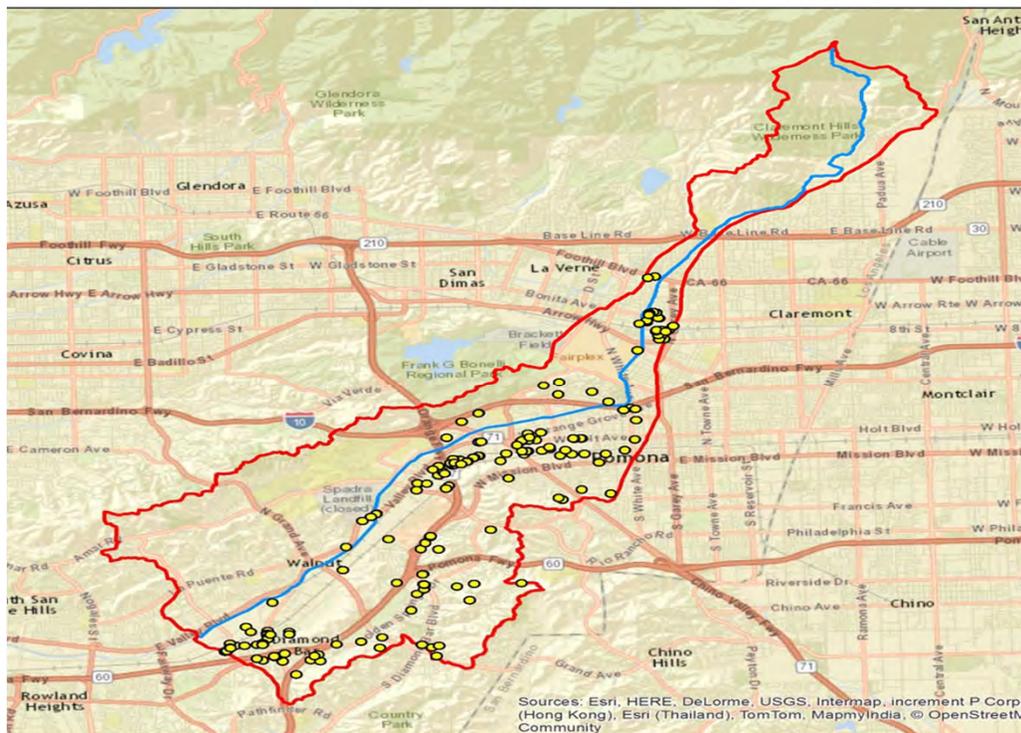
Pilot Project Activities

- Select the watershed
- Send notifications of MS4 audits
- Meet with non government stakeholders
- Identify and inspect potential non-filers**
- Identify and inspect industrial permittees
- Determine each city's compliance with the MS4 Permit**
- Determine the effectiveness of efforts in the watershed through monitoring receiving waters
- Progress Report



Pilot Project Selection

Upper San Jose Creek Sub-Watershed



Creek Sub-watershed — Upper San Jose Creek
 Facilities (213)



- Outfall location
- Manageable for a pilot project: size - 34 square miles. 54 permitted facilities outfall location
- Drains an environmental justice area (Cal Enviro Screen)



Pilot Project Cities:

- Claremont
- Diamond Bar
- Industry
- La Verne
- Pomona
- Walnut
- West Covina
- LA County



k
k Sub-watershed



Pilot Project Status

Upper San Jose Creek Sub-Watershed



Creek Sub-watershed — Upper San Jose Creek
Facilities (213)



Permitted Facility Inspections

- 15 out of 56 facilities inspected

Potential Non-filer Inspections to date

- 176 facilities inspected
- 51 require IGP coverage



Pilot Project - Next Steps

Continue with:

- Inspections
- Outreach
- Non-Filer Enrollment

Conduct:

- Targeted MS4 Audits
- Progressive Enforcement
- San Jose Creek Sampling

Write:

- Progress Reports



Industrial Sites Task Force

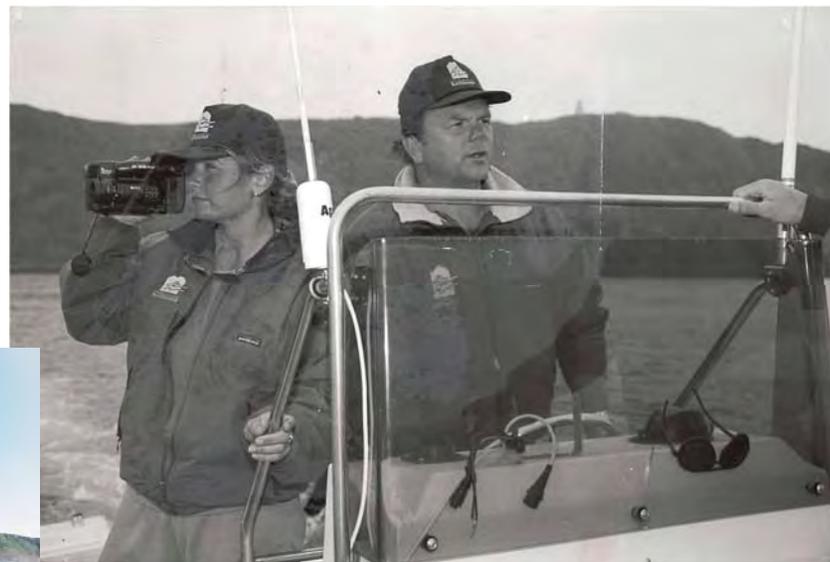




Industrial Stormwater Compliance

Stormwater Funding Group

About LA Waterkeeper



Industrial Sites Task Force

LA's Impaired Waterways

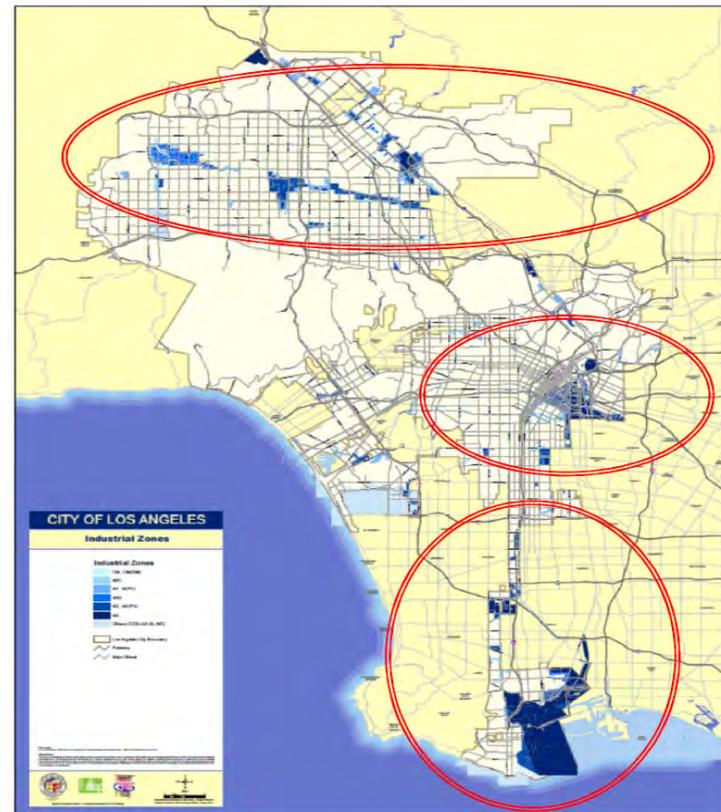


Industrial Sites Task Force

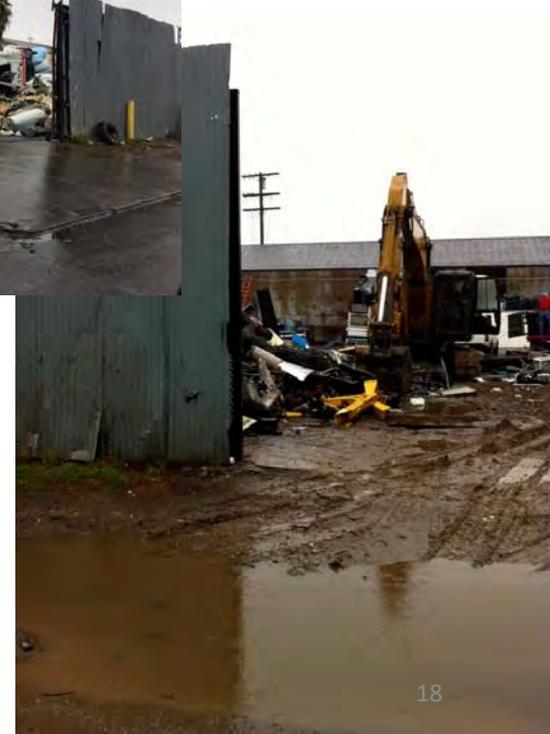


Urban and Stormwater Runoff:

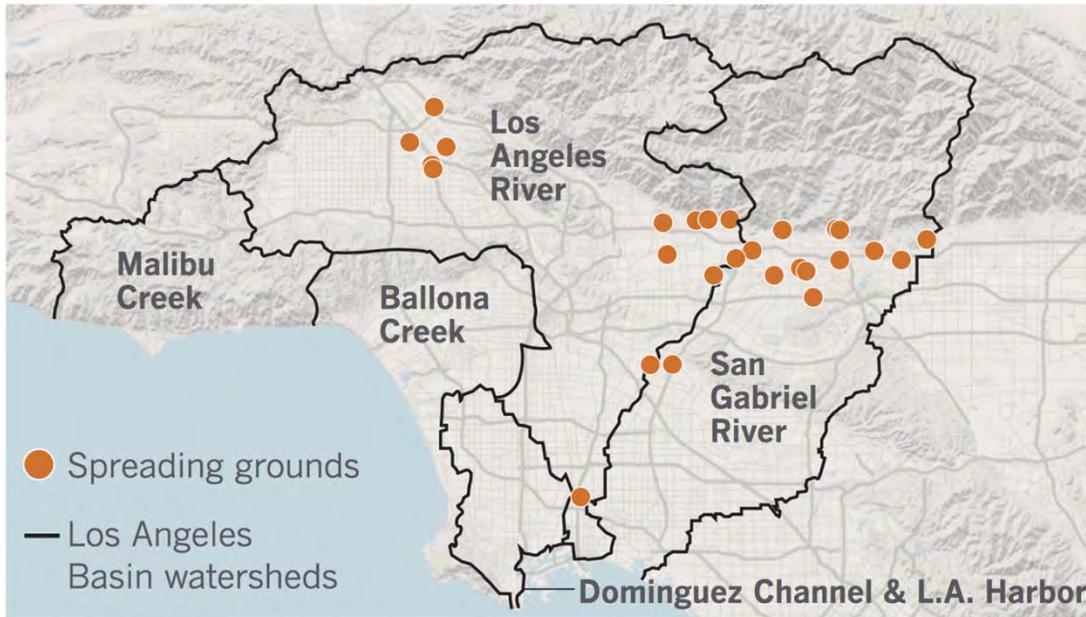
Death by a
Thousand Cuts



Lack of Resources for Effective Enforcement



Opportunities in Stormwater Management



Industrial Stormwater Compliance

SA Recycling & California Metals Coalition



Stormwater Controls

- Who is SA Recycling.
 - Recycler of metal.
 - Shredders
 - Feeder yards
- Who is California Metals Coalition



Stormwater Controls

- Why we care about clean water?
 - Legal.
 - Moral.
- Why do we want to help enforce of the CWA and MS4?
 - Clean water for all.
 - Better industry.
 - Level playing field.



California Metals Coalition



- Created 1972
 - Non-Profit, 501(c)(6)
- Statewide Trade Association
 - (65% Southern CA, 20% Northern CA, 10% San Diego, 5% Central CA)
- 250 Member Companies
 - Metal Casters, Die Casters, Machine Shops, Forgers, Metal Stampers, Metal Formers, Galvanizers, Metal Smelters, Recyclers, Shredders, Extruders, Suppliers
- Run Two Storm Water Compliance Groups
 - 50 participants from 33xx and 34xx Sectors
 - Primarily Indoor Operations

James Simonelli, Executive Director
Industrial Sites Task Force
www.metalscoalition.com



Metals Sector – 11.5%

- Industrial General Permit (IGP) Regulates **565** Industry Codes
 - Metals Accounts for 64 Industry Codes (11.5%)
 - 33xx, 34xx and 5093
 - http://www.swrcb.ca.gov/water_issues/programs/stormwater/sicnum.shtml

Activities Covered by IGP - Attachment A

- Manufacturing (SIC Codes 20XX- 39XX)
- Mining & Oil and gas operations*(SIC Codes 10XX- 14XX)
- RCRA Hazardous waste treatment, storage, and disposal
- Landfill Operations

- Recycling (SIC Codes 5015 and 5093)
- Steam electric power generating
- Transportation (SIC Codes 40XX-45XX)
- Sewage treatment (1 MGD or more)
- Feedlots (depends on number of animals)

James Simonelli, Executive Director
www.metalscoalition.com



Clean Water & Level Playing Field

- California Metals Coalition Promotes Permit Compliance
 - Air Permits, Material Handling Permits, Storm Water Permit
- Permitted Facilities vs. Non-Permitted Facilities
 - Concern with Non-Filers
 - Can't Clean Water Without Participation in Program
- CMC: Proactive and Part of Solution



James Simonelli, Executive Director
www.metalscoalition.com
Industrial Sites Task Force



Stormwater Controls

- Storm Water Pollution Protection Plans

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

SA Recycling LLC dba SA Recycling

WDID: 419I021107

Prepared by: Lindsay Maine, Todd Peterson

Revised date: 10/20/2016

1.0 Facility Name and Contact Information

	FACILITY CONTACT	CONSULTANT / QUALIFIED INDUSTRIAL STORMWATER PRACTITIONER (QISP)
NAME:	Toghruil Valizade	Todd Peterson
TITLE:	General Manager	Chemist
COMPANY:	SA Recycling	SA Recycling
STREET ADDRESS:	2495 Buena Vista St	3200 E Frontera St
CITY, STATE:	Irvine, CA	Anaheim, CA
ZIP:	92706	92806
PHONE:	(926) 359-5815	(714) 764-2241
OPERATING HOURS:	Mon - Fri: 7:00 - 16:00 Sat: 7:00 - 12:00	

Stormwater Controls

- Storm Water Pollution Protection Plans



Non-structural BMP Examples

1

Cleaning filters,
preventative
maintenance



2

“Mag-ing”
along docks
(schedule)



3

Tarping
material



4

Replacing
waddles
and booms
when
needed



Non-structural BMP Examples

1

Keeping material off unpaved services when possible



2

Various sand bags, cloths and low-cost filter materials where water flows



3

Replace absorbent booms when necessary



4

Keep oily material in bins that don't leak



Structural BMP Examples

1

Gate capture devices for intercepting run-off



2



3



4



Structural BMP Examples

1 Canopy structure



3 Secondary containment and coverage



Retention Tanks

Clarifiers

4

Media Filters



Combination BMPs

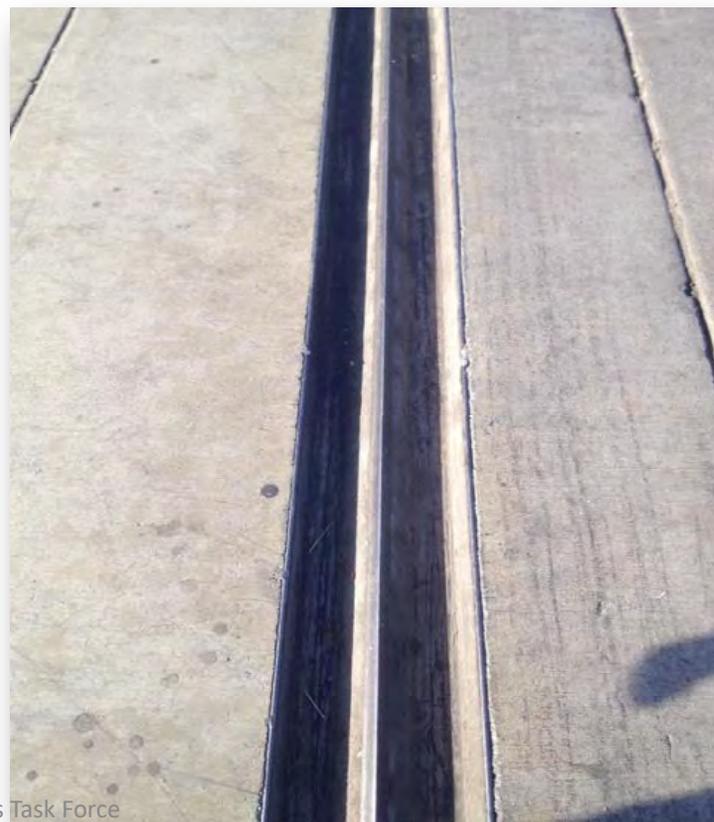
Coating steel to prevent rusting



Adding filter cloth to structural filters

Industrial Sites Task Force

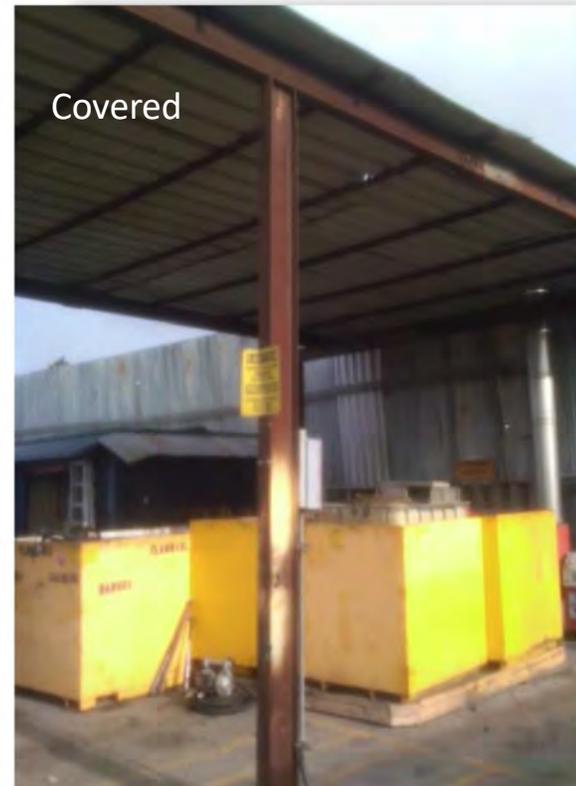
Vacuum Sweeping



Material Storage



Hazardous Waste Storage



Clarifier Maintenance



Stormwater Treatment

- Collection from yard and consolidation
- Settling
- Treatment Chemistry to encourage settling
- Media filtration, sometimes clay flocc
- Clarifiers
- Turbidity and in-field monitoring



Stormwater Controls

- Facility grading/paving
- Collection sumps
- Underground plumbing
- Filtration System:
 - Retention/settling tanks
 - Chemical treatment
 - Clarifiers
- Media filtration
- Various Non-Structural BMPs



Inspections/Enforcement

- Some cities do annual inspections.
- Enforcement
 - from complaints
 - NGO and private party enforcement.



Costs...

- Vacuum Sweeper: \$40-250K
- Stormwater Filtration System: \$30K-\$1M+
- Paving/Concrete Information:
 - \$ 7.28 for 8" Concrete ☐ \$320K per acre
 - \$ 8.47 for 12" Concrete ☐ \$370K per acre
 - \$ 5.18 for Asphalt 3" over 4" (Asphalt/Base) ☐ \$225K per acre
- Spending money because we have to for compliance and it's a priority, not because a company has so much excess.
- Complying with regulations should be a cost of doing business. Several small yards with zero effort have a bigger impact than one larger yard making 90% effort.

City of Glendora

Councilwoman Judy Nelson



City of Glendora

- 2014 City hired a consulting firm, CWE, to assist with the administration of the industrial/commercial (I/C) facilities program
- CWE performs 2 inspections of each business in 5 years, including follow-up inspections for deficiencies in handling dry weather and stormwater runoff.
- 2nd inspections are currently being conducted August thru October, 2017
- CWE has prepared and distributes an I/C Facilities Program Guidance Manual to inspected business owners.
- Permit compliance is linked to the Business License Process
- Glendora recoups the consultant costs through inspection fees



City Business License Process

The Commercial/Industrial business owner submits for a business license. The business License application is routed to the Building Department.

- For commercial businesses:
 - If there have tenant improvements only:
 - They will receive a building inspection of permanent Best Management Practices (BMPs) and
 - Receive 2 Inspections in 5 years (2012-2017)
 - If it is a new development they will be required to provide:
 - On-site stormwater infiltration
 - A Stormwater Pollution Control Plan including on-site permanent BMP's and
 - will have 2 inspections in 5 years (2012-2017)



Industrial Business Compliance

- Industrial businesses in the city must prove that they have Industrial General Permit (IGP) coverage before they are issued a business license.
- The building department requests a WDID number for coverage under the Industrial General Permit (IGP) or a Non-Exposure Certification (NEC) to determine compliance.



Inspection Fees

The city implemented an inspection fee schedule to cover the cost of the consultant:

Facility Type	Inspection Fee	Follow-Up Fee
Restaurant	\$140	\$150
Automotive	\$240	\$150
Retail Gasoline Outlet	\$230	\$150
Nurseries	\$XXX	\$150
IGP	\$270	\$150
Non-Filers	\$XXX	\$150



Benefits of Compliance

- Educate area businesses on best management practices, stormwater, and local water quality issues.
- Esures that less pollutants are transported to surface water through urban runoff.
- Cities and businesses aren't in jeopardy of receiving fines from the Regional Board or third party lawsuits from environmental groups.



Thank you!



Questions?
Comments?

ATTACHMENT J-8



Treatment BMP Technology Report

April 2010

CTSW-RT-09-239.06

2010 Edition

California Department of Transportation
Division of Environmental Analysis
1120 N Street, Sacramento, California 95814

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1.0 INTRODUCTION

The Treatment BMP Technology Report represents part of the California Department of Transportation (the Department) BMP identification, evaluation, and approval process as described in Section 3.3.2 of the Storm Water Management Plan (SWMP) (CTSW-RT-02-008; Caltrans 2003). This report satisfies the requirement for a New Technology Report contained in the State Water Resources Control Board Order No. 99-06-DWQ. This report consolidates information for post-construction technologies in a standardized manner by using a fact sheet format. The BMP fact sheets summarize available design, construction, and performance information. The fact sheets result from a desktop evaluation of BMPs. Usually, a full-scale field evaluation (pilot testing) is required to collect sufficient information to determine if a BMP should be approved and under what conditions (siting constraints). The Department uses the fact sheets as a preliminary screening tool for selection of pilot BMPs when approved BMPs cannot meet project-specific treatment requirements due to siting constraints. BMPs selected for pilot testing are not automatically approved for statewide use. The SWMP includes procedures to (a) identify the need for Pilot BMPs and (b) propose them. Refer to the Caltrans Storm Water Quality Handbook: Project Planning and Design Guide (PPDG) for comprehensive information on this issue (Caltrans 2007).

Department-Approved Treatment BMPs:

- Biofiltration Systems
- Infiltration Devices
- Detention Devices
- Traction Sand Traps
- Dry Weather Flow Diversion
- Gross Solids Removal Devices (GSRDs)
- Media Filters
- Multi-Chambered Treatment Train
- Wet Basins

2.0 PURPOSE OF TREATMENT BMP TECHNOLOGY REPORT

This document is used by the Department to identify and evaluate treatment BMP technologies for potential use in the highway environment only. The Department does not evaluate BMPs for other situations or entities. This document is intended for internal use by the Department. Unless stated otherwise, vendor products discussed in this document are not approved for use by the Department and are not endorsed by Caltrans or the State of California.

3.0 IDENTIFYING AND EVALUATING NEW TECHNOLOGY

The Department prepares fact sheets based on an initial evaluation of identified treatment technologies. The Department may identify technologies in the course of performing reconnaissance studies for specific treatment needs, including non-proprietary BMPs used by other state departments of transportation. To identify proprietary treatment technologies, the Department relies on manufacturers to submit product information. To introduce products to the Department, manufacturers must contact the New Product Coordinator at (916) 227-7073 for submittal instructions. Fact sheets are updated when new information is submitted to the New Product Coordinator before the end of the reporting period (June 30th).

The Department evaluates identified technologies using several criteria (discussed in Section 3.1) and develops fact sheets of the BMPs for this report.

3.1 Evaluation Criteria and Fact Sheet Content

BMP fact sheets are developed using a standard format to facilitate comparison among BMPs. Each fact sheet addresses a standard series of topics, including design, operations, maintenance, construction, treatment, advantages, and constraints. The Department, with input from universities, consultants, regulators, third parties, and manufacturers, continually reviews BMP information reported in literature. Appendix A describes the content of the fact sheets and the evaluation criteria for performance. More detailed information on the Department's current pilot studies resides in the Summary of Reports Prepared for the Monitoring and Research Program (Caltrans 2009).

3.2 Fact Sheet Organization and Treatment BMP Technology Approval

Completed BMP fact sheets are presented in Appendices B and C. Section 4 provides an alphabetical list of all the BMP categories to aid in locating fact sheets for specific types of BMPs.

Appendix B contains fact sheets for BMPs that are not approved by the Department. Favorable evaluations of BMPs can lead to pilot studies to gather cost and performance data. In most cases, a group of similar BMPs are represented on a single fact sheet.

Appendix C contains fact sheets for approved BMPs. Consult the PPDG for more details on the implementation of approved BMPs (Caltrans 2007).

4.0 CATALOG OF TREATMENT BMPS

This alphabetical list includes all BMP technologies. Proprietary BMPs are listed on each fact sheet. The page numbers correspond to the location of the fact sheets in Appendices B and C.

Table 1. List of Treatment BMPS in Appendices

<i>BMP Category</i>	<i>Stormwater Technology</i>	<i>Page No.</i>
Bioretention		B-3
	Linear Bioretention Trench	B-5
	Tree Box Filter	B-7
Biofiltration		
	Strip	C-3
	Swale	C-5
Detention/Sedimentation		
Chemical Treatment		B-9
Electrocoagulation		B-11
Permanent Pool		B-13
	Wet Basin/Pond	C-27
	Vegetated Rock Filter	B-15
Plate and Tube Settlers		B-17
Temporary Pool		B-19
	Detention Basin	C-7
	Double Barrel	C-25
	Hold and Release	B-21
	Infiltration Chambers	B-23
	Skimmer	B-25
Disinfection		
Chemical Treatment		B-27
Ultraviolet		B-29
Drain Inlet Insert		
Baffle Box		B-31
Basket/Box	Baffled Filtration Box	B-33
	GSR Basket (Mechanically Removed)	B-35
Fabric		B-37
Media		B-39
Screen		B-41
Skimmer		B-43
Dry Weather Flow Diversion		C-9
Filtration		
Bed		B-45
	Austin Sand Filter	C-11
	Austin Filter with Alternative Media	B-47
	Delaware Sand Filter	C-13
	DC Sand Filter	B-49
	Infiltration Chambers	B-51
	Linear Filter Trench	B-53
	Media Filter Drain	B-55

<i>BMP Category</i>	<i>Stormwater Technology</i>	<i>Page No.</i>
Cartridge/Canister		B-57
Fabric		B-59
Pressure		B-61
Hydrodynamic Separator		B-63
Infiltration		
Basin		C-15
Trench		C-17
Below Grade		B-65
	Linear Infiltration Trench	B-67
Porous Surface		
Asphalt Overlay		B-69
Asphalt Pavement		B-71
Concrete Pavement		B-73
Permeable Pavers/Cellular Confinement		B-75
Screening		
GSRD–Inclined Screen		C-19
GSRD–Linear Radial		C-21
Gross Solids Removal		B-77
Multi-Chambered Treatment Train		C-23
Water Quality Inlet		
Oil/Water Separator		B-79

5.0 REFERENCES

- Caltrans. 2003. *Statewide Storm Water Management Plan (SWMP)*. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-03-008.
- Caltrans. 2007. *Storm Water Quality Handbooks, Storm Water Planning and Design Guide*. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-07-172.19.1.
- Caltrans. 2009. *Summary of Reports Prepared for the Monitoring and Research Program*. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-09-239.1.

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APPENDIX A: BMP FACT SHEET DESCRIPTION AND FORMAT

This appendix describes the content of the fact sheets in Appendices B and C. It also describes evaluation criteria for performance assessments. Each fact sheet is divided into a standard series of topics, which are described below in the order in which they occur in the fact sheets.

A.1 Header Information: BMP Category, Name and Quick Reference Symbols

The left side of the header contains a broad BMP category and more specific subcategory. If necessary, a more specific name is found on the right side. Reference symbols are located in the upper right corner of fact sheets. The symbols and the attributes they represent follow:



Special material handling requirements or potential toxicity



Power is required for this technology



Vector equipment recommended for maintenance



Vector concern because of standing water

A.2 BMP Description

The BMP description provides a summary of the configuration of the BMP and a general overview of the treatment process, how the BMP operates, and considerations that need to be addressed to promote maximum treatment effectiveness and functionality.

A.3 Constituent Removal

This section identifies the constituents expected to be removed by the BMP when present at levels typical of Caltrans stormwater runoff. The groups of constituents examined were previously identified as pollutants of concern (Caltrans 2007).

A.3.1 Constituent Groups

Estimates of the technology's performance removal abilities are made for each of the following constituent groups:

- Sediment (total suspended solids [TSS])
- Total nitrogen

- Total phosphorus
- Pesticides
- Total metals
- Dissolved metals
- Microbiological (including pathogens)
- Litter
- Biochemical oxygen demand (BOD)
- Total dissolved solids (TDS)

A.3.2 Constituent Removal

Unapproved BMPs

The fact sheets for BMPs that are not approved (Appendix B) report whether removal is expected for each of the 10 constituents (or constituent groups) listed in A.3.1. For a given constituent:

- A check mark is used if the removal efficiency is statistically significant or expected to be based on best professional judgment.
- A blank cell is used if there is insufficient data or the removal efficiency is not statistically significant.

Approved BMPs

The fact sheets for approved BMPs (Appendix C) report both constituent removal and level of confidence. The level of confidence reflects the certainty that the reported performance is applicable to typical Caltrans conditioning (e.g., influent concentrations). The level of confidence is based on the quality of monitoring studies. To ensure that data is of the highest quality, stormwater monitoring must be conducted according to scientific procedures, such as those listed in the *Stormwater Monitoring Protocols* (Caltrans 2003a), or equivalent protocols. The level of confidence assessments are defined as:

High: The constituent removal information came from either the Department's research or a study that met the Department's quality assurance and quality control monitoring protocols. Test conditions were typical of the Department's facilities and all of the following criteria were met:

- Full-scale field testing of a stabilized (erosion-free) post-construction transportation-related impervious drainage area
- Sampling and analysis in accordance to the *Guidance Manual: Stormwater Monitoring Protocols* (Caltrans 2003a), or other recognized protocol, such as that required for the International BMP Database (www.bmpdatabase.org)
- Testing at flow rates and volumes typical of Caltrans' drainage areas (areas vary, but usually are between 0.1 and 15 acres. Flow and volumes can be found by using Caltrans' Basin Sizer [www.owp.csus.edu/research/stormwatertools/])

- Mean influent concentrations below the 90th percentile of statewide characterization data (see Table A-1)
- At least eight storm events over a minimum period of two years, but data must also demonstrate a statistically significant removal ($p \leq 0.1$), which may require monitoring additional storm events
- Particle size distribution (PSD) similar to the proposed field conditions (e.g., state whether or not traction sand was applied)
- A mean removal estimate that corroborates the performance claim

Further, the study report must include the following:

- Rainfall record for the study area or its vicinity during the evaluation period
- Operation and maintenance records and costs for the evaluation period

Table A-1. The 90th Percentile Concentrations of Select Constituents.

Constituent	Units	90th percentile*	Constituent	Units	90th percentile*
TDS	mg/L	200	Ammonia nitrogen	mg/L as N	1.4
TSS	mg/L	300	Total Kjeldahl Nitrogen (TKN)	mg/L as N	4.4
Oil & Grease	mg/L	6.6	Nitrate	mg/L as N	2
Copper (dissolved)	µg/L	30	Phosphorus (dissolved)	mg/L as P	0.37
Copper (total)	µg/L	80	Phosphorus (total)	mg/L as P	0.84
Lead (dissolved)	µg/L	7	Orthophosphate	mg/L as P	0.3
Lead (total)	µg/L	100	Diazinon	µg/L	0.4
Zinc (dissolved)	µg/L	140	Diuron	µg/L	11
Zinc (total)	µg/L	400	Glyphosate	µg/L	50
			Pyrene	µg/L	0.96

* 90th percentile is the concentration at which 90% of all measurements are below. These values were estimated from Appendix B of the *Caltrans Discharge Characterization Study Report*, CTSW-RT-06-065 (Caltrans 2003b).

Alternatively, a high score is assigned to infiltration or reuse BMP technologies that provided “no discharge” to surface waters under design conditions. Constituent removal was assumed to be 100 percent removal although it was recognized that certain large storm events would not receive full treatment, and that infiltration may not provide complete removal of constituents for discharge to groundwater or subsequent re-entry to surface waters.

Medium: The criteria for a high level of confidence were not completely met; however, one of the following must apply:

- Statistically significant ($p\text{-value} \leq 0.1$) constituent removal was established from independent stormwater field monitoring for at least one year
- Removal efficiency based on best professional evaluation of unit operations and processes that are well established for treatment of other waters
- Load reduction of nutrients or BOD due to partial infiltration
- Statistically significant ($p\text{-value} \leq 0.1$) constituent removal was established from independent laboratory testing that follows the Technology Assessment Protocol – Ecology (TAPE) from Washington State (ECY 2008), and testing used a volume of water equivalent to one year of runoff for a typical installation. Alternatively, a laboratory loading using actual stormwater could be used as with the Tahoe Small Scale Research Facility (<http://www.dot.ca.gov/hq/env/stormwater/ongoing/tahoe/index.htm>).

Low: There are no available data or available data do not meet the above criteria for medium level of confidence assessment. For example, a manufacturer’s performance claim, without supporting data, would get a low score.

Notes:

This section gives a brief explanation, if necessary, of the logic used to score approved BMP technologies for both removal efficiency and level of confidence.

A.4 Caltrans Evaluation Status [Appendix C Only]

This section documents the BMP’s stage in the evaluation process.

A.5 Schematic

If appropriate, a schematic figure is provided to depict a typical installation, design plan, or a cross-section that identifies major components of the BMP.

A.6 Key Design Elements

This section identifies important design considerations that have been highlighted by vendors or discovered through testing. Ancillary facilities to be used in conjunction with each technology are also listed in this section. An example would be including a detention basin downstream of a chemical treatment technology to capture flocculated particles.

A.7 Advantages and Constraints

These sections list additional advantages and constraints of the BMP that are not covered in the previous sections. Information presented may include impacts from hydrologic characteristics and weather conditions in California, experiences from actual installations, and expansion of particular points discussed in previous sections of the fact sheet.

A.8 Cost Effectiveness Relative to Detention Basins [Appendix C Only]

This section provides an assessment of cost and pollutant removal effectiveness of approved BMPs relative to that for detention basins. Use this section for general comparisons of overall cost effectiveness but not for cost effectiveness comparison for treatment of an individual constituent. Detention basins were chosen because they are common BMPs that have relatively well-established cost and performance information. Relative cost assessments include the cost to build, operate, and maintain each BMP. Two pieces of information are provided on BMP costs:

- General assessment of the BMP’s overall costs compared to detention basins
- Level of confidence in the available data

A.8.1 Cost Effectiveness Assessment

The cost for each BMP was assessed in terms of its 20-year, present worth cost relative to detention basins. The baseline cost of a detention basin is \$673/m³ of water quality volume (1999 dollars), as reported in Appendix D of the *BMP Retrofit Pilot Program* (Caltrans 2004, p. 14-14). The effectiveness of each BMP was also assessed in terms of its overall constituent removal expectations relative to a detention basin. A four-quadrant system was used as a tool to rate each BMP (e.g., ). One of the four quadrants is shaded based on the rating key (see Figure A-1). If the overall constituent removal was greater than that for detention basins, then the BMP was marked as having a greater benefit. Because of a multitude of constituents, this assessment is often based on the best professional judgment rather than on an overall numeric efficiency score.

Benefit	↑	Benefit	↑
Cost	↓	Cost	↑
Benefit	↓	Benefit	↓
Cost	↓	Cost	↑

Figure A-1. Rating Key for Cost Effectiveness.

Due to a lack of cost data for BMPs constructed in the highway environment, the relative cost to detention basins was estimated based on the size and complexity of the technology compared to a detention basin sized for the same drainage area. If annual cost data are available, the 4% discount rate over 20 years results in an annual cost multiplication factor of 13.59. The resulting 20-year, present worth cost is the average annual cost times the 13.59 multiplication factor plus the construction cost. Planning, design, and right-of-way costs are not included.

A.8.2 Level of Confidence

The level of confidence in the costs to build and operate a BMP depends on the type and quantity of information found in the literature. Use of cost information developed for municipal stormwater programs was not considered to be directly relevant to the Department’s facilities.

The right-of-way costs and construction costs of major highway transportation projects are typically much greater than the typical suburban street or arterial road that might be constructed by a municipal public works department. Furthermore, operations and maintenance costs of facilities along major freeways are typically much more expensive than similar municipal facilities because of limited access and the need for traffic control. The level of confidence was assessed in terms of being high, medium, or low. The criteria applied for defining the confidence level of the cost estimates were:

- *High:* Unit cost information was available from a facility constructed by the Department or a similar state's department of transportation.
- *Medium:* Cost information was available from several similar facilities constructed under municipal stormwater programs or conservative costs estimates indicate an obvious unit cost difference compared to a detention basin.
- *Low:* No cost information was available from a similar BMP facility that could be independently verified. Construction costs were extrapolated from available pricing information.

The level of confidence only applies to cost since the level of confidence in the benefit of the BMP is evaluated in the "Constituent Removal" section of the fact sheets.

A.9 Issues and Concerns

This section presents issues and concerns to be considered when evaluating the appropriateness of a BMP for any of the Department's facilities. This information is divided into two categories: maintenance and project development. Within each category is a standard set of topics.

A.9.1 Maintenance Issues

- *Requirements:* Summarizes major maintenance tasks required to keep the BMP functional.
- *Special Training:* Identifies special or unusual training required to perform the maintenance, if applicable.

A.9.2 Project Development Issues

- *Right-of-Way Requirements:* Identifies relative space required to install the BMP.
- *Siting Constraints:* Identifies unique siting considerations and limitations, such as soil types, slope of the land, distance from existing infrastructure or other natural features, power requirements, and regulatory requirements. Common siting constraints, such as maintenance access, are not listed.
- *Construction:* Identifies unique construction precautions and requirements, such as unwanted soil compaction, if applicable.

A.10 Design, Construction, Maintenance, and Cost Sources

This section lists design, construction, maintenance, and cost sources.

A.11 Performance Demonstration Literature Sources [Appendix C Only]

This section provides the references from which performance was evaluated for approved BMPs. It also contains a limited number of additional performance references.

A.12 Certifications, Verifications, or Designations [Appendix C Only]

This section lists the abbreviated names of selected state or federal agencies or cooperatives that issue statements of performance based on third-party review of test results. Agency abbreviations that are used in the fact sheets are defined below, along with a brief explanation of the performance statements typically made by each agency.

TAPE: Technology Assessment Protocol, Ecology

The Washington State Department of Ecology (Ecology) uses TAPE to designate levels of allowed BMP use based on performance. The three designated use levels described below relate to the confidence that Ecology has in a technology's ability to meet various performance goals.

- PULD: The “pilot use level designation” allows limited installations of promising technologies for the purpose of data collections.
- CULD: The “conditional use level designation” allows widespread use within a time period in which testing must be completed to make a determination for GULD.
- GULD: The “general use level designation” indicates that the technology has been proven compliant with TAPE's performance goals.

There are six performance goals that could apply to the designated use level. Brief summaries follow:

- *Basic treatment*: Requires 80% removal of influent TSS between 100 and 200 mg/L and an effluent limit of 20 mg/L for influent TSS less than 100 mg/L.
- *Enhanced treatment or metals treatment*: Requires performance levels to be significantly higher than basic treatment. Influent metals must fall within 0.003 to 0.02 mg/L for dissolved copper and between 0.02 to 0.3 mg/L for dissolved zinc.
- *Phosphorus treatment*: Requires 50% reduction of phosphorus with an influent range of 0.1 to 0.5 mg/L.
- *Oil treatment*: Requires no discharge of visible sheen or of concentrations above 10 mg/L (composite) or 15 mg/L (grab).
- *Pretreatment*: Requires 50% reduction of TSS influent between 100 and 200 mg/L and an effluent limit of 50 mg/L for TSS influent below 100 mg/L.

ETV: Environmental Technology Verification, Environmental Protection Agency

The ETV verifies performance under specific conditions and explicitly states that performance under any other condition may be different. ETV reviews are performed by cooperative agreement with the National Sanitation Foundation (NSF International).

NJCAT: New Jersey Corporation for Advanced Technology

NJCAT provides technical review of field studies and provides performance verification statements. NJCAT works with the Technology Acceptance and Reciprocity Partnership (TARP), which has been endorsed by the states of California, Massachusetts, Maryland, New Jersey, Pennsylvania, and Virginia.

NJDEP: New Jersey Department of Environmental Protection

NJDEP certifies TSS removal based on NJCAT verification reports.

LA RWQCB: Los Angeles Regional Water Quality Control Board

LA RWQCB issues Full Capture Certifications for trash TMDL compliance.

TCEQ: Texas Committee on Environmental Quality

TCEQ approves BMPs that are appropriate for the protection of sole-source groundwater resources.

References

Caltrans. 2003a. *Caltrans Comprehensive Protocols Guidance Manual*. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-03-105.51.42.

Caltrans. 2003b. *Discharge Characterization Study Report*. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-03-065.

Caltrans. 2004. *BMP Retrofit Pilot Program Final Report*. Sacramento: Caltrans, Division of Environmental Analysis. p. 14-14. CTSW-RT-01-050.

Caltrans. 2007. *Storm Water Quality Handbooks, Storm Water Planning and Design Guide*. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW-RT-07-172.19.1.

Department of Ecology (ECY), Washington State. 2008. *Guidance for Evaluating Emerging Stormwater Treatment Technologies*. Publication number 02-10-037. Retrieved January 17, 2009 from <http://www.ecy.wa.gov/pubs/0210037.pdf>.

APPENDIX B: TECHNOLOGY FACT SHEETS

This appendix presents fact sheets for technologies that have *not* been approved by the Department. Evaluation of these technologies is ongoing and may be revised in future reports. The evaluations presented were derived from a review of available information and best professional judgment was used where information was lacking.

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<i>BMP Category</i>	<i>Stormwater Technology</i>	<i>Page No.</i>
Bioretention		B-3
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Permanent Pool		B-13
	Vegetated Rock Filter	B-15
Plate and Tube Settlers		B-17
Temporary Pool		B-19
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	Infiltration Chambers	B-51
	Linear Filter Trench	B-53
	Media Filter Drain	B-55
Cartridge/Canister		B-57
Fabric		B-59
Pressure		B-61
Hydrodynamic Separator		B-63
Infiltration		
Below Grade		B-65
	Linear Infiltration Trench	B-67

<i>BMP Category</i>	<i>Stormwater Technology</i>	<i>Page No.</i>
Porous Surface		
Asphalt Overlay		B-69
Asphalt Pavement		B-71
Concrete Pavement		B-73
Permeable Pavers/Cellular Confinement		B-75
Screening		
Gross Solids Removal		B-77
Water Quality Inlet		
Oil/Water Separator		B-79

BMP Fact Sheet

Bioretention

Description

Bioretention cells consist of vegetated depressions that treat runoff by filtering through mulch and soil-based media. Physical straining, biological and chemical reactions in the mulch, root zone, and soil matrix, and infiltration into the underlying subsoil are the main treatment processes. Bioretention cells reduce peak discharge and runoff volume by detaining water through surface ponding and storage in soil and gravel layers, and by allowing it to infiltrate into the subsoil or dissipate through evapotranspiration.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	✓
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	✓
Total Dissolved Solids (TDS)	

* Based on performance of conventional bioretention systems or best professional judgment. Blank cells indicate data not available or poor treatment performance. Small bioretention systems operating at relatively high loading rates and/or with shallow media or soil depth may not provide treatment as indicated.

Advantages

- Pollutant removal effectiveness is typically high
- Can provide an aesthetic vegetated appearance
- Reduces peak discharge and runoff volume
- Can fit into narrow right-of-way

Schematic



Source: Maryland Water Resources Research Center

Key Design Elements

- Bioretention area and depth
- Water quality flow
- Ponding depth
- Underground drain system
- Vegetation
- Bioretention media
- Liner, if high seasonal groundwater

Constraints

- In areas with prolonged dry periods, vegetation may require irrigation
- Vegetation may develop slowly in a bioretention facility, though filtering still occurs

BMP Fact Sheet

Bioretention

Maintenance Issues

Requirements:

- Periodic replacement of mulch and planting media
- Maintenance of irrigation system, if used in dry areas

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Linear biotrench configuration is designed to fit narrow right-of-way

Siting Constraints:

May need irrigation in dry areas, depending on plant selection

Construction:

- Plant establishment period may be required
- Water should bypass until construction is complete and the BMP is stabilized

Design, Construction, Maintenance, and Cost Sources

US EPA. 1999. Stormwater Technology Fact Sheet: Bioretention. EPA 832-F-99-012.

Caltrans. 2003. SR-73 Stormwater BMP Replacement Project at CSF System 1149L Bioretention Area: Basis of Design Report. Division of Environmental Analysis. CTSW-RT-03-006.51.39.

Center for Watershed Protection. 2000. Bioretention as a Stormwater Treatment Practice. The Practice of Watershed Protection, Article 110, 548-550.

Engineering Technologies Associates (ETA). Design Manual for Use of Bioretention in Stormwater Management. Prepared for Prince George's County, Department of Environmental Resources, Maryland.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

Available Vendor Products

The names of vendor products that appear here are for information only. The vendor products listed below are NOT APPROVED FOR USE by the California Department of Transportation. Their appearance here IS NOT AN ENDORSEMENT OF THE PRODUCTS BY CALTRANS OR THE STATE OF CALIFORNIA.

- DeepRoot® Silva Cell
- TreePod® Biofilter
- Filterra® Bioretention System
- UrbanGreen™ Biofilter

Alternative Designs

- Bioretention Basin
- Linear Bioretention Trench

BMP Fact Sheet

Bioretention

Linear Bioretention Trench

Description

Bioretention cells consist of vegetated depressions that treat runoff by filtering through mulch and soil-based media. Physical straining, biological and chemical reactions in the mulch, root zone, and soil matrix, and infiltration into the underlying subsoil are the main treatment processes. A linear bioretention trench is an adaptation of existing biofiltration designs, consisting of a trench that filters sheet flow runoff through vegetation and a planting soil. It is designed for the narrow right-of-way typical of roadside areas. Removal mechanisms include filtration, infiltration, and plant uptake. Biofiltration strips can be used as pretreatment.

Constituent Removal

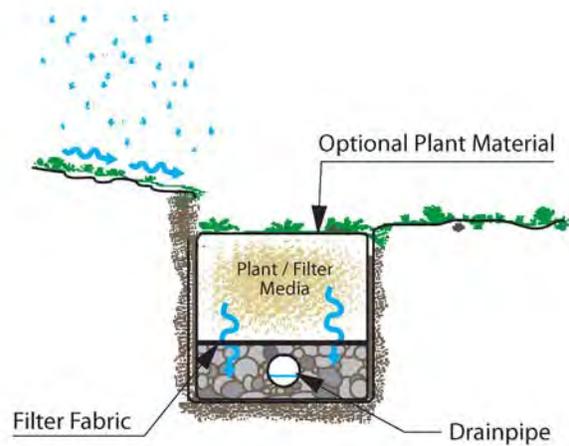
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	✓
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	✓
Total Dissolved Solids (TDS)	

* Based on performance of conventional bioretention systems or best professional judgment. Blank cells indicate data not available or poor treatment performance.

Advantages

- Fits in a narrow right-of-way
- Pollutant removal effectiveness is typically high
- Can provide an aesthetic vegetated appearance
- Reduces peak discharge and runoff volume

Schematic



Source: Caltrans

Key Design Elements

- Bioretention area and depth
- Water quality flow
- Ponding depth
- Underground drain system
- Vegetation
- Bioretention media
- Liner, if high seasonal groundwater

Constraints

- Vegetation may require irrigation in areas with prolonged dry periods
- Vegetation may develop slowly in a bioretention facility, though filtering still occurs
- If media clogs, resulting standing water may create mosquito habitat
- Avoid high groundwater
- Although narrow, could be a large footprint BMP depending on design constraints
- Maintenance activities may require traffic control

Maintenance Issues

Requirements:

- Periodic replacement of mulch or planting media
- Maintenance of irrigation system, if used in dry areas

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Designed to fit in a narrow right-of-way

Siting Constraints:

- May need irrigation in dry areas, depending on plant selection
- Minimum head requirement of two feet

Construction:

- Vegetation establishment period may be required
- Water should bypass until construction is complete and the BMP is stabilized

Design, Construction, Maintenance, and Cost Sources

US EPA. 1999. Stormwater Technology Fact Sheet: Bioretention. EPA 832-F-99-012.

Caltrans. 2003. SR-73 Stormwater BMP Replacement Project at CSF System 1149L Bioretention Area: Basis of Design Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-03-006.51.39.

Center for Watershed Protection. 2000. Bioretention as a Stormwater Treatment Practice. The Practice of Watershed Protection, Article 110, 548-550.

Engineering Technologies Associates (ETA). Design Manual for Use of Bioretention in Stormwater Management. Prepared for Prince George's County, Department of Environmental Resources, Maryland.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

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Alternative Designs

BMP Fact Sheet

Bioretention

Tree Box Filter

Description

Bioretention cells consist of vegetated depressions that treat runoff by filtering through mulch and soil-based media. Physical straining, biological and chemical reactions in the mulch, root zone, and soil matrix, and infiltration into the underlying subsoil are the main treatment processes. Bioretention cells reduce peak discharge and runoff volume by detaining water through surface ponding and storage in soil and gravel layers, and by allowing it to infiltrate into the subsoil or dissipate through evapotranspiration. Tree box filters are mini bioretention systems that are typically installed along urban sidewalks.

Constituent Removal

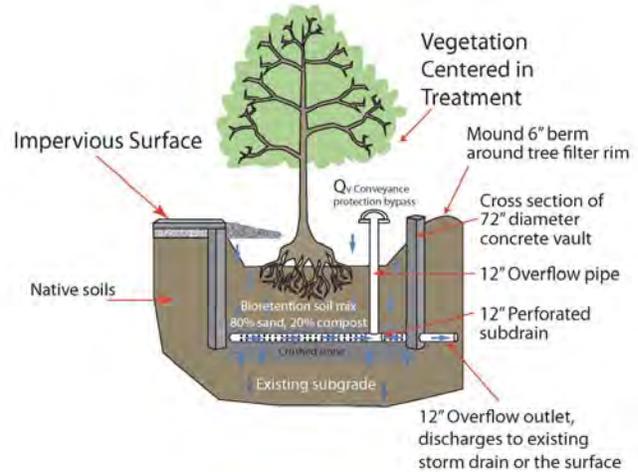
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	✓
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on performance of conventional bioretention systems or best professional judgment. Blank cells indicate data not available or poor treatment performance. Small bioretention systems operating at relatively high loading rates and/or with shallow media or soil depth may not provide treatment as indicated.

Advantages

- Pollutant removal effectiveness is typically high
- Can provide an aesthetic vegetated appearance
- Reduces peak discharge and runoff volume
- Can fit into narrow right-of-way
- Small footprint bioretention devices such as tree box filters are most applicable in urban settings

Schematic



Source: University of New Hampshire Stormwater Center

Key Design Elements

- Bioretention area and depth
- Water quality flow
- Ponding depth
- Underground drain system
- Vegetation
- Bioretention media

Constraints

- In areas with prolonged dry periods, vegetation may require irrigation
- Vegetation may develop slowly in a bioretention facility, though filtering still occurs

Maintenance Issues

Requirements:

- Periodic replacement of mulch and planting media
- Maintenance of irrigation system, if used in dry areas

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Tree box filters are small footprint devices that fit in sites where available space is limited

Siting Constraints:

May need irrigation in dry areas, depending on plant selection

Construction:

- Plant establishment period may be required
- Water should bypass until construction is complete and the BMP is stabilized

Design, Construction, Maintenance, and Cost Sources

US EPA. 1999. Stormwater Technology Fact Sheet: Bioretention. EPA 832-F-99-012.

Caltrans. 2003. SR-73 Stormwater BMP Replacement Project at CSF System 1149L Bioretention Area: Basis of Design Report. Division of Environmental Analysis. CTSW-RT-03-006.51.39.

Center for Watershed Protection. 2000. Bioretention as a Stormwater Treatment Practice. The Practice of Watershed Protection, Article 110, 548-550.

Engineering Technologies Associates (ETA). Design Manual for Use of Bioretention in Stormwater Management. Prepared for Prince George's County, Department of Environmental Resources, Maryland.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

University of New Hampshire (UNH). 2008. Tree Box Filter. University of New Hampshire Stormwater Center. [Http://www.unh.edu/erg/cstev/fact_sheets/tree_filter_fact_sheet_08.pdf](http://www.unh.edu/erg/cstev/fact_sheets/tree_filter_fact_sheet_08.pdf) (accessed January 20, 2010).

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- DeepRoot® Silva Cell
- Filtterra® Bioretention System
- TreePod® Biofilter
- UrbanGreen™ Biofilter

Alternative Designs

BMP Fact Sheet

Detention/Sedimentation

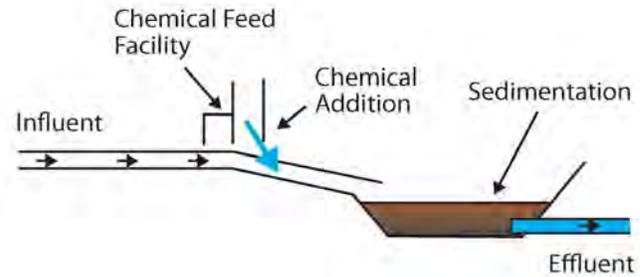
Chemical Treatment



Description

Adding chemical coagulants to stormwater influent can enhance removal of particulates, associated contaminants, and dissolved nutrients in a detention system. Chemical treatment results in floc formation, which increases the settling velocity of particles and improves sedimentation removal efficiencies. The effectiveness of this system largely depends on the type of chemical added, time allowed for sedimentation, and the particle size, density, and settling velocity of the floc that is produced. Typical chemicals used include alum, chitosan, and polyacrylamide (PAM). These chemicals are added either in liquid form upstream of the detention or as a solid (gel block) that is placed in the flow path.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on expected improvement over conventional dry detention basin performance. Blank cells indicate data not available or poor treatment performance. Small systems with relatively short detention times may not provide treatment as indicated.

Source: Caltrans

Key Design Elements

- Chemical dose
- Chemical feed and storage facilities
- Chemical mixing facilities
- Capture volume and depth
- Drain time
- Debris screen to protect effluent control
- Maintenance access
- High flow routing

Advantages

- Increases performance of existing detention basins
- The accumulation rate of floc in sediments of quiescent receiving waters can be low due to floc consolidation over time and incorporation of floc into existing sediment
- Chemical treatment can remove nutrients, heavy metals, and fecal coliforms
- Dry alum sludge has chemical characteristics suitable for general land or agricultural application
- Construction costs for stormwater treatment feed systems are largely independent of the drainage area to be treated and depend primarily upon the number of outfalls to be retrofitted

Constraints

- Treated waters may require pH adjustment
- Safety issues related to the chemical storage facility need to be considered
- Alum forms voluminous metal hydroxides that are difficult to dewater
- Appropriate mixing must be provided at the point of chemical addition
- Sludge removal method and frequency need to be considered
- The optimum dose may vary with each storm
- Potential toxicity due to overdosing
- Requires higher level of operator observation than for other BMPs

BMP Fact Sheet

Detention/Sedimentation

Chemical Treatment



Maintenance Issues

Requirements:

- Chemical storage and dosing equipment must be inspected and maintained on a regular basis
- Effluent pH monitoring system must be maintained on a regular basis
- Sludge removal

Special Training:

- Training is required for maintenance of chemical addition and storage system
- Chemical handling

Project Development Issues

Right-of-Way Requirements:

- Small footprint for chemical addition system
- Downstream detention requirement increases footprint
- Other requirements as listed on the Detention Basin fact sheet (see Appendix C)

Siting Constraints:

- May require electrical power supply
- Space for a central housing unit and storage tank
- Need enough head for mixing
- Other requirements as listed on the Detention Basin fact sheet (see Appendix C)

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Harper H.H. Current Research and Trends in Alum Treatment of Stormwater Runoff. Environmental Research & Design, Inc.

Available Vendor Products

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None identified

Alternative Designs

None identified

BMP Fact Sheet

Detention/Sedimentation

Electrocoagulation



Description

Electrocoagulation (EC) systems are effective for removal of emulsified oils, total petroleum hydrocarbons (TPH), suspended solids, and heavy metals from exceptionally polluted industrial wastewater and stormwater runoff. EC technology is an alternative to the use of chemical coagulants such as alum, metal salts, or polymers and polyelectrolyte addition(s). The EC process removes pollutants from aqueous media by introducing highly charged metal hydroxide species that neutralize suspended solids and oil droplets and facilitate agglomeration or coagulation. EC treatment is typically followed by sedimentation or filtration processes to remove flocculated material.

Constituent Removal

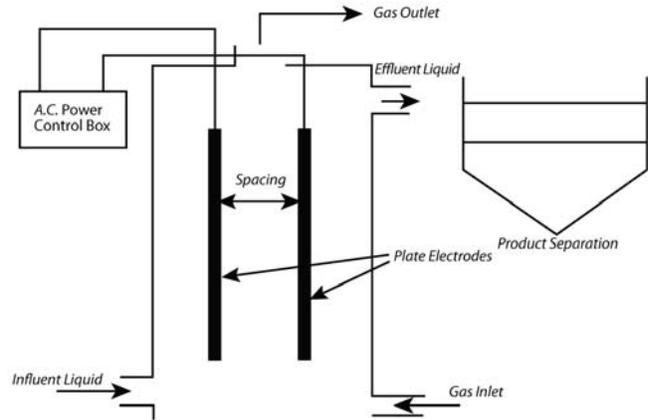
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	✓
Litter	
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance. Actual treatment will depend on a number of variables including current density, conductivity, and pollutant load of influent, as well as the type of electrodes.

Advantages

- Sludge formed by EC tends to be readily settleable and easy to de-water because it is composed mainly of metallic oxides/hydroxides
- Gas bubbles produced during electrolysis can carry the pollutant to the top of the solution where it can be more easily concentrated, collected, and removed
- Electrolytic processes in the EC cell are controlled electrically with no moving parts
- EC may be feasible where electricity is not available if solar panels are used (Note: A 50 gpm EC system requires 480 volt power supply)

Schematic



Source: EPA

Key Design Elements

- Facilities required upstream to capture runoff and provide flood flow routing and bypass
- Mode of operation (batch or continuous)
- Power supply
- Design flow
- Electrical conductivity of influent water
- Sludge storage and disposal
- Need for pretreatment
- Cleaning/replacement needs for electrodes
- Maintenance access

Constraints

- Sacrificial electrodes are dissolved into wastewater streams as a result of oxidation, and need to be regularly replaced
- Use of electricity may be expensive
- Impermeable oxide film may be formed on the cathode leading to loss of efficiency of the EC unit
- High conductivity of the water suspension is required
- Treated waters may have high pH, which may require remediation
- Potential toxicity concerns due to overdosing
- Requires higher level of operator observation than other BMPs

BMP Fact Sheet

Detention/Sedimentation

Electrocoagulation



Maintenance Issues

Requirements:

None identified

Special Training:

Requires training to maintain and operate equipment

Project Development Issues

Right-of-Way Requirements:

Space required for upstream capture and downstream sedimentation

Siting Constraints:

May require power nearby and, possibly, a sewer connection

Construction:

Significant capital costs and start-up/test requirements

Design, Construction, Maintenance, and Cost Sources

Beagles, A. 2004. Electrocoagulation - Science and Applications. <http://www.eco-web.com/edi/index.htm> (accessed October 19, 2009).

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- E-Cell
- Kaselco EC
- FLUXCELL™
- Powell Water Systems EC

Alternative Designs

None identified

BMP Fact Sheet

Detention/Sedimentation

Permanent Pool



Description

Detention systems provide treatment by detaining runoff to allow settling or sedimentation of particles under gravity. The effectiveness of these systems depends on the time allowed for sedimentation, the particle size, density, and settling velocity, and the extent to which contaminants are associated with the particulate fraction in the incoming water. In addition, systems with permanent pools support plant species that provide constituent removal by biological processes. The primary function of a permanent pool is energy dissipation and assuring a longer residence time for first flush of water. Examples of treatment systems with permanent pools include wet basins/ponds and constructed wetlands.

Constituent Removal

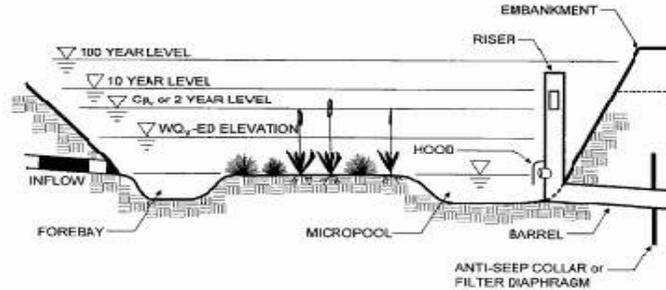
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on conventional wet basin performance. Blank cells indicate data not available or poor treatment performance. Small permanent pool systems operating at relatively high loading rates may not provide treatment as indicated.

Advantages

- Recreational and aesthetic benefits
- Enhances wildlife habitat
- High removal efficiencies for many constituents
- Particularly advantageous to first flush of storms

Schematic



Source: EPA

Key Design Elements

- Capture volume and depth
- Drawdown time
- Permanent pool to capture volume ratio
- Sedimentation forebay
- Vegetation
- Debris screen to protect effluent control
- Maintenance access
- High flow routing
- Liner requirements

Constraints

- Relatively high construction costs in comparison to other BMPs
- Wetland must have a source flow
- Species may restrict maintenance
- There are potential problems associated with mosquitoes
- The device may become a regulated wetland if not consistently maintained on an established schedule
- Wet basins are larger than extended detention basins because of the additional volume of the permanent pool

BMP Fact Sheet

Detention/Sedimentation

Permanent Pool



Maintenance Issues

Requirements:

- Active management of the hydrology and vegetation during the first few years is necessary for plant establishment
- Mosquito fish planting or other vector control methods are needed
- Vegetation thinning or removal may be necessary for vector control, wildlife may limit activities to a particular season
- Sensitive species inspections
- Sediment removal (hand removal has been found to be more cost-effective than mechanical removal)
- Removing standing water for the dry season may be required if not augmented by dry weather flow

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Space requirements are high for wet basins. The volume of the permanent pool should be at least three times the water quality volume

Siting Constraints:

- Soil should have a low infiltration rate or basin should be lined with a clay or geotextile liner so that water level is maintained in the basin
- Wet basins should be sited where a permanent pool of water can be maintained during the wet season
- Requires a minimum ten-foot separation between seasonal high groundwater and basin invert if a liner is not used

Construction:

- Plant establishment period is recommended
- Excavated soil surface should be suitable to support plant life
- If a pond liner is used, it must be carefully installed and maintained to avoid punctures

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-07-172.19.1.

King County. 2005. Surface Water Design Manual, King County Surface Water Management Division, Washington. <http://your.kingcounty.gov/dnrp/library/water-and-land/stormwater/surface-water-design-manual/SWDM-2009.pdf> (accessed October 7, 2009).

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

Schueler, T. R. 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Washington, DC: Metropolitan Washington Council of Governments.

U.S. EPA. 1999. Wet Detention Pond Fact Sheet. EPA 832-F-99-048.

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- Airmaster Aerator
- AquaMaster®
- Kasco® Marine
- StormTreat™
- Aqua Control
- MWS Linear HYBRID
- SolarBee

Alternative Designs

- Vegetated wet channel
- Constructed wetland
- Wet basin/pond

BMP Fact Sheet

Detention/Sedimentation

Permanent Pool

Description

Detention systems provide treatment by detaining runoff to allow settling of particles under gravity. The effectiveness of these systems depends on the time allowed for settling, the particle size, density, and settling velocity, and the extent to which contaminants are associated with the particulate fraction in the incoming water. In addition, systems with permanent pools support plant species that provide constituent removal by biological processes. The Vegetated Rock Filter (also called Subsurface Wetland) consists of a sealed, shallow basin or channel filled with substrate media and emergent aquatic plants. The substrate, typically gravel, rock, or other material, provides support for plant and algae. Treatment is primarily accomplished via settling, biological uptake by plants, and microbial breakdown. An alternative to a basin configuration is a linear trench configuration which is more suitable for roadside application.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

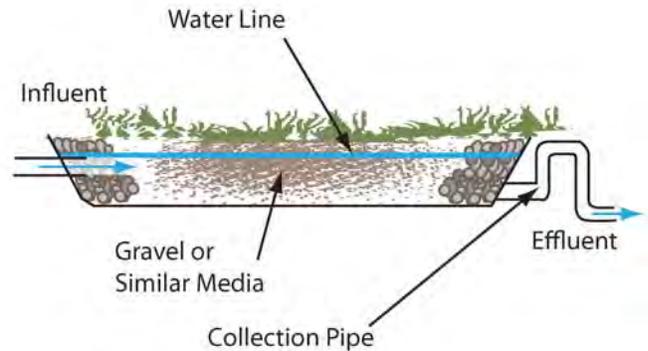
* Based on conventional wet basin performance. Blank cells indicate data not available or poor treatment performance.

Advantages

- Enhances aesthetics and wildlife habitat
- High removal efficiencies for many constituents
- Particularly advantageous to first flush of storms
- Minimal vector concerns because permanent water level is below the surface

Vegetated Rock Filter

Schematic



Source: Caltrans

Key Design Elements

- High flow routing
- Media type and depth
- Liner requirements
- Forebay or other pretreatment method
- Permanent pool to capture volume ratio
- Maintenance access

Constraints

- Relatively high construction costs compared to other BMPs
- Must have a continuous source flow to maintain plant community
- Wildlife may restrict maintenance
- May become a regulated wetland if not consistently maintained on an established schedule
- Larger than an extended detention basin because of the additional volume of the permanent pool
- Requires long-term maintenance to remove metals and persistent organics that accumulate in sediments
- Anaerobic conditions may increase biological availability of some metals (e.g. methyl mercury)

BMP Fact Sheet

Detention/Sedimentation

Permanent Pool

Vegetated Rock Filter

Maintenance Issues

Requirements:

- Active management of the hydrology and vegetation during the first few years is necessary for plant establishment
- Vegetation thinning or removal may be necessary, but wildlife may limit such activities to a particular season
- Sensitive species inspections
- Inspect the gravel bed annually for sediment build-up. Remove sediment periodically
- Check inlet and outlet devices for clogging during the rainy season

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Space requirements are high because of the volume of the permanent pool

Siting Constraints:

- Located on sites with less than two percent slope
- Soil should have a low infiltration rate or basin should be lined with a clay or geotextile liner so that water level is maintained in the basin
- Site where a permanent pool of water can be maintained
- Requires a minimum ten-foot separation between seasonal high groundwater and basin invert if a liner is not used

Construction:

- Plant establishment period is recommended
- Media surface should be suitable to support plant life
- If a pond liner is used, it must be carefully installed and maintained to avoid punctures

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-07-172.19.1.

King County. 2005. Surface Water Design Manual, King County Surface Water Management Division, Washington. <http://your.kingcounty.gov/dnrp/library/water-and-land/stormwater/surface-water-design-manual/SWDM-2009.pdf> (accessed October 7, 2009).

NCHRP. 2006. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

San Francisco Stormwater Design Guidelines Draft. 2009. http://sfwater.org/Files/FactSheets/DRAFT_AppenA.pdf (accessed November 18, 2009).

Schueler, T. R. 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Washington, DC: Metropolitan Washington Council of Governments.

US EPA. 1999. Wet Detention Pond Fact Sheet. EPA 832-F-99-048.

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Alternative Designs

BMP Fact Sheet

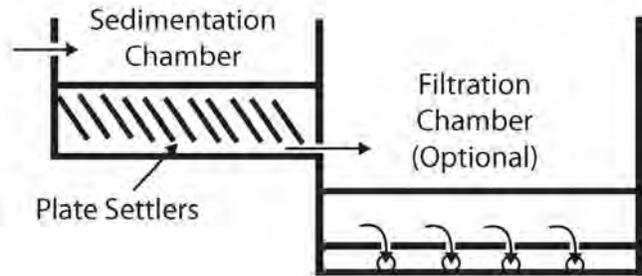
Detention/Sedimentation

Plate and Tube Settlers

Description

Plate and tube settlers typically consist of parallel plates or inclined tubes that permit solids to reach the plate or tube after only short distances of settling. This reduction in the distance particles must travel increases the rate of sedimentation. The effectiveness of these systems depends on the time allowed for sedimentation (controlled by the effective overflow rate), the particle size, density, and settling velocity, and the extent to which contaminants are associated with the particulate fraction in the incoming water. Sedimentation in the first chamber of an Austin sand filter or in a concrete detention basin can be improved by installing a plate or tube settler.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on conventional dry detention basin performance. Blank cells indicate data not available or poor treatment performance. Small plate and tube settlers operating at very high overflow rates may not provide treatment as indicated.

Source: Caltrans

Key Design Elements

- Effective overflow rate
- Size and mounting of plates or tubes
- Sludge collection and removal facilities
- Pretreatment for litter
- Maintenance access
- High flow routing

Advantages

- Enhances particle removal of detention/sedimentation BMPs
- May reduce footprint of a detention/sedimentation BMP or Austin sand filter when used as pretreatment
- May decrease maintenance frequency of downstream filters

Constraints

- Maintenance is more difficult than in an open basin. May require confined space entry and hand cleaning of tubes or plates
- Water must be introduced so that it flows uniformly through the settlers
- Settled particulates can be resuspended if critical velocity is exceeded
- Requires litter removal before passing water through tubes or plates
- Other constraints as listed on the Detention Basin fact sheet (see Appendix C)

BMP Fact Sheet

Detention/Sedimentation

Plate and Tube Settlers

Maintenance Issues

Requirements:

- Cleaning and maintenance of the plate or tube settlers may require removal of the settler structure
- May require hand cleaning of tubes or plates
- Litter may get trapped in the settler structure

Special Training:

Training may be required for confined space entry

Project Development Issues

Right-of-Way Requirements:

Reduces right-of-way requirements for a detention basin or Austin sand filter when used as pretreatment

Siting Constraints:

Similar to siting constraints for a detention basin or Austin sand filter (see Appendix C)

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Terre Hill Concrete Products. www.terrestorm.com (accessed November 2, 2009).

Available Vendor Products

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- Hydro Quip IPS
- Lamella® Gravity Settler
- Terre Kleen™

Alternative Designs

None identified

BMP Fact Sheet

Detention/Sedimentation

Temporary Pool

Description

Detention systems provide treatment by detaining runoff to allow settling or sedimentation of particles under gravity. The effectiveness of these systems depends on the time allowed for sedimentation, the particle size, density, and settling velocity, and the extent to which contaminants are associated with the particulate fraction in the incoming water. Treatment systems with temporary pools, which are normally dry between events, include above ground dry detention ponds/basins and below grade storage.

Constituent Removal

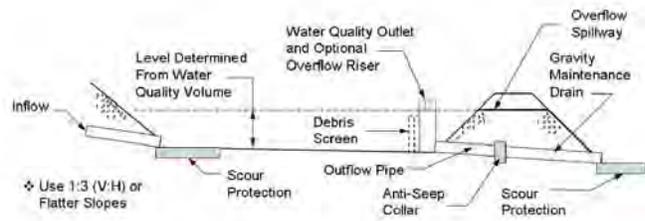
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on conventional dry detention basin performance. Blank cells indicate data not available or poor treatment performance. Small systems with relatively short detention times may not provide treatment as indicated.

Advantages

- Relatively easy to operate and maintain
- Potential for substantial infiltration
- Can be sited more easily than Austin sand filters

Schematic



Source: Caltrans

Key Design Elements

- Capture volume and depth
- Drain time
- Debris screen to protect effluent control
- Maintenance access
- High flow routing

Constraints

- Limited pollutant removal for fine particles, nutrients, and dissolved constituents
- Can only be placed in areas with sufficient hydraulic head
- If outlet clogs, resulting standing water may create mosquito habitat
- May require confined space entry for below grade storage
- May require liner in areas with high seasonal groundwater

BMP Fact Sheet

Detention/Sedimentation

Temporary Pool

Maintenance Issues

Requirements:

- Regular inspections for standing water, side slope stability, debris and sediment accumulation, and vegetative cover
- If vegetative cover is not established to acceptable thresholds, re-seeding or erosion control measures may need to be implemented
- Sediment removal

Special Training:

Training for confined space entry for below ground facilities

Project Development Issues

Right-of-Way Requirements:

Space requirements are relatively high

Siting Constraints:

- Site where there is sufficient hydraulic head to facilitate complete drainage
- Requires separation between seasonal high groundwater and basin invert if liner not used

Construction:

Minimize compaction of underlying soils to maintain infiltration capacity

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-07-172.19.1.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

Available Vendor Products

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- | | |
|--------------------|---------------------------------------|
| ● Con/Storm™ | ● Corrugated Pipe (various suppliers) |
| ● Extention Basin™ | ● Faircloth Skimmer® |
| ● StormTrap™ | ● Thirsty Duck |
| ● Watermann™ | ● Weir Guard™ |

Alternative Designs

- | | |
|----------------------------|-----------|
| ● Hold & Release Detention | ● Skimmer |
| ● Detention Basin | |

BMP Fact Sheet

Detention/Sedimentation

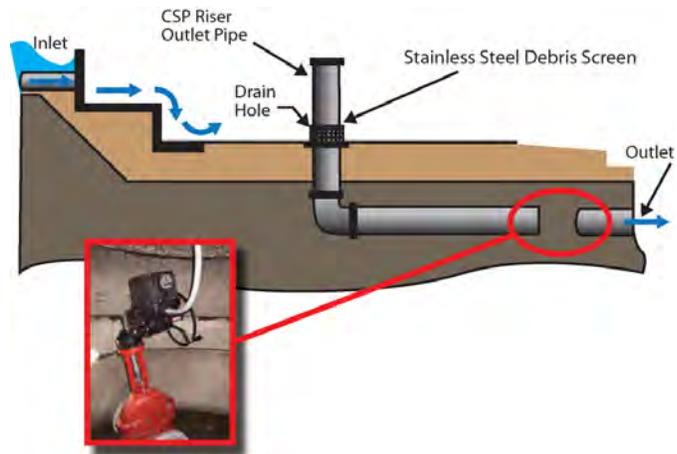
Temporary Pool

Hold and Release

Description

Detention systems provide treatment by detaining runoff to allow settling or sedimentation of particles under gravity. The effectiveness of these systems depends on the time allowed for sedimentation, the particle size, density, and settling velocity, and the extent to which contaminants are associated with the particulate fraction in the incoming water. Hold and release valves located on the outlet of the detention basin are used to provide a consistent detention time for a variety of storm sizes. Valves can be powered electrically or pneumatically. The timing of valve operations is adjusted by a logic controller and water depth sensors. Hold and release valves can also be used for infiltration basins in poorly infiltrating soils because they allow water that does not infiltrate to drain.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on field test results by Middleton and Barrett (2006) and removals observed for conventional dry detention basins. Blank cells indicate data not available or poor treatment performance.

Advantages

- Treatment for TSS and total metals is comparable to sand filtration, but with lower footprint and head requirements
- Increased infiltration potential compared to conventional detention basins

Source: Caltrans

Key Design Elements

- Valve type and size
- Power and controls system for operating outlet bladder or valve
- Maintenance access

Constraints

- Reliability unknown
- Electric valves require power supply
- Pneumatic valves require high pressure gas source
- Orifice clogging may cause standing water, resulting in mosquito habitat
- Requires inspection and maintenance of hold and release valves, controller, and power supply

BMP Fact Sheet

Detention/Sedimentation

Temporary Pool

Hold and Release

Maintenance Issues

Requirements:

- Valves and controller require inspection and periodic replacement. Determine inspection frequency during the first few years of operation
- Maintenance of battery sources and gas cylinders, if used

Special Training:

Training is required to inspect and maintain electric and pneumatic systems

Project Development Issues

Right-of-Way Requirements:

Similar to right-of-way requirements listed on the Detention Basin fact sheet (see Appendix C)

Siting Constraints:

- Equivalent to detention basin siting constraints
- Requires power supply

Construction:

Unknown

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2001. Detention Basin Optimization - Reconnaissance Study Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-029, pp. 3-7.

Caltrans. 2004. District 12 State Route 73 Pilot Program - Detention Basin Optimization and Retrofit. Basis of Design Report. CTSW-RT-04-090.09.1.

Middleton, J. R., J. F. Malina, and M. E. Barrett. 2006. Water Quality Performance of a Batch Type Stormwater Detention Basin. Center for Research in Water Resources On-Line Report 06-02. <http://www.crwr.utexas.edu/reports/pdf/2006/rtp06-02.pdf> (accessed November 6, 2009).

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Alternative Designs

BMP Fact Sheet

Detention/Sedimentation

Temporary Pool

Description

Detention systems provide treatment by detaining runoff to allow settling of particles under gravity. The effectiveness of these systems depends on the time allowed for settling, the particle size, density, and settling velocity, and the extent to which contaminants are associated with the particulate fraction in the incoming water. Treatment systems with temporary pools, which are normally dry between events, include above ground dry detention ponds/basins and below grade temporary storage. Infiltration chambers is a concept developed by Caltrans to increase infiltration in conventional BMPs. The addition of infiltration chambers below the invert of earthen detention systems is expected to capture and infiltrate the first flush of stormwater runoff. These infiltration chambers can consist of gravel, high porosity storage media with a sand overlay, or native soil that has been amended to improve infiltration. In soils that infiltrate well, raising the riser orifice may provide the same treatment benefit as the installation of infiltration chambers.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

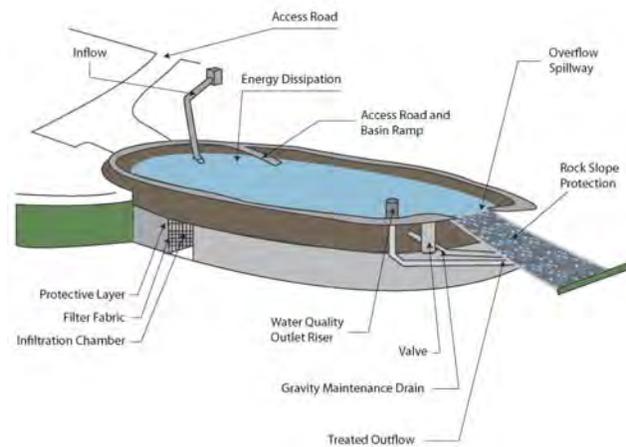
* Based on conventional dry detention basin performance. Blank cells indicate data not available or poor treatment performance. Small systems with relatively short detention times may not provide treatment as indicated.

Advantages

- Potential for substantial infiltration, even in poorly infiltrating soils
- Expected to improve treatment of fine particles, nutrients, and dissolved constituents relative to conventional detention

Infiltration Chambers

Schematic



Source: Caltrans

Key Design Elements

- Soil type and permeability
- Infiltration chamber volume capacity
- Infiltration chamber material (high porosity storage media, gravel, amended soil, etc.)
- High flow routing
- Capture volume and depth
- Drain time
- Debris screen to protect effluent control
- Maintenance access

Constraints

- Not suitable in areas with high seasonal groundwater
- Increases construction and rehabilitation costs relative to conventional detention basins
- If outlet clogs, resulting standing water may create mosquito habitat

BMP Fact Sheet

Detention/Sedimentation

Temporary Pool

Infiltration Chambers

Maintenance Issues

Requirements:

- Regular inspections for standing water, side slope stability, debris and sediment accumulation, and vegetative cover
- May require construction equipment to rehabilitate clogged system
- If vegetative cover is not established to acceptable thresholds, re-seeding or erosion control measures may need to be implemented
- Sediment removal

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Space requirements are the same as for conventional detention systems

Siting Constraints:

- Site where there is sufficient hydraulic head to facilitate drainage through the outlet riser
- Requires separation between seasonal high groundwater and basin invert

Construction:

- Minimize compaction of underlying soils to maintain infiltration capacity
- Bypass water until drainage area is stabilized

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-07-172.19.1.

Caltrans. 2008. Adding Infiltration Chambers to Approved Best Management Practices: Concept Development. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-TM-08-172-46.1.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

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Alternative Designs

BMP Fact Sheet

Detention/Sedimentation

Temporary Pool

Skimmer

Description

Detention systems provide treatment by detaining runoff to allow settling or sedimentation of particles under gravity. The effectiveness of these systems depends on the time allowed for sedimentation, the particle size, density, and settling velocity, and the extent to which contaminants are associated with the particulate fraction in the incoming water. Treatment systems with temporary pools, which are normally dry between events, include above ground dry detention ponds/basins and below grade storage. A skimmer drains water from just below the water's surface in a detention basin to improve sedimentation. Captured water is decanted to create a longer flow path compared to basins that drain from the invert.

Constituent Removal

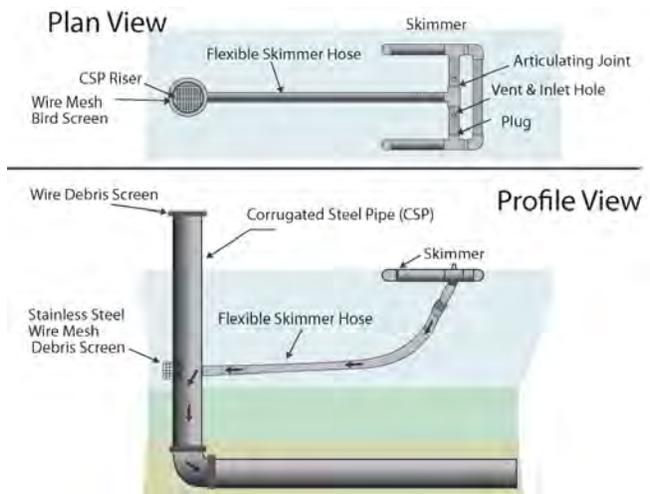
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on conventional dry detention basin performance. Blank cells indicate data not available or poor treatment performance.

Advantages

- Potentially increased removal of suspended solids
- Can retain free oil and grease because clarified water is decanted from just below the water's surface

Schematic



Source: Caltrans

Key Design Elements

- Means of removing water when skimmer is at its lowest position
- Orifice sizing of the skimmer
- Durability of materials used to construct skimmer
- Maintenance access

Constraints

- Limited pollutant removal for fine particles and dissolved constituents
- Secondary outlet may be required to drain water completely
- Prone to clogging by vegetation
- If clogged, resulting standing water can create mosquito habitat
- Frequent inspections may be required

BMP Fact Sheet

Detention/Sedimentation

Temporary Pool

Skimmer

Maintenance Issues

Requirements:

- Valves and controller require inspection and periodic replacement. Determine inspection frequency during the first few years of operation
- Maintenance includes removal of vegetation attached to skimmer to prevent clogging

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Similar to right-of-way requirements listed on the Detention Basin fact sheet (see Appendix C)

Siting Constraints:

Similar to siting constraints listed on the Detention Basin fact sheet (see Appendix C)

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2001. Detention Basin Optimization - Reconnaissance Study Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-029, pp. 3-7.

Caltrans. 2004. District 12 State Route 73 Pilot Program - Detention Basin Optimization and Retrofit. Basis of Design Report. CTSW-RT-04-090.09.1.

Jarrett, A. R. 2008. Controlling the Dewatering of Sedimentation Basins. Fact Sheet F253. Agricultural and Biological Engineering. College of Agricultural Sciences, Cooperative Extension. U.S. Department of Agriculture and Pennsylvania Counties Cooperating. University Park, PA.

Available Vendor Products

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Alternative Designs

BMP Fact Sheet

Disinfection

Chemical Treatment



Description

Chemical disinfection of stormwater can be achieved by the addition of a liquid (e.g., hypochlorous acid solution) or a gas (e.g., ozone). The basic treatment system consists of a chemical generation/storage system, a contact chamber, and a quenching chamber to remove residual chemical. For many years, chemical disinfection systems have been used successfully for inactivating pathogens and other microbial contaminants in drinking water and wastewater. For intermittent wet weather flow, a pretreatment device and an equalization/storage basin may be required.

Constituent Removal

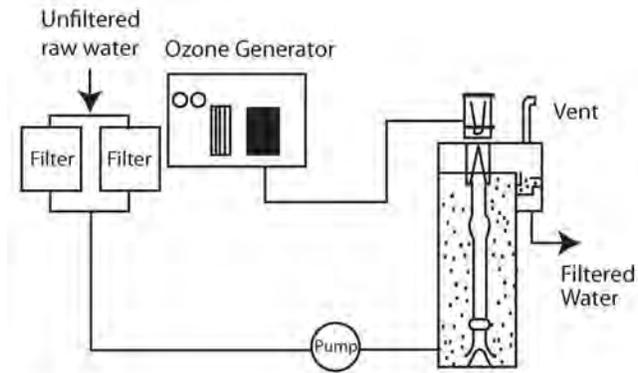
Constituent Group	Removal*
Total Suspended Solids (TSS)	
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	✓
Litter	
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on performance for drinking water and wastewater disinfection. Blank cells indicate data not available or poor treatment performance. Small disinfection systems operating at relatively high flow rates may not provide treatment as indicated.

Advantages

- Specific use guidelines available
- Proven effectiveness on microbial contaminants
- Mosquitoes are not an issue with chlorinated water
- Ozone is a strong disinfectant and has a limited number of by-products
- Low doses are required to complete disinfection
- Low residual ozone concentration in the treated effluent, minimizing impact on receiving waters
- Although ozone systems are complex, use of instrumentation makes the process automated and reliable

Schematic



Source: UN Food and Agricultural Organization

Key Design Elements

- Chemical dose and contact time
- Chemical feed and storage facilities
- Mixing facilities
- Pretreatment to remove particles is required to achieve reliable disinfection
- Contact time must be provided in a contact basin or sedimentation basin downstream
- Quenching system may be required

Constraints

- Declorination may be required to prevent harmful effects to receiving waters
- Pretreatment (e.g., removal of suspended solids, and oil and grease) required
- Requires special handling procedures and chemical storage tank on site
- Some organics may be converted to other (possibly more harmful) products
- Ozone must be produced on site because it cannot be stored
- Ozonation technology has a very high energy requirement
- Some ozonation by-products may be harmful to the receiving water
- Ozone escaping to the atmosphere may contribute to air pollution problems
- Ozone diffusers can be damaged easily by debris and sediments

BMP Fact Sheet

Disinfection

Chemical Treatment



Maintenance Issues

Requirements:

- Mechanical equipment must be maintained
- Chemicals must be replenished
- Chemical concentration must be monitored
- Check generators daily when in operation
- Manual start-up of the ozone generator is preferable because it needs to be purged before each start-up

Special Training:

- Needed for special materials handling
- Needed for inspection and maintenance of the chemical dosing system, mixing chamber, and other design elements
- Needed for operation and maintenance of gas feed system, ozone generator, and contact chamber

Project Development Issues

Right-of-Way Requirements:

- Space requirements will depend on size of contact chamber needed to accommodate design flow
- Pretreatment space required for sedimentation, filtration, and equalization of design flow

Siting Constraints:

- Restricted to sites with available power

Construction:

- Avoid sediments in the contact chamber during construction
- May have start-up and testing requirements

Design, Construction, Maintenance, and Cost Sources

James M. Montgomery Consulting Engineers. 1985. Water Treatment Principles and Design. New York: Wiley.

PCI-Wedeco Environmental Technologies. One Fairfield Crescent, West Caldwell, NJ 07006.

U.S. EPA. 1999. Alternative Disinfectants and Oxidants Guidance Manual. Office of Water. EPA 815-R-99-014.

Available Vendor Products

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- Biocide Fabric
- ClorTec®
- Klorigen™
- Osec®

Alternative Designs

None identified

BMP Fact Sheet

Disinfection

Ultraviolet



Description

Ultraviolet (UV) light disinfects water by altering the genetic material (i.e., DNA) in the cells of bacteria, viruses, and other microorganisms so that they can no longer reproduce or infect. In UV disinfection systems, the light is produced by germicidal lamps enclosed in a pressure vessel or submerged in a water channel. As the water flows past the UV lamps, the microorganisms are exposed to a lethal dose of UV energy. The UV dose is the product of the light intensity and contact time. The UV disinfection treatment is downstream of pretreatment BMPs, such as a Multiple Chamber Treatment Train (MCTT) or a media filter.

Constituent Removal

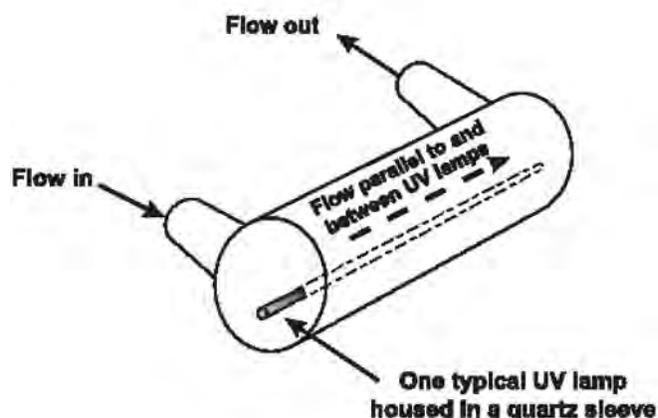
Constituent Group	Removal*
Total Suspended Solids (TSS)	
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	✓
Litter	
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on performance for dry weather flow treatment (City of Santa Monica). Blank cells indicate data not available or poor treatment performance. Small disinfection systems operating at relatively high flow rates may not provide treatment as indicated.

Advantages

- Natural process that disinfects without chemicals and has low maintenance requirements
- Automated operations and controls
- Compact system with a small footprint compared to other disinfection technologies
- Suitable for retrofit to existing BMPs
- No impact on other processes following UV treatment
- No chemical residual, minimizing impact to receiving waters

Schematic



Source: EPA

Key Design Elements

- Light intensity and contact time
- Hydraulic system for moving water past lamps
- Facilities for cleaning lamps
- Pretreatment to remove particles is required to achieve reliable disinfection

Constraints

- Pretreatment requirement may be substantial
- Clumping microorganisms can impact disinfection by harboring pathogens in the aggregates
- Specific design parameters vary for individual waters (UV transmittance)
- Under certain conditions, some organisms are capable of repairing damaged DNA and reverting back to an active state to reproduce (photoreactivation). This can be minimized by shielding the process stream or limiting the exposure of disinfected water to sunlight immediately following disinfection
- Organic and inorganic fouling usually occurs on UV lamp sleeves. Inorganic fouling, which is related to high lamp temperature, is the most difficult to clean because inorganics, such as iron and manganese, bind to the quartz sleeve

BMP Fact Sheet

Disinfection

Ultraviolet



Maintenance Issues

Requirements:

- Each lamp must be cleaned periodically-typically every two weeks for wastewater discharges, but probably less frequently for intermittent stormwater discharges
- Lamps have a short life span and may require frequent replacement
- Pumps must be maintained

Special Training:

Trained staff is required for mechanical equipment maintenance

Project Development Issues

Right-of-Way Requirements:

May be compact, but pretreatment space requirement may be large

Siting Constraints:

- Restricted to sites with power available nearby
- Requires a volume-capture BMP to provide flow control

Construction:

Significant start-up and testing requirements

Design, Construction, Maintenance, and Cost Sources

City of Santa Monica. 2009. Urban Runoff Water Quality Monitoring.
http://www01.smgov.net/epd/scpr/EnvironmentalPublicHealth/EPH8_UrbanRunoff.htm (accessed October 8, 2009).

Available Vendor Products

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- Aqua UltraViolet Viper Series
- WEDECO TAK
- Siemens Barrier® Series

Alternative Designs

None identified

BMP Fact Sheet

Drain Inlet Insert

Baffle Box



Description

Drain inlet inserts, also known as catch basin or curb inlet inserts, are used to remove pollutants at the point of entry to the storm drain system. The effectiveness of drain inlet inserts depends on their design and on the frequency of maintenance to remove accumulated litter and sediment. Baffle type inserts utilize a series of baffles to force water to flow upwards before it is discharged, resulting in sedimentation of larger particles within the insert. Some inserts are designed to drop directly into existing drain inlets, while others may require attachment to drain inlet walls.

Constituent Removal

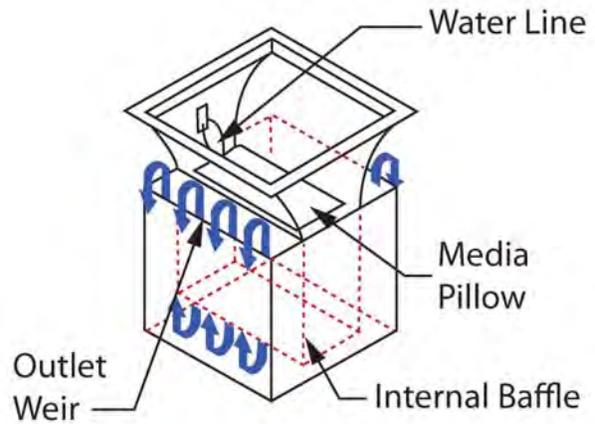
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance. Some inserts may not provide treatment depending on size, configuration, and baffle specifications.

Advantages

- Range of sizes can be retrofitted to storm drain requirements
- The device can be installed relatively easily in new and existing facilities without structural modification
- Suitable for areas with low volume traffic, such as Park and Ride lots

Schematic



Source: Caltrans

Key Design Elements

- Hydraulic capacity and pollutant storage capacity
- Provision for overflow or bypass

Constraints

- Standing water of some products may create mosquito habitat
- A Caltrans study (2004) discourages the use of drain inlet inserts along highway drain inlets due to safety considerations
- High flows may flush accumulated material
- Capacity (size of basket) is constrained by the size of the drain inlet to be retrofitted
- May require frequent monitoring and maintenance because of limited capacity
- Maintenance activities may require traffic control if the device is installed along the traveled way

BMP Fact Sheet

Drain Inlet Insert

Baffle Box



Maintenance Issues

Requirements:

- Frequent inspection and maintenance may be required
- Vector control or abatement may be required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Installed within a stormwater inlet

Siting Constraints:

- Requires a grated drop inlet
- A previous Caltrans study (2004) of drain inlet inserts suggests limiting deployment to maintenance stations due to safety considerations

Construction:

A watertight installation of the product is important to capture low flows

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

US EPA. 2002. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

University of Arkansas. 2003. Environmental Technology Verification Report of the Low-Cost Stormwater BMP Study. Civil Engineering Research Foundation (CERF) and the University of Arkansas.

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Hydro-Cartridge

Alternative Designs

None identified

BMP Fact Sheet

Drain Inlet Insert

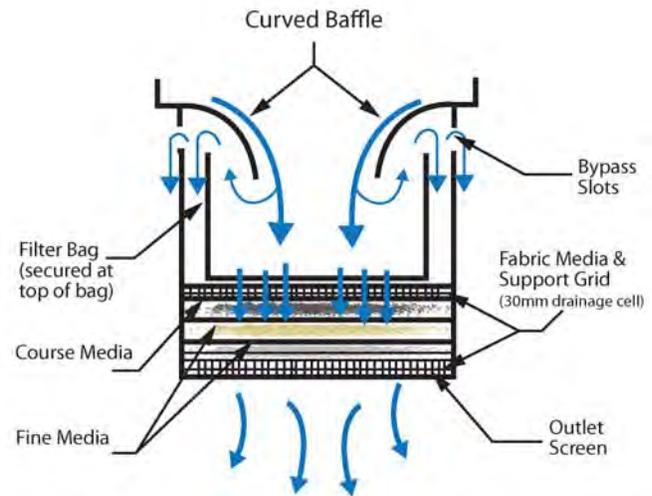
Basket/Box

Baffled Filtration Box

Description

Drain inlet inserts, also known as catch basin or curb inlet inserts, are used to remove pollutants at the point of entry to the storm drain system. The effectiveness of drain inlet inserts depends on their design and on the frequency of maintenance to remove accumulated litter and sediment. The baffled filtration box is a non-proprietary open-bottom filtration drain inlet insert that is designed to optimize sedimentation, filtration, and adsorption. A curved baffle directs flows into a filter bag made of a non-woven geotextile fabric. Surface filtration occurs as water flows through the geotextile. Sedimentation occurs as water flow exceeds the capacity of the fabric bag and spills over the sides. Water flowing through the fabric and overtopping the bag is further filtered by an arrangement of fabric and media at the bottom of the insert. Adsorption of different pollutants varies according to the media used. Overflow is allowed through bypass slots below the inlet.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on laboratory testing by the Office of Water Programs at Sacramento State (unpublished preliminary results) and best professional judgment. Blank cells indicate data not available or poor treatment performance. Some inserts may not provide treatment depending on size, configuration, and media specifications.

Source: Sacramento State, Office of Water Programs

Advantages

- Range of sizes can be retrofitted to storm drain requirements
- Can be installed relatively easily in new and existing facilities without much structural modification
- Suitable for areas with low volume traffic, such as Park and Ride lots

Constraints

- Device can clog, resulting in standing water that may create mosquito habitat
- A Caltrans study (2004) discourages the use of drain inlet inserts along highway drain inlets due to safety considerations
- Accumulated solids may be flushed out by high flows
- Capacity is constrained by the size of the drain inlet to be retrofitted
- May require frequent monitoring and maintenance because of limited capacity and potential clogging issues
- Maintenance activities may require traffic control if the device is installed along the traveled way

Key Design Elements

- Hydraulic capacity and pollutant storage capacity
- Provision for overflow or bypass to avoid flooding when the insert is full or clogged
- Geotextile type
- Media type, grain size, area, and depth

BMP Fact Sheet

Drain Inlet Insert

Basket/Box

Baffled Filtration Box

Maintenance Issues

Requirements:

- Frequent inspection and maintenance may be required, depending on solids loading and media grain size/area
- Vector control or abatement may be required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Install within a stormwater inlet

Siting Constraints:

- Requires a grated drop inlet
- A previous Caltrans study (2004) of drain inlet inserts suggests limiting deployment to maintenance stations due to safety considerations

Construction:

A watertight installation of the product is important to capture low flows

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

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Alternative Designs

BMP Fact Sheet
Drain Inlet Insert
Basket/Box

Description

Drain inlet inserts, also known as catch basin or curb inlet inserts, are used to remove pollutants at the point of entry to the storm drain system. The effectiveness of drain inlet inserts depends on their design and on the frequency of maintenance to remove accumulated litter and sediment. The GSR Basket is a non-proprietary concept developed by Caltrans that is similar to other basket inserts that rest on the sidewalls of standard drain inlets. This insert has an integrated drop inlet grate, and a unique design that allows for automated removal of the entire basket by mechanisms similar to those used by garbage trucks. Flood flow bypass would occur by overflowing the basket.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

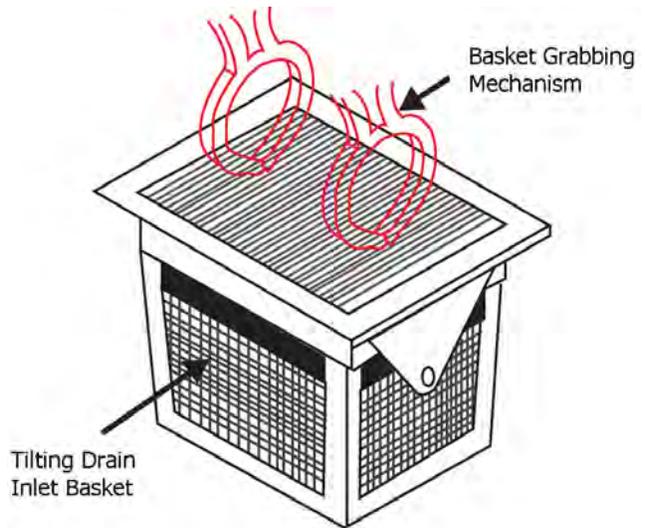
* Based on best professional judgement. Blank cells indicate data not available or poor treatment performance.

Advantages

- Maintenance can be simple and quick
- The device can be installed relatively easily in new and existing facilities without structural modification
- Suitable for areas with low traffic volumes, such as Park and Ride lots

GSR Basket (Mechanically Removed)

Schematic



Source: Caltrans

Key Design Elements

- Hydraulic capacity and pollutant storage capacity
- Provision for overflow or bypass to avoid flooding when the insert is full or clogged
- Screen type, area, and opening size
- Maintenance access

Constraints

- Capacity (size of basket) is constrained by the size of the drain inlet to be retrofitted
- A Caltrans study (2004) discourages the use of drain inlet inserts along highway drain inlets due to safety considerations
- High flows may flush accumulated material
- May require frequent monitoring and maintenance because of limited capacity
- Maintenance activities may require traffic control if the device is installed along the traveled way

BMP Fact Sheet

Drain Inlet Insert

Basket/Box

GSR Basket (Mechanically Removed)

Maintenance Issues

Requirements:

- Frequent inspection and maintenance may be required if there is high solids loading (often caused by vegetation within the drainage area)
- Specially modified garbage trucks
- Vector control or abatement may be required

Special Training:

Operator training is necessary to operate mechanized removal equipment

Project Development Issues

Right-of-Way Requirements:

Install within a stormwater inlet

Siting Constraints:

- Requires a curb inlet
- A previous Caltrans study (2004) of drain inlet inserts suggests limiting deployment to maintenance stations due to safety considerations

Construction:

Replaces the inlet grate

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

Available Vendor Products

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Alternative Designs

BMP Fact Sheet

Drain Inlet Insert

Fabric

Description

Drain inlet inserts, also known as catch basin or curb inlet inserts, are used to remove pollutants at the point of entry to the storm drain system. The effectiveness of drain inlet inserts depends on their design and on the frequency of maintenance to remove accumulated litter and sediment. Inserts typically consist of a filtering medium such as fabric, sand, or other media. Fabric type inserts utilize a fabric bag to capture gross solids and provide filtration. Some inserts are designed to drop directly into existing drain inlets, while others may require attachment to drain inlet walls.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance. Some inserts may not provide treatment depending on size, configuration, and fabric specifications.

Advantages

- Range of sizes can be retrofitted to storm drain requirements
- The device can be installed relatively easily in new and existing facilities without structural modification
- Suitable for areas with low volume traffic, such as Park and Ride lots

Schematic



Source: Delaware Department of Transportation

Key Design Elements

- Hydraulic capacity and pollutant storage capacity
- Provision for overflow or bypass
- Fabric type, area, number of layers, and apparent opening size

Constraints

- Device can clog resulting in standing water that may create mosquito habitat
- A Caltrans study (2004) discourages the use of drain inlet inserts along highway drain inlets due to safety considerations
- Accumulated solids may be flushed out by high flows
- Capacity is constrained by the size of the drain inlet to be retrofitted
- May require frequent monitoring and maintenance because of limited capacity and potential clogging issues
- Maintenance activities may require traffic control if the device is installed along the traveled way

BMP Fact Sheet

Drain Inlet Insert

Fabric

Maintenance Issues

Requirements:

- Frequent inspection and maintenance may be required, depending on solids loading, fabric type, and fabric area
- Vector control or abatement may be required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Installed within a stormwater inlet

Siting Constraints:

- Requires a grated drop inlet
- A previous Caltrans study (2004) of drain inlet inserts suggests limiting deployment to maintenance stations due to safety considerations

Construction:

A watertight installation of the product is important to capture low flows

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

US EPA. 2002. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

University of Arkansas. 2003. Environmental Technology Verification Report of the Low-Cost Stormwater BMP Study. Civil Engineering Research Foundation (CERF) and the University of Arkansas.

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- Catch-All
- DrainPac™
- FloGard+PLUS®
- Sewer Eco-Collar
- Ultra-Drain Guard®
- Drain Diaper™
- Ecosol™ RSF 100
- SeaLife Saver®
- StreamSaver™

Alternative Designs

None identified

BMP Fact Sheet

Drain Inlet Insert

Media

Description

Drain inlet inserts, also known as catch basin or curb inlet inserts, are used to remove pollutants at the point of entry to the storm drain system. The effectiveness of drain inlet inserts depends on their design and on the frequency of maintenance to remove accumulated litter and sediment. Inserts typically consist of a filtering medium such as fabric, sand, or other media. Media type inserts use granular inert or absorbent media in bags/pillows, canisters, or trays. Some inserts are designed to drop directly into existing drain inlets, while others may require attachment to drain inlet walls.

Constituent Removal

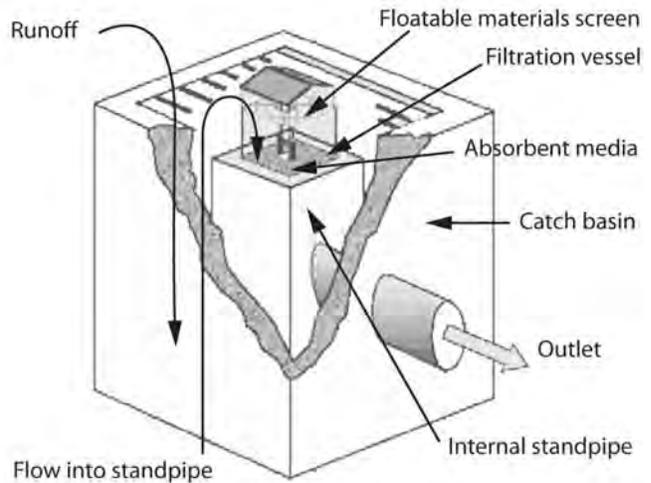
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance. Some inserts may not provide treatment depending on size, configuration, and media specifications.

Advantages

- Range of sizes can be retrofitted to storm drain requirements
- The device can be installed relatively easily in new and existing facilities without structural modification
- Suitable for areas with low volume traffic, such as Park and Ride lots

Schematic



Source: Connecticut Stormwater Quality Manual (2004).

Key Design Elements

- Hydraulic capacity and pollutant storage capacity
- Provision for overflow or bypass
- Media type, grain size, area, and depth

Constraints

- Device can clog resulting in standing water that may create mosquito habitat
- A Caltrans study (2004) discourages the use of drain inlet inserts along highway drain inlets due to safety considerations
- Accumulated solids may be flushed out by high flows
- Capacity is constrained by the size of the drain inlet to be retrofitted
- May require frequent monitoring and maintenance because of limited capacity and potential clogging issues
- Maintenance activities may require traffic control if the device is installed along the traveled way

BMP Fact Sheet

Drain Inlet Insert

Media

Maintenance Issues

Requirements:

- Frequent inspection and maintenance may be required, depending on solids loading and media grain size/area
- Vector control or abatement may be required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Installed within a stormwater inlet

Siting Constraints:

- Requires a grated drop inlet
- A previous Caltrans study (2004) of drain inlet inserts suggests limiting deployment to maintenance stations due to safety considerations

Construction:

A watertight installation of the product is important to capture low flows

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

US EPA. 2002. Storm Water Technology Fact Sheet, Sorbent Materials in Storm Water Applications. EPA 832-F-02-020.

US EPA. 2002. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

University of Arkansas. 2003. Environmental Technology Verification Report of the Low-Cost Stormwater BMP Study. Civil Engineering Research Foundation (CERF) and the University of Arkansas.

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- | | |
|-------------------------------------|---------------------------------------|
| ● Aqua Filtration Unit | ● Aqua-Guardian™ |
| ● Clean Way | ● Diamond-Flow™ |
| ● EcoSense™ | ● Enviro-Drain® |
| ● EnviroSafe™ | ● Hydro-Kleen™ |
| ● Inceptor® | ● Manhole Filter |
| ● Piranha | ● Raynfiltr® |
| ● SIFT Filter™ | ● Storm PURE™ |
| ● StormBasin®/StormPod® | ● Triton Catch Basin Filter™ |
| ● Triton Curb Inlet Filter™ | ● Triton T-DAM Filter™ (Trench Drain) |
| ● Triton TT3 Filter™ (Trench Drain) | ● Ultra-Urban® Filter |

Alternative Designs

Baffled Filtration Box

BMP Fact Sheet

Drain Inlet Insert

Screen

Description

Drain inlet inserts, also known as catch basin or curb inlet inserts, are used to remove pollutants at the point of entry to the storm drain system. The effectiveness of drain inlet inserts depends on their design and on the frequency of maintenance to remove accumulated litter and sediment. Inserts typically consist of a filtering medium such as fabric, sand, or other media. Screen type inserts utilize one or more screens to filter out gross solids and coarse particulates. Some inserts are designed to drop directly into existing drain inlets, while others may require attachment to catch basin sidewalls.

Constituent Removal

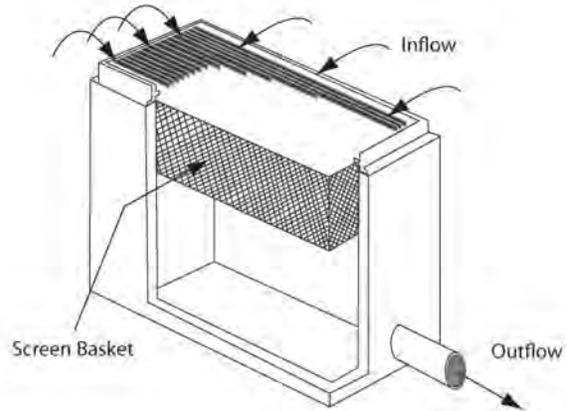
Constituent Group	Removal*
Total Suspended Solids (TSS)	
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance. Some inserts may not provide treatment depending on size, configuration, and screen specifications.

Advantages

- Range of sizes can be retrofitted to storm drain requirements
- Some configurations can be installed relatively easily in new and existing facilities without structural modification
- Suitable for areas with low volume traffic, such as Park and Ride lots

Schematic



Source: Caltrans

Key Design Elements

- Hydraulic capacity and pollutant storage capacity
- Provision for overflow or bypass
- Screen type, area, and opening size

Constraints

- Capacity (size of basket) is constrained by the size of the drain inlet to be retrofitted
- A Caltrans study (2004) discourages the use of drain inlet inserts along highway drain inlets due to safety considerations
- Maintenance activities may require traffic control if the device is installed along the traveled way
- High flows may flush accumulated material
- May require frequent monitoring and maintenance because of limited capacity

BMP Fact Sheet

Drain Inlet Insert

Screen

Maintenance Issues

Requirements:

- Frequent inspection and maintenance may be required if there is high solids loading (often caused by vegetation within the drainage area)
- Vector control or abatement may be required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Installed within a stormwater inlet

Siting Constraints:

- Requires a curb inlet
- A previous Caltrans study (2004) of drain inlet inserts suggests limiting deployment to maintenance stations due to safety considerations

Construction:

- May require attachment to sidewalls
- A watertight installation is important to capture low flows

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

US EPA. 2002. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

University of Arkansas. 2003. Environmental Technology Verification Report of the Low-Cost Stormwater BMP Study. Civil Engineering Research Foundation (CERF) and the University of Arkansas.

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- ClearWater BMP
- Grate Inlet Skimmer Box
- SuperFlo II Downspout
- Curb Inlet Basket
- HydroScreen

Alternative Designs

GSR Basket

BMP Fact Sheet

Drain Inlet Insert Skimmer



Description

Drain inlet inserts, also known as catch basin or curb inlet inserts, are used to remove pollutants at the point of entry to the storm drain system. The effectiveness of drain inlet inserts depends on their design and on the frequency of maintenance to remove accumulated litter and sediment. Skimmer type inserts consist of a media pillow that floats directly on the water surface within a drain inlet and absorbs floating hydrocarbons. The hydrocarbons are transformed into manageable solid waste when captured by the media pillows.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Blank cells indicate data not available or poor treatment performance.

Advantages

- May absorb hydrocarbons with minimal leaching, so skimmers can remain in place for long periods
- Can be installed relatively easily in new and existing facilities without structural modification
- Maintenance is quick and simple

Schematic



Source: EPA

Key Design Elements

- Hydraulic capacity and pollutant storage capacity
- Provision for overflow or bypass
- Skimmer size and media type

Constraints

- Skimmers trap only hydrocarbons and do not contribute to sediment control
- A Caltrans study (2004) discourages the use of drain inlet inserts along highway drain inlets due to safety considerations
- Maintenance activities may require traffic control if the device is installed along the traveled way
- If a skimmer has absorbed to its maximum capacity, additional hydrocarbons will not be captured until the device is replaced

BMP Fact Sheet

Drain Inlet Insert Skimmer



Maintenance Issues

Requirements:

- Must be inspected annually
- Maintenance consists of removing and replacing the skimmer
- Vector control or abatement may be required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Installed within a stormwater inlet

Siting Constraints:

A previous Caltrans study (2004) of drain inlet inserts suggests limiting deployment to maintenance stations due to safety considerations

Construction:

Simple installation

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

US EPA. 2002. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

University of Arkansas. 2003. Environmental Technology Verification Report of the Low-Cost Stormwater BMP Study. Civil Engineering Research Foundation (CERF) and the University of Arkansas.

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- AbTech Passive Skimmer
- StreamGuard Passive Skimmer
- Ultra-Passive Skimmer®

Alternative Designs

None identified

BMP Fact Sheet

Filtration

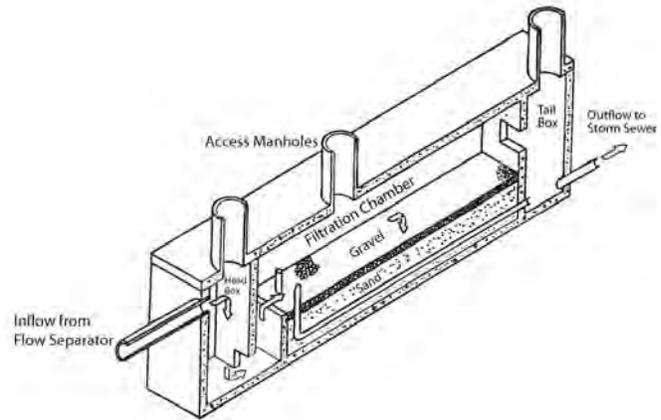
Bed



Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in the stormwater. In bed filters, stormwater flows through one or more layers of open-bed granular media before discharging through an underdrain system. The media can be inert, such as sand or gravel, or adsorptive, such as peat or a manufactured media. The effectiveness of the system depends on the loading rate on the filter, the type, size and porosity of the media, and the type and size distribution of the particles in the incoming stormwater. If the media is adsorptive, the water chemistry will also determine the effectiveness of the filter in removing dissolved constituents. Pretreatment may be necessary prior to filtration to prevent clogging and premature failure of the media.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on performance of an Austin Sand Filter (see Appendix C). Blank cells indicate data not available or poor treatment performance. Small filtration devices operating at relatively high loading rates may not provide treatment as indicated.

Source: EPA

Key Design Elements

- Flood flow routing and bypass
- Water quality design flow
- Media type, grain size, and area
- Pollutant storage capacity
- Need for pretreatment
- Maintenance access

Advantages

- Typically smaller than basin type BMPs
- Can be installed below grade
- Media can be selected to target specific constituents of concern

Constraints

- Media may be proprietary
- A permanent pool of water in the treatment vault of some configurations can provide mosquito breeding opportunities
- No infiltration and volume reduction, when constructed within a concrete vault
- Confined space entry
- Entry needs to be kept accessible
- Footprint increased if pretreatment required

BMP Fact Sheet

Filtration

Bed



Maintenance Issues

Requirements:

- Routine maintenance may include periodic sediment and debris removal as well as spent media replacement. Layered media may complicate maintenance
- Vector control or abatement may be required

Special Training:

- Requires training for media maintenance/replacement
- May require confined space entry training

Project Development Issues

Right-of-Way Requirements:

Space requirements depend on sizing criteria, typically smaller than for basins

Siting Constraints:

Head requirements for gravity drain

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-07-172.19.1.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

US EPA. 2002. Storm Water Technology Fact Sheet, Sorbent Materials in Storm Water Applications. EPA 832-F-02-020.

WSDOT. 2008. Highway Runoff Manual. Washington State Department of Transportation. Document Number M31-16.01.

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- Aqua-Filter™
- Aquip™

Alternative Designs

- Austin Filter
- DC Filter
- Media Filter Drain
- Delaware Filter
- Granular Activated Carbon Filter

BMP Fact Sheet

Filtration

Bed

Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in the stormwater. In bed filters, stormwater flows through one or more layers of open-bed granular media before discharging through an underdrain system. The effectiveness of the system depends on the loading rate on the filter, the type, size and porosity of the media, and the type and size distribution of the particles in the incoming stormwater. Conventional Austin Filters can be augmented with a layer of alternative media, such as an adsorptive manufactured media that removes fine particles and dissolved constituents. Alternative media tested by Caltrans includes activated alumina, iron-modified activated alumina, and limestone. A top layer of sand can reduce life-cycle costs because capturing particles on the sand layer prolongs the adsorptive life of the more expensive underlying media.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

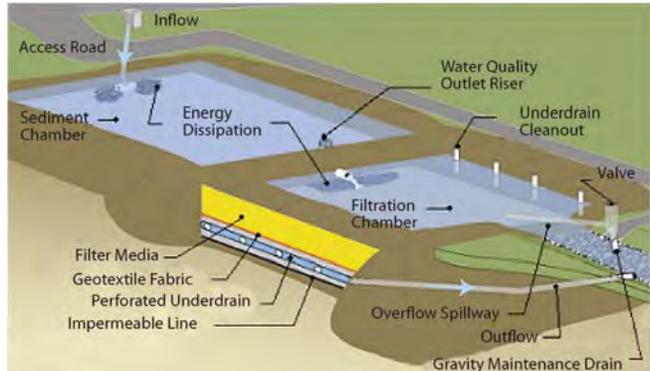
* Based on the ongoing Highway 50 Activated Alumina Media Filter Pilot Study (Caltrans 2007) and best professional judgment. Blank cells indicate data not available or poor treatment performance.

Advantages

Effective constituent removal for suspended solids, fine particles, and total and dissolved phosphorus

Austin Filter with Alternative Media

Schematic



Source: Caltrans

Key Design Elements

- Flood flow routing and bypass
- Media grain size, area, and depth
- Outlet orifice plate to control media contact time
- Maintenance access

Constraints

- Media may be proprietary
- If media clogs, resulting standing water may create mosquito habitat
- No infiltration and volume reduction when constructed within a concrete vault
- Media may need to be washed to avoid substantial pH changes and metals leaching
- Effluent may require monitoring during first year for elevated pH and dissolved metals

Filtration

Bed

Austin Filter with Alternative Media

Maintenance Issues

Requirements:

- Routine maintenance may include periodic sediment and debris removal as well as spent media replacement. Layered media may complicate maintenance
- Vector control or abatement may be required

Special Training:

Training is required for media handling, removal, and replacement

Project Development Issues

Right-of-Way Requirements:

Space requirements are similar to an Austin Sand Filter

Siting Constraints:

- Head requirement of about four feet
- Avoid locations with base flow because of clogging due to algae growth

Construction:

If exposed to construction site runoff, remove and replace media after drainage area has been completely stabilized

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Caltrans Tahoe Basin Highway 50 Activated Alumina Media Filter Pilot Study - Final Monitoring Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-06-157.02.1.

US EPA. Sand Filter Fact Sheet. Retrieved from www.epa.gov/owm/mtb/sandfltr.pdf (accessed November 6, 2009).

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Alternative Designs

BMP Fact Sheet

Filtration

Bed



DC Sand Filter

Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in the stormwater. In bed filters, stormwater flows through one or more layers of open-bed granular media before discharging through an underdrain system. The effectiveness of the system depends on the loading rate on the filter, the type, size and porosity of the media, and the type and size distribution of the particles in the incoming stormwater. DC Sand Filters are typically designed to handle runoff from completely impervious drainage areas of 0.4 hectares (1 acre) or less. This filter design incorporates three chambers. Runoff flows through a sedimentation chamber before it enters a filter chamber where it passes through an open sand bed. Filtered water is collected in a gravel underdrain and flows into a clearwell chamber before discharging.

Constituent Removal

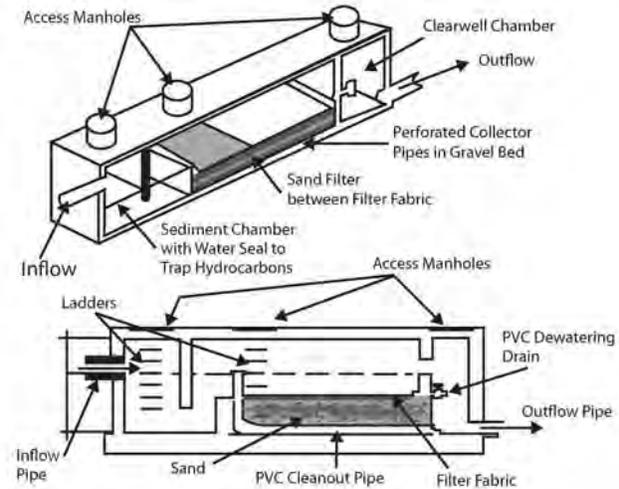
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on Delaware Sand Filter performance (see Appendix C), and data presented by Young et al. (1996). Blank cells indicate data not available or poor treatment performance.

Advantages

- DC Sand Filters are installed in urban settings with covers appropriate for the intended above ground land use such as sidewalks or landscaping
- Performance is similar to the Delaware Sand Filter and Austin Sand Filter, but DC Sand Filters have a narrower footprint and require less head than Austin Sand Filters. They are also designed to receive concentrated flows at one end, whereas Delaware Sand Filters are designed for sheet flows along one side

Schematic



Source: EPA

Key Design Elements

- Flood flow routing and bypass
- Media area and depth
- Media grain size

Constraints

- Designed to treat impervious areas of one acre or less
- If media clogs, resulting standing water may create mosquito habitat
- No infiltration and volume reduction when constructed within a concrete vault
- Confined space entry
- Entry needs to be kept accessible
- The sedimentation basin holds a permanent pool of water that has the potential to provide breeding opportunities for mosquitoes

BMP Fact Sheet

Filtration

Bed



DC Sand Filter

Maintenance Issues

Requirements:

- Routine maintenance may include periodic sediment and debris removal as well as spent media replacement
- Vector control or abatement may be required

Special Training:

- Requires training for media maintenance/replacement
- Requires confined space entry training

Project Development Issues

Right-of-Way Requirements:

Space requirements are similar to Delaware Sand Filters

Siting Constraints:

- Do not site where runoff from bare soil or construction activities can enter filter
- Head requirements for gravity drain

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-07-172.19.1.

Connecticut Stormwater Quality Manual. 2004.

http://www.ct.gov/dep/lib/dep/water_regulating_and_discharges/stormwater/manual/Table_of_Contents.pdf (accessed November 11, 2009).

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

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Alternative Designs

BMP Fact Sheet

Filtration

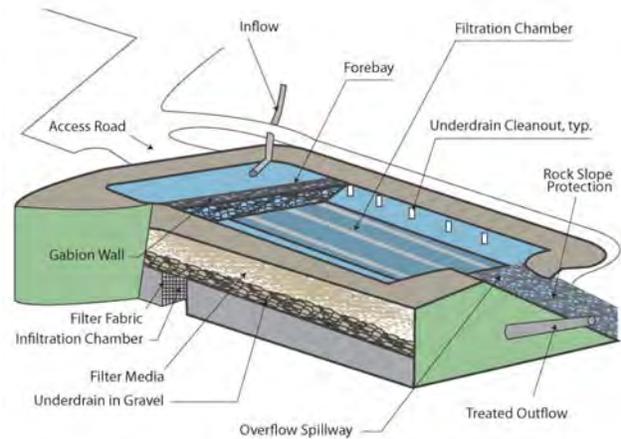
Bed

Infiltration Chambers

Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in the stormwater. In bed filters, stormwater flows through one or more layers of open-bed granular media before discharging through an underdrain system. The effectiveness of the system depends on the loading rate on the filter, the type, size and porosity of the media, and the type and size distribution of the particles in the incoming stormwater. Infiltration chambers is a concept developed by Caltrans to increase infiltration in conventional BMPs. Addition of infiltration chambers below the invert of bed filters is expected to capture and infiltrate the first flush of stormwater runoff. These infiltration chambers can consist of gravel, high porosity storage media with a sand overlay, or native soil that has been amended to improve infiltration.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on performance of an Austin Sand Filter (see Appendix C). Blank cells indicate data not available or poor treatment performance. Small filtration devices operating at relatively high loading rates may not provide treatment as indicated.

Source: Caltrans

Advantages

- Potential for improved infiltration, even in poorly infiltrating soils
- Expected to improve treatment of fine particles, nutrients, and dissolved constituents relative to conventional sand filters

Constraints

- Not suitable in areas with high seasonal groundwater
- Increases construction and rehabilitation costs relative to conventional sand filters
- If media clogs, resulting standing water may create mosquito habitat

Key Design Elements

- Soil type and permeability
- Infiltration chamber volume capacity
- Infiltration chamber material (high porosity storage media, gravel, amended soil, etc.)
- Flood flow routing and bypass
- Media grain size, area, and depth
- Outlet orifice plate to control media contact time
- Maintenance access

Maintenance Issues**Requirements:**

- Routine maintenance may include periodic sediment and debris removal as well as spent media replacement
- Vector control or abatement may be required
- May require construction equipment to rehabilitate clogged system
- Sediment removal

Special Training:

Unknown

Project Development Issues**Right-of-Way Requirements:**

Space requirements are the same as those for conventional filters

Siting Constraints:

- Site where there is sufficient hydraulic head to facilitate drainage through the sand bed
- Requires separation between seasonal high groundwater and basin invert
- Avoid locations with base flow because of possible clogging due to algae growth

Construction:

- If exposed to construction site runoff, remove and replace media after drainage area has been completely stabilized
- Minimize compaction of underlying soils to maintain infiltration capacity
- Bypass water until drainage area is stabilized

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Caltrans Tahoe Basin Highway 50 Activated Alumina Media Filter Pilot Study - Final Monitoring Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-06-157.02.1.

Caltrans. 2008. Adding Infiltration Chambers to Approved Best Management Practices: Concept Development. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-TM-08-172-46.1.

US EPA. Storm Water Technology Fact Sheet, Sand Filter. EPA 832-F-99-007.

Available Vendor Products

The names of vendor products that appear here are for information only. The vendor products listed below are NOT APPROVED FOR USE by the California Department of Transportation. Their appearance here IS NOT AN ENDORSEMENT OF THE PRODUCTS BY CALTRANS OR THE STATE OF CALIFORNIA.

Alternative Designs

BMP Fact Sheet

Filtration

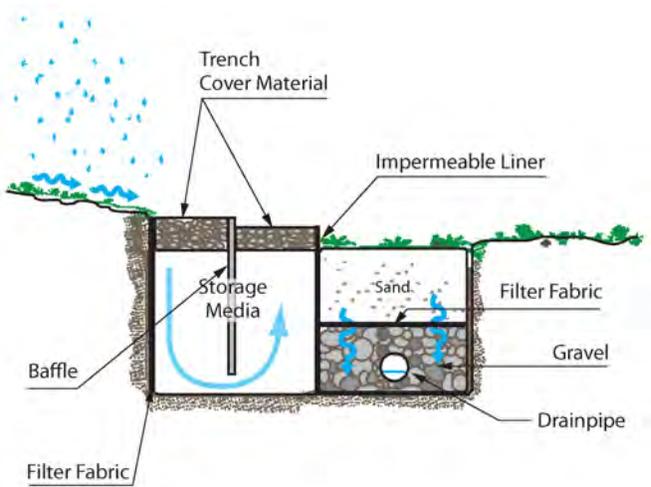
Bed

Linear Filter Trench

Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in the stormwater. The Linear Filter Trench, a concept developed by Caltrans that is based on the Delaware Sand Filter, is intended for the narrow right-of-way that is typical of roadside areas. It consists of a sedimentation chamber with a permanent pool of water and a filter chamber with an underdrain. The Linear Filter Trench, however, would be constructed away from load-bearing areas so that trench construction can help reduce cost. A trench cover material on top of the sedimentation area prevents mosquito access to standing water. The use of a high-porosity storage media supports the overlay while maintaining the capture volume of the sedimentation chamber.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on performance of a Delaware Sand Filter (see Appendix C). Blank cells indicate data not available or poor treatment performance.

Source: Caltrans

Key Design Elements

- Flood flow routing
- Water quality flow and detention time (if flow-based design)
- Storage volume and sand/gravel pore space (if volume-based design)
- Media type, grain size, and area
- Ponding depth above filter
- Traffic rating
- Maintenance access

Advantages

- Fits in a narrow right-of-way
- Lower construction costs than conventional below grade filters because of minimal use of concrete
- Can provide infiltration and volume reduction
- Can be constructed without pretreatment by a grass filter strip

Constraints

- The sedimentation chamber holds a permanent pool of water and has the potential to provide breeding opportunities for mosquitoes
- May require confined space entry
- Unknown maintenance frequency
- Maintenance activities may require traffic control

Maintenance Issues**Requirements:**

- Disposal of accumulated trash and replacement of the upper few inches of sediment and sand when the filter clogs
- Vector control or abatement may be required

Special Training:

Requires training for media maintenance/replacement

Project Development Issues**Right-of-Way Requirements:**

Designed to fit in a narrow right-of-way

Siting Constraints:

- Do not site where runoff from bare soil or construction activities will be allowed to impact the filter
- Minimum head requirement of two feet

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSWRT-07-172.19.1.

Horner, R. R. and Horner, C. R. 1995. Design, Construction, and Evaluation of a Sand Filter Stormwater Treatment System. Part III. Performance Monitoring. Report to Alaska Marine Lines, Seattle, WA.

US EPA. Sand Filter Fact Sheet. www.epa.gov/owm/mtb/sandfltr.pdf (accessed November 11, 2009).

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

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Alternative Designs

BMP Fact Sheet

Filtration

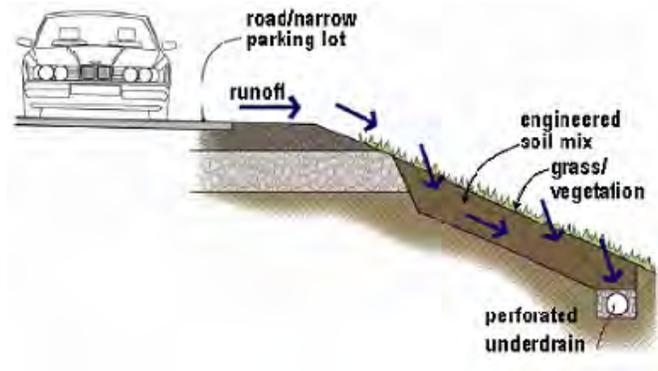
Bed

Media Filter Drain

Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in the stormwater. In bed filters, stormwater flows through one or more layers of open-bed granular media before discharging through an underdrain system. The effectiveness of the system depends on the loading rate on the filter, the type, size and porosity of the media, and the type and size distribution of the particles in the incoming stormwater. The Media Filter Drain is a bed filtration system that can be integrated into slopes adjacent to roadways. The concept, developed by the State of Washington's Department of Transportation, is typically constructed to accept sheet flow along its length. Water passes into a porous, alkalinity-generating media that is placed in a shallow excavation running parallel to the roadway. An underdrain carries filtered water downstream.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	✓
Microbiological	
Litter	
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on monitoring by Washington State DOT (2008). Blank cells indicate data not available or poor treatment performance.

Source: Pierce County, Washington State

Key Design Elements

- Preferable lateral slopes less than 25% (4:1)
- Preferable longitudinal slope less than 5%
- Design water quality flow rate
- Bed mixture and dimensions
- Pretreatment needs by biofiltration strips
- Slope stability
- Underdrain
- Maintenance access

Advantages

- Fits in a narrow right-of-way
- No vector concerns, because water treatment is accomplished below surface

Constraints

- Requires sheet flow
- Not suitable for steep lateral and longitudinal slopes
- Vegetation may develop slowly, though filtering still occurs
- Media mix may require washing before installation
- Must avoid concentrated flows
- Maintenance activities may require traffic control

Maintenance Issues

Requirements:

- Maintain uniform sheetflow distribution
- Periodic media maintenance

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Designed to fit in a narrow right-of-way

Siting Constraints:

Not advised in longitudinal slopes steeper than 5%, wetlands, wetland buffers, or unstable slopes

Construction:

Certain soil types may require perforated pipe in the underdrain trench to ensure proper flow through media bed

Design, Construction, Maintenance, and Cost Sources

Washington Department of Transportation (WA DOT). 2008. Highway Runoff Manual. M 31-16.01.

Available Vendor Products

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Alternative Designs

BMP Fact Sheet

Filtration

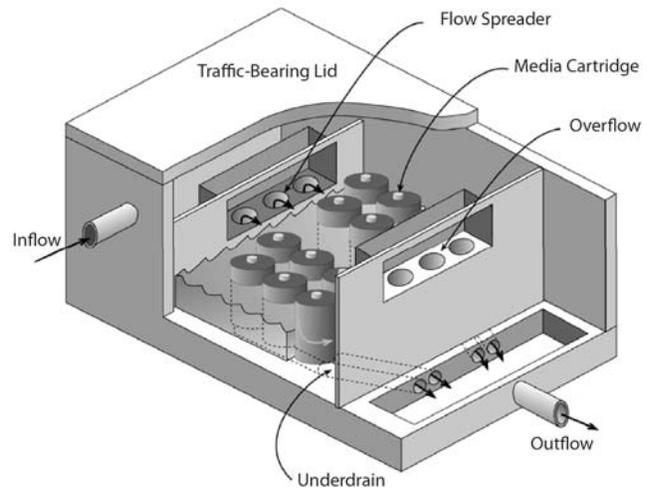
Cartridge/Canister



Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in the stormwater. In cartridge/canister systems, the filter media is placed inside cartridges or canisters that are typically enclosed in an underground vault. The media used can be inert, such as sand or gravel, or adsorptive, such as peat or a manufactured media. The effectiveness of these systems depends on the loading rate on the cartridges/canisters, the type, size and porosity of the media, and the type and size distribution of the particles in the incoming stormwater. If the media is adsorptive, the water chemistry will also determine the effectiveness of the filter in removing dissolved constituents. Pretreatment may be necessary prior to filtration to prevent clogging and premature failure of the media.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on performance of a StormFilter™ (Caltrans 2004), and best professional judgment. Blank cells indicate data not available or poor treatment performance. Cartridges/canisters operating at relatively high loading rates (about 2 gpm per square foot for each cartridge/canister) may not provide treatment as indicated.

Source: City of Medford, Oregon

Advantages

- Can be applied in confined urban areas and areas with limited space if placed in an underground vault
- Suitable for wide range of drainage areas
- Media can be selected to target specific constituents of concern

Constraints

- Can be expensive to construct
- Major maintenance may be costly due to the large number of filter canisters required
- Proprietary device
- Media may be proprietary
- Requires pretreatment
- A permanent pool of water in the treatment vault of some configurations can provide mosquito breeding opportunities
- Small storm events may not actuate the floats in some systems, and the water will reside in the unit until the next storm
- May require confined space entry
- Entry needs to be kept accessible

BMP Fact Sheet

Filtration

Cartridge/Canister



Maintenance Issues

Requirements:

- Periodic sediment removal and canister replacement required
- Vector control or abatement may be required
- May require hand cleaning following removal of media canisters

Special Training:

- Training in use of equipment needed to remove media canisters and clean out pretreatment vault
- Must be trained to repair or replace any cartridge filter or part, or plan to contract for maintenance
- Training needed for confined space entry

Project Development Issues

Right-of-Way Requirements:

Space requirements depend on sizing criteria, but typically smaller than basins

Siting Constraints:

- Do not allow runoff from bare soil or construction activities to enter filter
- Sufficient hydraulic head is needed to operate filter

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Division of Environmental Analysis, Sacramento. CTSW-RT-01-050

US EPA. 2002. Storm Water Technology Fact Sheet, Sorbent Materials in Storm Water Applications. EPA 832-F-02-020.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

Available Vendor Products

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- BayFilter™
- Perk Filter™
- StormPlex™
- Up-Flo™
- Media Filtration System (MFS)
- Puristorm™
- VortFilter™

Alternative Designs

None identified

BMP Fact Sheet

Filtration

Fabric



Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in the stormwater. In fabric filters, stormwater flows through fabric, typically in the form of a sequence of baffles. The effectiveness of the system depends on the loading rate on the fabric, the type, number of layers, and apparent opening size of the fabric, and the type and size distribution of the particles in the incoming stormwater. A fabric filtration system can be used as pretreatment for a subsurface detention or infiltration system.

Constituent Removal

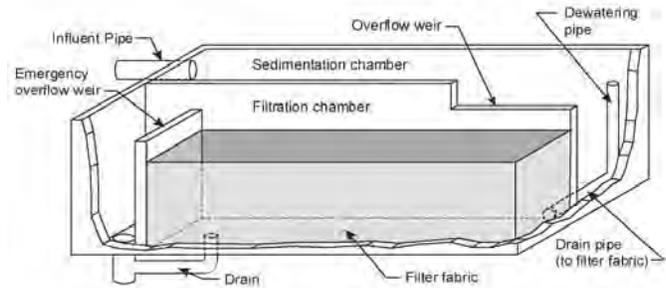
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance. Small filtration devices operating at relatively high loading rates may not provide treatment as indicated.

Advantages

- No negative aesthetic impact if installed below grade
- Can be used to provide pretreatment for other BMPs

Schematic



Source: Caltrans

Key Design Elements

- Flood flow routing and bypass
- Fabric type, area, and apparent opening size
- Pollutant storage capacity
- Maintenance access

Constraints

- May be difficult to achieve complete draining in a buried system
- Difficult to inspect and maintain because it is buried
- May require confined space entry
- Fabric panels may clog quickly
- A permanent pool of water in the treatment vault of some configurations can provide mosquito breeding opportunities

BMP Fact Sheet

Filtration

Fabric



Maintenance Issues

Requirements:

- Replace fabric panels
- Because of site-specific loading, several wet season inspections may be required to determine maintenance frequency

Special Training:

Training needed for confined space entry

Project Development Issues

Right-of-Way Requirements:

Small footprint BMP

Siting Constraints:

May not be feasible in areas with high sediment and organic load because of premature clogging of fabric

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

None identified

Available Vendor Products

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- Stormfilter 400®
- Helix Filter
- Jellyfish™

Alternative Designs

None identified

BMP Fact Sheet

Filtration

Pressure



Description

Filtration systems provide treatment by filtering out or straining particles and associated pollutants in stormwater. In pressurized filtration systems, an external pump is used to force water through a media, fabric, or micro-discs. The media can be inert, such as sand or gravel, or adsorptive, such as peat or a manufactured media. The effectiveness of the system depends on the loading rate on the media or fabric, the type, size and porosity of the media or fabric, and the type and size distribution of the particles in the incoming stormwater. If the media is adsorptive, the water chemistry will also determine the effectiveness of the filter to remove dissolved constituents. Pressure filtration is more common for construction site runoff than for post-construction.

Constituent Removal

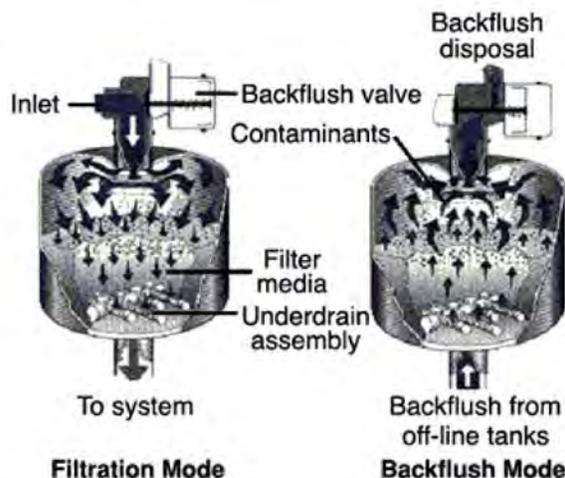
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance.

Advantages

- Using pressure rather than gravity to force water through a media bed allows a smaller footprint
- Backwashing cycle cleans sediment from the filter media as opposed to periodically excavating a portion of the media as required for slow-rate sand filters
- Pressure filter technology uses pumps, which allow more layout flexibility than gravity filtration systems

Schematic



Source: Virginia Cooperative Extension

Key Design Elements

- Facilities required upstream to capture runoff and provide pretreatment
- Power supply
- Flood flow routing and bypass
- Design flow
- Media type, grain size, and area
- Backwash cycle water storage and disposal
- Maintenance access

Constraints

- Connection to sewer or drying bed needed for backwashed wastewater
- Connection to a clean water tank is needed for backwashing
- Power supply required for pump
- More maintenance is needed for a pressure filter than for a gravity filter because of the use of mechanical equipment
- Requires a pretreatment system for litter and debris
- Requires a higher level of operator observation than that for other BMPs

BMP Fact Sheet

Filtration

Pressure



Maintenance Issues

Requirements:

- Mechanical equipment must be maintained
- Pretreatment may be necessary prior to filtration to prevent clogging and premature failure
- Pressure filters require backwashing, a process in which water is forced through the media bed in an opposite direction. The backwashed wastewater must be disposed if a sanitary sewer connection is not available

Special Training:

Crews need to be trained to operate and maintain equipment

Project Development Issues

Right-of-Way Requirements:

Total footprint may be high (including facilities required upstream to capture runoff and provide pretreatment)

Siting Constraints:

- Restricted to sites with available power nearby
- Space required for upstream pretreatment system
- Requires a sanitary sewer connection or dry beds

Construction:

Unknown

Design, Construction, Maintenance, and Cost Sources

US EPA. 2002. Storm Water Technology Fact Sheet, Sorbent Materials in Storm Water Applications. EPA 832-F-02-020.

Available Vendor Products

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- Arkal Filter
- DynaSand®
- Purmutit® CD Series

Alternative Designs

None identified

BMP Fact Sheet

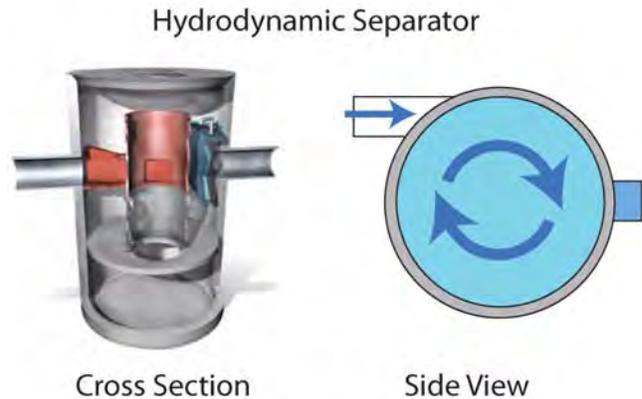
Hydrodynamic Separator



Description

Hydrodynamic separators, also called vortex separators or swirl concentrators, are cylindrical structures in which water moves in a centrifugal fashion rather than in a straight line. Stormwater enters the separator tangentially and creates a swirling vortex flow pattern that allows larger particles to settle out by gravity around the outer edges of the main chamber. Differences between configurations include the nature and type of internal flow-modifying components and the location of inlets and outlets. Hydrodynamic separators are small footprint devices that can be used in small spaces. The effectiveness of these devices depends on the flow rate, the size and configuration of the device, and the sediment characteristics (i.e., type and size distribution of the particles) of the incoming stormwater.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance. Treatment for separators operating at relatively high flow rates or with poor sediment retention ability may not be as indicated.

Source: University of New Hampshire Stormwater Center

Advantages

- Relatively limited head is needed to operate device
- Can be used to provide pretreatment for other BMPs

Key Design Elements

- Flood flow routing and bypass
- Water quality design flow
- Detention time
- Maximum operational flow
- Sediment storage capacity and ability to prevent scouring
- Maintenance access

Constraints

- A permanent pool of water is often maintained in the unit, creating a breeding opportunity for mosquitoes
- Not effective for removing dissolved constituents or fine particles
- Can be a source of pollutants due to decomposition of previously captured material unless maintained regularly
- Maintenance activities may require traffic control if the device is installed along the traveled way
- Proprietary device

BMP Fact Sheet

Hydrodynamic Separator



Maintenance Issues

Requirements:

- Usually requires vector truck
- Vector control or abatement may be required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Small footprint

Siting Constraints:

Low head requirement

Construction:

None Identified

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

Connecticut Department of Environmental Protection. 2002. Stormwater Treatment Devices, Section 319 Project # 99-07, Final Report.

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

US EPA. 1999. Hydrodynamic Separators. Storm Water Technology Fact Sheet. EPA 832-F-99-017.

US EPA. 2004. The Use of Best Management Practices (BMPs) in Urban Watersheds. EPA/600/R-04/184.

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- Aqua-Swirl™
- Continuous Deflective Separation™ (CDS)
- EcoStorm Plus™
- Hydrofilter
- Storm Trooper®
- Terre Kleen™
- V2B1™
- VortSentry™
- Downstream Defender™
- EcoStorm™
- FloGard Dual-Vortex™
- Hydroguard
- Stormceptor®
- Unistorm™
- Vortechs®

Alternative Designs

None identified

BMP Fact Sheet

Infiltration

Below Grade

Description

Infiltration BMPs provide treatment by allowing the stormwater runoff to infiltrate surrounding soils. Pollutants are filtered out as the water percolates through the soils. Infiltration BMPs are assumed to provide 100% treatment of the design water quality volume because no water is discharged to surface waters. An overflow mechanism is recommended in case of clogging.

Constituent Removal

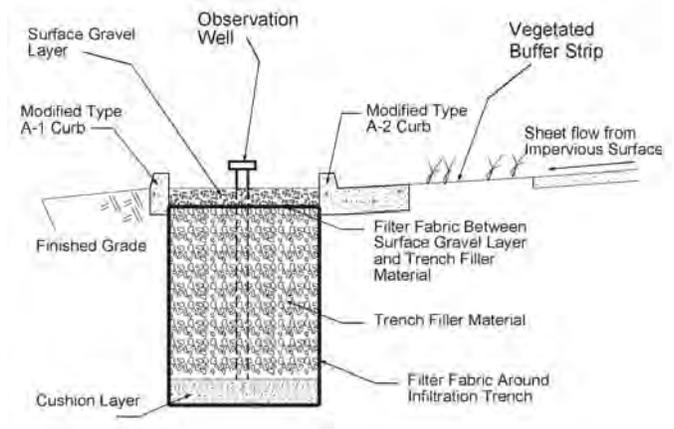
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	✓
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	✓
Total Dissolved Solids (TDS)	✓

* Based on the assumption that most water is infiltrated and does not overflow, and litter is captured within the BMP. Removal ability reported in the literature is usually based on overflow discharge (Young et al. 1996).

Advantages

- When properly sized in suitable soils, infiltration BMPs eliminate surface discharge up to the design storm
- Below grade infiltration inhibits access for mosquitoes
- Underground BMPs have limited aesthetic impacts
- Caltrans modeling indicates that underlying soils are not likely to become hazardous within five or more years, and typical Caltrans concentrations will not likely impact groundwater quality (Caltrans 2007)

Schematic



Source: Caltrans

Key Design Elements

- Water quality volume
- Permeability of soil
- Distance to groundwater
- Class V injection well determination may be required
- Overhead cover requirements and load-bearing capacity
- Maintenance access

Constraints

- High rehabilitation cost when clogging occurs at the bottom of the trench
- Water percolation may impact structural integrity and stability
- Avoid high groundwater
- Avoid areas prone to spills of groundwater contaminants
- Potential EPA Class V injection well regulations
- Higher construction costs per capture volume than infiltration basins
- Although narrow, could be a large footprint BMP depending on design constraints

BMP Fact Sheet

Infiltration

Below Grade

Maintenance Issues

Requirements:

- Rehabilitation is required when the system clogs. Rehabilitation requires construction equipment
- Young et al. (1996) report that below grade infiltration (trenches, specifically) may require reconstruction every 10 years

Special Training:

Training in confined space entry

Project Development Issues

Right-of-Way Requirements:

- Space requirements are less than infiltration basins because of vertical side walls
- Pretreatment is recommended

Siting Constraints:

Permeable soils and adequate separation to groundwater

Construction:

- Avoid clogging the underlying soils by compaction from vehicles, or by fine particles introduced during or after construction
- Bypass water until drainage area is stabilized

Design, Construction, Maintenance, and Cost Sources

ASCE/WEF. 1998. Urban Runoff Quality Management. ASCE No. 87, WEF No. 23.

Caltrans. 2007. Mathematical Modeling of Fate and Transport of Aqueous Species in Stormflow Entering Infiltration Basin. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-06-168-17.2.

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW-RT-07-172.19.1.

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

US EPA. 2003. When are Storm Water Discharges Regulated as Class V Wells?
http://www.epa.gov/npdes/pubs/sw_class_v_wells_fs.pdf (accessed January 22, 2010).

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. US Department of Transportation.

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- | | |
|--|-----------------------------------|
| • Eljen In-Drain™ | • Matrix™ |
| • Rainstore® | • StormChamber™ |
| • StormTank™ | • StormTech® Chambers |
| • Cultec Contacter® and HVLV™ Recharger® | • D-Raintank® |
| • EcoRain™ | • Rotondo Detention with Recharge |
| • SAGES™ | • Stormcell® |
| • Terre Arch™ | • Triton™ Chamber |
| • VersiCell® | • CUDO |

Alternative Designs

- | | |
|-----------------------|-------------------------------------|
| • Infiltration Vault | • Linear Infiltration Filter Trench |
| • Infiltration Trench | |

BMP Fact Sheet

Infiltration

Below Grade

Description

Infiltration BMPs provide treatment by allowing stormwater runoff to infiltrate surrounding soils. Pollutants are filtered out as the water travels through the soils. Infiltration BMPs are assumed to provide 100% treatment because the design water quality volume is not discharged to surface waters. An overflow mechanism is recommended in case of clogging. The Linear Infiltration Filter Trench is a non-proprietary design developed by Caltrans in which stormwater flows as sheet flow through a sand filter prior to infiltration. Treatment within the sand layer reduces clogging of the trench, inhibits mosquito access in areas where slow soil infiltration results in standing water, and may eliminate the need for pretreatment. The trench is backfilled with gravel or a high porosity media that is available from several suppliers.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	✓
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	✓
Biochemical Oxygen Demand (BOD)	✓
Total Dissolved Solids (TDS)	✓

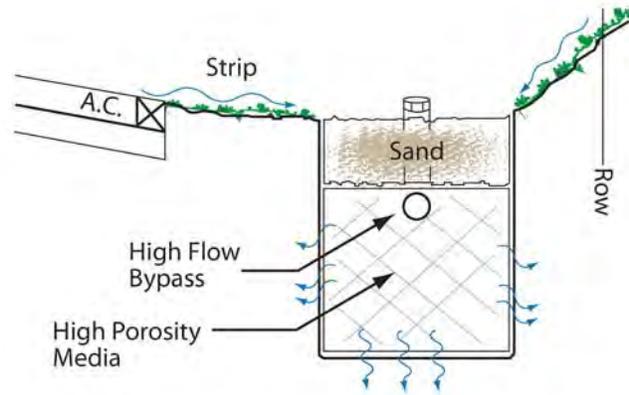
* Based on the assumption that most water is infiltrated and does not overflow, and that litter is captured within the BMP.

Advantages

- Designed to fit a narrow right-of-way
- When properly sized in suitable soils, infiltration BMPs eliminate surface discharge up to the design storm
- Below grade infiltration inhibits access for mosquitoes
- Underground BMPs have limited aesthetic impact
- Caltrans modeling indicates that underlying soils are not likely to become hazardous within five or more years, and that typical Caltrans concentrations will not likely impact groundwater quality (Caltrans 2009)

Linear Infiltration Filter Trench

Schematic



Source: Caltrans

Key Design Elements

- Water quality volume
- Permeability of soil and sand
- Distance to groundwater
- Load-bearing capacity
- Maintenance access
- Ponding depth above the sand

Constraints

- High rehabilitation cost when clogging occurs at the bottom of the trench
- Water percolation may impact structural integrity and stability
- Avoid high groundwater
- Avoid areas prone to spills of groundwater contaminants
- Higher construction costs per capture volume than infiltration basins
- Although narrow, could be a large footprint BMP depending on design constraints

BMP Fact Sheet

Infiltration

Below Grade

Linear Infiltration Filter Trench

Maintenance Issues

Requirements:

- May require construction equipment to rehabilitate clogged system
- Young et al. (1996) report that below grade infiltration (trenches, specifically) may require reconstruction every 10 years

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

- Space requirements are less than infiltration basins because of vertical side walls
- Pretreatment is recommended

Siting Constraints:

Permeable soils and adequate separation to groundwater

Construction:

- Avoid clogging the underlying soils by compaction from vehicles or by fine particles introduced during or after construction
- Bypass water until drainage area is stabilized

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007a. Mathematical Modeling of Fate and Transport of Aqueous Species in Stormflow Entering Infiltration Basin. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-06-168-17.2.

Caltrans. 2007b. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW-RT-07-172.19.1.

Available Vendor Products

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Alternative Designs

BMP Fact Sheet

Porous Surface

Asphalt Overlay

Description

A porous asphalt overlay, also called an open graded or permeable friction course, is a layer of porous asphalt applied on top of conventional pavement. Stormwater drains through the porous asphalt layer to the conventional road surface below, and then travels along the boundary between the pavement types until it emerges as runoff at the edge of the pavement. The porous layer reduces traffic noise and improves safety by reducing splash and draining water away from the surface. Studies suggest that porous asphalt overlays may also provide water quality benefits by trapping particulates and by reducing the amount of pollutants washed from vehicles.

Constituent Removal

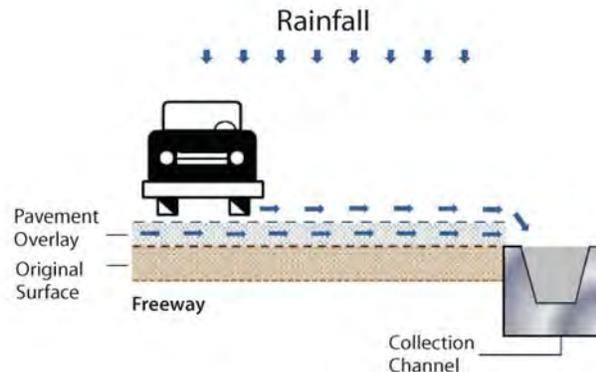
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	✓
Pesticides	
Total Metals	✓
Dissolved Metals	
Microbiological	
Litter	
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on removals found by Stanard et al. (2008). Blank cells indicate data not available or poor treatment performance.

Advantages

- Reduces or eliminates space needed for other BMPs
- Increases road safety and reduces traffic noise
- Suitable for highway application

Schematic



Source: Caltrans

Key Design Elements

- Load requirements
- Gradation of asphalt mix
- Thickness of porous layer

Constraints

- Not feasible where traction sand is applied
- More costly than traditional asphalt concrete
- Durability affected by temperature and traffic load
- Water quality benefit expected to deteriorate with overlay age due to clogging of pores

BMP Fact Sheet

Porous Surface

Asphalt Overlay

Maintenance Issues

Requirements:

- Inspect porous pavements annually
- Vacuum-style street sweepers are recommended, but not required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Requires no additional right-of-way

Siting Constraints:

May not be suitable in areas with highly erosive soils

Construction:

Construction requires special care and some changes to normal practices and scheduling

Design, Construction, Maintenance, and Cost Sources

National Asphalt Pavement Association (NAPA). 2008. <http://www.hotmix.org> (accessed October 19, 2009).

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

Stanard, C.E., M. E., Barrett, and R.J. Charbeneau. 2008. Stormwater Quality Benefits of a Permeable Friction Course. Center for Research in Water Resources. University of Texas. CEWR Online Report 08-03. http://www.utexas.edu/research/ctr/pdf_reports/0_5220_1.pdf (accessed January 22, 2010).

Available Vendor Products

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None identified

Alternative Designs

None identified

BMP Fact Sheet

Porous Surface Asphalt Pavement

Description

Porous asphalt pavement, with a life span of 20 years or more, provides stormwater storage and infiltration. Porous asphalt pavement is composed of a permeable asphalt surface placed over a granular “choke” course that is on top of a reservoir of large stone. The lower reservoir layer is designed for load requirements and water storage capacity. An overflow for the reservoir layer is recommended in case of insufficient infiltration. The pavement may also be designed to receive off-site runoff.

Constituent Removal

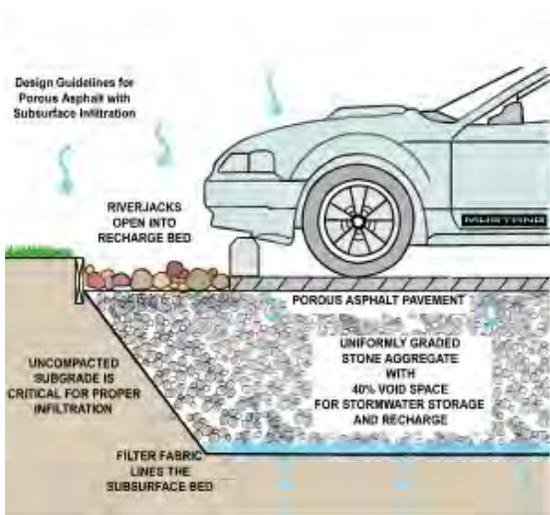
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	✓
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	
Biochemical Oxygen Demand (BOD)	✓
Total Dissolved Solids (TDS)	✓

* Removals are assumed to be due to 100% infiltration of the design water quality volume because no water is discharged to surface waters. Blank cells indicate data not available or poor treatment performance. Removals reported in literature are usually based on overflows from the reservoir course (UNH 2007).

Advantages

- Eliminates surface discharge up to the design storm when properly sized in suitable soils
- Below grade infiltration inhibits access for mosquitoes
- Reduces or eliminates space needed for other BMPs
- Infiltration addresses all pollutants, except litter
- Caltrans modeling indicates that underlying soils will not likely become hazardous within five or more years, and typical Caltrans concentrations will not likely impact groundwater quality (Caltrans 2007)

Schematic



Source: Cahill Associates

Key Design Elements

- Water quality volume
- Permeability of soil
- Distance to groundwater
- Load requirements
- Gradation of asphalt mix

Constraints

- Only suitable for low traffic areas, such as Park and Ride lots
- Low permeability in the subgrade will increase discharge through the over drain and decrease removal efficiency
- Not feasible where traction sand is applied
- More costly than traditional asphalt concrete
- Durability affected by temperature
- Potential contamination from spills
- Water quality benefit expected to deteriorate with pavement age due to clogging of pores in the porous asphalt

BMP Fact Sheet

Porous Surface

Asphalt Pavement

Maintenance Issues

Requirements:

- Inspect porous pavements annually
- Vacuum-style street sweepers are recommended, but not required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Requires no additional right-of-way

Siting Constraints:

- Similar to siting constraints for infiltration BMPs
- Some considerations are depth to groundwater, subgrade permeability, and soil type

Construction:

- Construction requires special care and some changes to normal practices and scheduling
- Minimize sub grade compaction to maintain soil permeability
- Before installation, erosion control should be in place until vegetation is established. Porous surface installation is recommended as the last item of construction

Design, Construction, Maintenance, and Cost Sources

Cahill Associates. 2006. Porous Asphalt with Subsurface Infiltration/Storage Bed. <http://www.thcahill.com/pasphalt.html> (accessed October 19, 2009).

Caltrans. 2007. Mathematical Modeling of Fate and Transport of Aqueous Species in Stormflow Entering Infiltration Basin. Sacramento: Caltrans-Division of Environmental Analysis. CTSW-RT-06-168-17.2.

National Asphalt Pavement Association (NAPA). 2008. <http://www.hotmix.org> (accessed October 19, 2009).

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

University of New Hampshire (UNH). 2007. 2007 Annual Report. University of New Hampshire, Stormwater Center. http://ciceet.unh.edu/unh_stormwater_report_2007/index.php (accessed October 19, 2009).

Yoko, G. 2005. From the Ground Up (Article #331). <http://www.sldtonline.com/content/view/213/70> (accessed October 19, 2009).

Available Vendor Products

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None identified

Alternative Designs

None identified

BMP Fact Sheet

Porous Surface

Concrete Pavement

Description

Concrete porous surfaces allow infiltration into either storage basins or, more typically, into underlying soils. This unique cement-based concrete product with a porous structure is comprised of Portland cement, coarse aggregate rock, and water. The porous texture allows water to drain through it and into the underlying soils or reservoir. Because water infiltrates, hazards associated with standing water are less likely. An overflow mechanism is recommended in case of clogging of the underlying soils or reservoir. Suppliers of traditional concrete can usually mix and deliver porous concrete.

Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	✓
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	
Biochemical Oxygen Demand (BOD)	✓
Total Dissolved Solids (TDS)	✓

* Removals are assumed to be due to 100% infiltration of the design water quality volume because no water is discharged to surface waters. Blank cells indicate data not available or poor treatment performance. Removals reported in literature are usually based on overflows from the reservoir course (UNH 2007).

Advantages

- Eliminates surface discharge up to the design storm when properly sized in suitable soils
- Below grade infiltration inhibits access for mosquitoes
- Reduces or eliminates space needed for other BMPs
- Infiltration addresses all pollutants, except litter
- Caltrans modeling indicates that underlying soils will not likely become hazardous within five or more years, and typical Caltrans concentrations will not likely impact groundwater quality (Caltrans 2007)

Schematic



Source: Puget Sound Partnership

Key Design Elements

- Water quality volume
- Permeability of soil
- Distance to groundwater
- Load requirements
- Gradation of concrete mix

Constraints

- Only suitable for low traffic areas, such as Park and Ride lots
- Low permeability in the subgrade will increase discharge through the over drain and decrease removal efficiency
- Not feasible where traction sand is applied
- More costly than traditional asphalt concrete
- Potential contamination from spills
- Water quality benefit expected to deteriorate with pavement age due to clogging of pores in the porous concrete

BMP Fact Sheet

Porous Surface

Concrete Pavement

Maintenance Issues

Requirements:

- Inspect porous pavements annually
- Vacuum-style street sweepers are recommended, but not required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Requires no additional right-of-way

Siting Constraints:

- Similar to siting constraints for infiltration BMPs
- Some considerations are depth to groundwater, subgrade permeability, and soil type

Construction:

- Construction requires special care and some changes to normal practices and scheduling
- Minimize sub grade compaction to maintain soil permeability
- Before installation, erosion control should be in place until vegetation is established. Porous surface installation is recommended as the last item of construction.

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Mathematical Modeling of Fate and Transport of Aqueous Species in Stormflow Entering Infiltration Basin. Sacramento: Caltrans. Division of Environmental Analysis. CTSW-RT-06-168-17.2.

Sustainable Land Development Today. 2005. From the Ground Up (Article #331). www.sldtonline/content/view/213 (accessed October 30, 2009).

National Ready Mixed Concrete Association. 2008. www.perviouspavement.org (accessed October 30, 2009).

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

Portland Cement Association & National Ready Mixed Concrete Association. Pervious Concrete Pavements (brochure). www.cement.org and www.nrmca.org (accessed October 30, 2009).

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None identified

Alternative Designs

None identified

BMP Fact Sheet

Porous Surface

Permeable Pavers/Cellular Confinement

Description

Permeable pavers allow infiltration into either storage basins or, more typically, into underlying soils. Permeable pavers are fairly durable with a life span of approximately 20 years, and possibly more with proper maintenance. Typically built on an open-graded, crushed stone base, permeable pavers interlock or have a minimal sand-filled gap between them. As with most permeable surfaces, the lower reservoir layer is designed for load requirements and water storage capacity. An overflow mechanism for the underlying soils or reservoir is recommended in case of clogging. The pavement may also be designed to receive off-site runoff.

Schematic



Constituent Removal

Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	✓
Total Phosphorus	✓
Pesticides	✓
Total Metals	✓
Dissolved Metals	✓
Microbiological	✓
Litter	
Biochemical Oxygen Demand (BOD)	✓
Total Dissolved Solids (TDS)	✓

* Removals are assumed to be due to 100% infiltration of the design water quality volume because no water is discharged to surface waters. Blank cells indicate data not available or poor treatment performance.

Source: National Resource Conservation Service

Key Design Elements

- Water quality volume
- Permeability of soil
- Distance to groundwater
- Load requirements

Advantages

- Eliminates surface discharge up to the design storm when properly sized in suitable soils
- Below grade infiltration inhibits access for mosquitoes
- Reduces or eliminates space needed for other BMPs
- Infiltration addresses all pollutants, except litter
- Caltrans modeling indicates that underlying soils will not likely become hazardous within five or more years, and typical Caltrans concentrations will not likely impact groundwater quality (Caltrans 2007)

Constraints

- Only suitable for low traffic areas, such as Park and Ride lots
- Low permeability in the subgrade will increase discharge through the over drain and decrease removal efficiency
- Not feasible where traction sand is applied
- More costly than traditional asphalt concrete
- Potential contamination from spills

BMP Fact Sheet

Porous Surface

Permeable Pavers/Cellular Confinement

Maintenance Issues

Requirements:

- Inspect annually
- Vacuum-style street sweepers are recommended, but not required

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Requires no additional right-of-way

Siting Constraints:

- Similar to siting constraints for infiltration BMPs
- Some considerations are depth to groundwater, subgrade permeability, and soil type

Construction:

- Construction requires special care and some changes to normal practices and scheduling
- Minimize sub-grade compaction maintain soil permeability
- Before installation, erosion control should be in place until vegetation is established. Porous surface installation is recommended as the last item of construction.

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Mathematical Modeling of Fate and Transport of Aqueous Species in Stormflow Entering Infiltration Basin. Sacramento: Caltrans-Division of Environmental Analysis. CTSW-RT-06-168-17.2.

Interlocking Concrete Pavement Institute. 2005. <http://www.icpi.org> (accessed October 29, 2009).

NCHRP. 2006a. Low Impact Development Design Manual for Highway Runoff Control (LID Design Manual). National Cooperative Highway Research Program, Project 25-20(01).

NCHRP. 2006b. User's Guide for BMP/LID Selection (Guidelines Manual). National Cooperative Highway Research Program, Project 25-20(01).

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A large variety of products are available (too many to list)

Alternative Designs

None identified

BMP Fact Sheet

Screening

Gross Solids Removal



Description

Gross solids, which consist of litter, debris, and vegetation, can be removed by passing the stormwater runoff through metal or fabric screens. Screens provide treatment by preventing solids larger than the screen opening from passing through. The effectiveness of screening systems depends on the flow rate, the type and opening size of the screen, and the type and size distribution of the gross solids in the incoming stormwater.

Constituent Removal

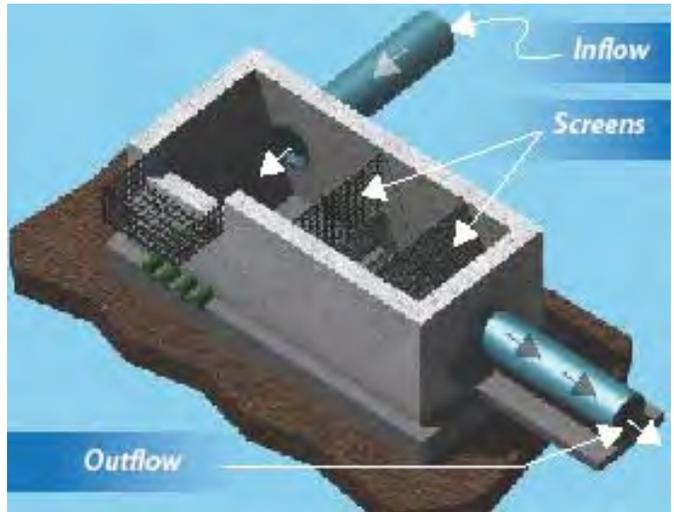
Constituent Group	Removal*
Total Suspended Solids (TSS)	
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance. Removal by small screening devices with insufficient storage capacity may not be as indicated.

Advantages

- Can be retrofitted onto stormwater outfalls, pipe culverts, and channels of any shape
- Simple maintenance

Schematic



Source: Caltrans

Key Design Elements

- Flood flow routing and bypass
- Gross solids storage capacity
- Maintenance access
- Screen type and opening size

Constraints

- Frequent maintenance or inspection may be required
- Requires access road for maintenance
- Maintenance activities may require traffic control if the device is installed along the traveled way

BMP Fact Sheet

Screening

Gross Solids Removal



Maintenance Issues

Requirements:

- Requires access road for maintenance
- Frequent inspections may be required to check on the nets or screens
- Requires mechanical (Vactor) cleaning, and may require hand cleaning for some trapped solids

Special Training:

Unknown

Project Development Issues

Right-of-Way Requirements:

Increases space requirements if used for pretreatment

Siting Constraints:

Little or no site development needed to implement

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW-RT-07-172.19.1.

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- | | |
|----------------------------------|------------------------------|
| • Bandalong Litter Trap | • Gross Pollutant Trap (GPT) |
| • Net Cassette™ | • Netting TrashTrap™ |
| • Nutrient Separating Baffle Box | • StormScreen™ |
| • StormTEE® | • Trashmaster™ |

Alternative Designs

- | | |
|--------------------------|------------------------|
| • GSRD - Inclined Screen | • GSRD - Linear Radial |
|--------------------------|------------------------|

BMP Fact Sheet

Water Quality Inlet

Oil/Water Separator



Description

Water quality inlets, also called oil/grit separators or oil/water separators, consist of a series of chambers that promote sedimentation of coarse materials and separation of free oil (as opposed to emulsified or dissolved oil) from stormwater. Most water quality inlets also contain screens to help retain larger or floating debris, and may include a coalescing unit that helps to promote oil/water separation. Water quality inlets typically capture only the first portion of runoff for treatment, and are generally used for pretreatment of runoff before discharging to other BMPs.

Constituent Removal

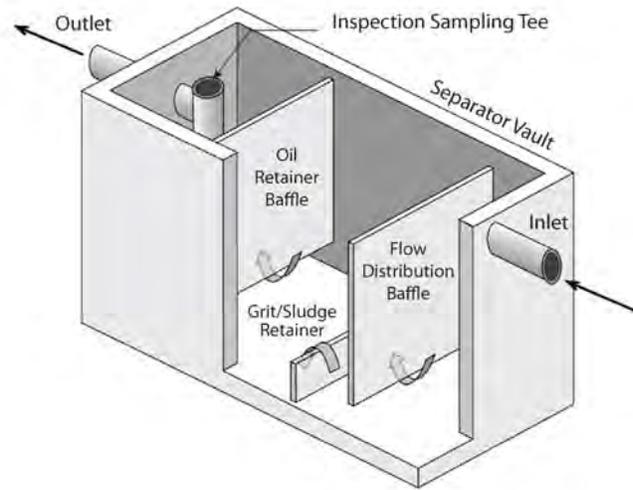
Constituent Group	Removal*
Total Suspended Solids (TSS)	✓
Total Nitrogen	
Total Phosphorus	
Pesticides	
Total Metals	
Dissolved Metals	
Microbiological	
Litter	✓
Biochemical Oxygen Demand (BOD)	
Total Dissolved Solids (TDS)	

* Based on best professional judgment. Blank cells indicate data not available or poor treatment performance.

Advantages

- Relatively small footprint
- Simple maintenance

Schematic



Source: City of Medford, Oregon

Key Design Elements

- Hydraulic capacity and pollutant storage capacity
- Provision for overflow or bypass
- Detention time
- Vector control if permanent pool present
- Maintenance access

Constraints

- Limited pollutant removal, especially for fine particles and dissolved constituents
- Vector concern if permanent pool present
- Can be a source of pollutants due to decomposition of previously captured material unless maintained regularly
- May require confined space entry

BMP Fact Sheet

Water Quality Inlet

Oil/Water Separator



Maintenance Issues

Requirements:

- Because of site-specific loading, several wet season inspections may be required to determine appropriate maintenance frequency
- Vector equipment is recommended for cleaning, but is not required
- Vector control or abatement may be required

Special Training:

Training may be required for confined space entry

Project Development Issues

Right-of-Way Requirements:

Relatively small footprint

Siting Constraints:

- Minimal head requirement
- Effective oil removal by similar technologies usually requires influent concentrations above 50 mg/L (Caltrans 2004)

Construction:

None identified

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW-RT-01-050.

US EPA. 1999. Storm Water Technology Fact Sheet, Water Quality Inlets. EPA 832-F-99-029.

Available Vendor Products

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- | | |
|--------------------------------------|------------------------------------|
| ● ADS® Water Quality Unit | ● BaySaver® BaySeparator |
| ● BioSTORM™ | ● Clara™ |
| ● CrystalStream™ | ● EcoSep® |
| ● First Flush - 1640FF | ● Hancor®-Storm Water Quality Unit |
| ● Hanson Oil and Grit Separator Unit | ● HD Q-Pac® |
| ● Kleerwater™ | ● PSI Separator |
| ● SNOUT® | ● StormVault™ |
| ● VortClarex™ | |

Alternative Designs

None identified

APPENDIX C: CALTRANS-APPROVED BMP FACT SHEETS

Appendix C presents fact sheets for BMPs approved for installation on Caltrans facilities. Implementation of these BMPs should follow the guidelines in the Storm Water Management Plan and the Storm Water Project Planning and Design Guide (PPDG).

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Litter and Debris Removal		
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GSRD–Linear Radial		C-21
Multi-Chambered Treatment Train		C-23
Traction Sand Trap		
Double Barrel		C-25
Wet Basin/Pond		C-27

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Description

Biofiltration strips are relatively flat, vegetated areas that accept stormwater runoff as sheet flow. Removal mechanisms include sedimentation, filtration, and infiltration. Strips can be used as pretreatment to infiltration trenches and basins, and sand filters. They can also be used in treatment trains with other BMPs.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	●	●
Total Phosphorus	○	●
Pesticides	○	○
Total Metals	●	●
Dissolved Metals	●	●
Microbiological	●	●
Litter	NA	
Biochemical Oxygen Demand (BOD)	○	○
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence

● ● ○
High Medium Low

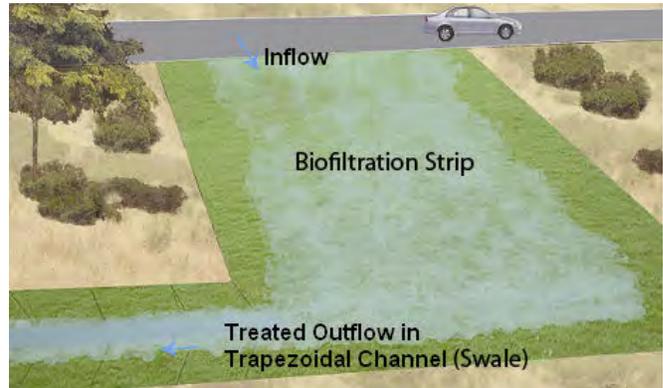
Notes:

Three biofiltration strips were sited, constructed, and monitored as part of the Caltrans BMP Retrofit Pilot Program (2004). Total nitrogen load removal is mostly dependent on infiltration losses. Phosphorus concentrations increased but infiltration compensated so that there was no net export of phosphorus load. This may be due to the vegetation selection of salt grass, which can uptake phosphorus and excrete it on its leaves. Phosphorus removal efficiency may be higher with alternative vegetation. BOD ratings are based on metadata compiled by Young et al. (1996). Pesticide ratings are based on the "Evaluation of Factors Controlling Herbicide Runoff to Surface Water" report (Caltrans 2005). Load removal analysis has been performed for a variety of roadside conditions (Caltrans 2008). Microbiological ratings are based on Rifai (2006) and Clary (2008).

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Maximize flow paths to maximize treatment
- Specify vegetation that occurs naturally to minimize establishment and maintenance costs
- Size the strips as long (in direction of flow) and flat as the site will reasonably allow, up to sheet flow boundaries (maximum length of biofiltration strips is approximately 100 ft)
- Minimum of 70% vegetation coverage
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
■	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

● ● ○
High Medium Low

Notes:

Maintenance Issues

Requirements:

- Regular inspections for side slope stability, debris and sediment accumulation, vegetative cover, and presence of burrowing animals
- If acceptable cover is not achieved, reseed or some type of erosion control will be needed

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Large footprint, but can be placed on fill slopes and occupy the clear recovery zone

Siting Constraints:

- Requires sheet flow, so site in areas where sheet flow predominates
- Climate and soil conducive to sustainable plant growth

Construction:

Minimize soil compaction

Advantages

- High removal efficiencies for total suspended solids and total metals
- Generally inexpensive relative to other BMPs
- Potential for substantial infiltration

Constraints

- Soil may need to be conditioned to allow vegetation to establish
- Climate may preclude vegetation establishment

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Performance Demonstrations Literature Sources

Barrett, M. E. 2008. Comparison of BMP Performance Using the International BMP Database. Journal of Irrigation and Drainage Engineering, 134(5), 556@61.

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Caltrans. 2005. Evaluation of Factors Controlling Herbicide Runoff to Surface Water. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@3@84@73.04.

Caltrans. 2008. Roadside Vegetated Treatment Sites (RVTS) Study Final Summary Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@08@08@3@1.

Clary, J., J. E. Jones, E. R. Urbonas, M. M. Quigley, E. Strecker, and T. Wagner. 2008. Can Stormwater BMPs Remove Bacteria? New Findings from the International Stormwater BMP Database. Stormwater Magazine, 9(3). <http://www.stormh2o.com/may@2008/bacterm/may@2008/bacterial@search@mps.aspx>

Read, J., T. Wevill, T. Fletcher, and A. Deletic. 2008. Variation Among Plant Species in Pollutant Removal from Stormwater in Biofiltration Systems. Water Research, 42, 893@902.

Rifai, H. 2006. Study on the Effectiveness of BMPs to Control Bacteria Loads. Austin, TX: Texas Commission on Environmental Quality.

Certifications, Verifications, or Designations

None identified

BMP Fact Sheet

Biofiltration

Swale

Description

Biofiltration swales are vegetated conveyance channels that concentrate flow. Removal mechanisms include filtration, infiltration, and sedimentation. Swales can be integrated into treatment trains with other type of BMPs.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	●	●
Total Phosphorus	○	●
Pesticides	○	○
Total Metals	●	●
Dissolved Metals	●	●
Microbiological	○	●
Litter	NA	
Biochemical Oxygen Demand (BOD)	○	○
Total Dissolved Solids (TDS)	○	○

Rating Key for Constituent Removal Efficiency and Level of Confidence



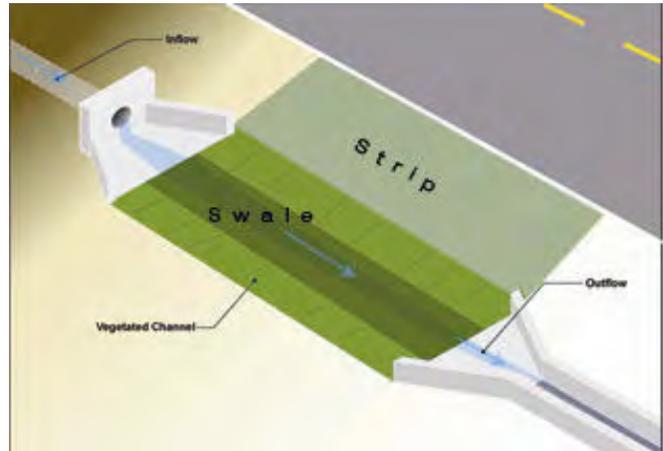
Notes:

Six biofiltration swales were sited, constructed, and monitored as part of the Caltrans BMP Retrofit Pilot Program (Caltrans 2004). Total nitrogen load removal is highly dependent on infiltration losses. Phosphorus concentrations increased but infiltration compensated so that there was no net export of phosphorus load. This may be due to the vegetation selection of salt grass, which can uptake phosphorus and excrete it on its leaves. Phosphorus removal efficiency may be higher with alternative vegetation, though analysis of the international BMP database by Barrett (2008) suggests a low removal rate. BOD ratings are based on metadata compiled by Young et al. (1996). Pesticide ratings are based on the findings in the "Evaluation of Factors Controlling Herbicide Runoff to Surface Water" report (Caltrans 2005).

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Length slope and width as quantified by the hydraulic residence time
- Specify vegetation that occurs naturally to minimize establishment and maintenance costs
- Minimum vegetation cover
- Energy dissipaters
- Side slopes constructed of narrow berms are not recommended because they are prone to damage by gophers or other burrowing animals
- Scour velocity
- Check dams may enhance infiltration
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
□	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

●	●	○
High	Medium	Low

Notes:

Based on retrofit costs. Cost for new construction may be substantially lower.

Maintenance Issues

Requirements:

- Regular inspections for side slope stability, debris and sediment accumulation, vegetation height, vegetative cover, and presence of burrowing animals
- If acceptable cover is not achieved, reseeded or some type of erosion control will be needed

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Sufficient space required to achieve the target hydraulic residence time

Siting Constraints:

- Place in areas of natural lows or cut sections to minimize damage caused by gophers or other burrowing animals
- Climate and soil conducive to sustainable plant growth

Construction:

None identified

Advantages

- Incorporates well into the environment
- Effective removal efficiencies for total suspended solids and total metals
- Potential for substantial infiltration

Constraints

- Soil may need to be conditioned to allow vegetation to establish
- Climate may preclude vegetation establishment

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Performance Demonstrations Literature Sources

Barrett, M. E. 2008. Comparison of BMP Performance Using the International BMP Database. Journal of Irrigation and Drainage Engineering, 134(5), 556-561.

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Caltrans. 2005. Evaluation of Factors Controlling Herbicide Runoff to Surface Water. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@3@84@73.04.

Read, J., T. Wevill, T. Fletcher, and A. Deletic. 2008. Variation Among Plant Species in Pollutant Removal from Stormwater in Biofiltration Systems. Water Research, 42, 893-902.

Certifications, Verifications, or Designations

None identified

BMP Fact Sheet

Detention Basin

Description

A detention basin is an impoundment that collects stormwater via storm drain inlets. The basin captures and detains the design runoff volume (typically for 48 hours). Discharges from the basin typically occur through a perforated riser. The basin removes floatable debris and coarse suspended solids. Pollutant removal is achieved primarily through settling of sediments and particulate forms of pollutants.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	○	●
Total Phosphorus	●	●
Pesticides	NA	
Total Metals	●	●
Dissolved Metals	○	●
Microbiological	○	○
Litter	●	●
Biochemical Oxygen Demand (BOD)	NA	
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence



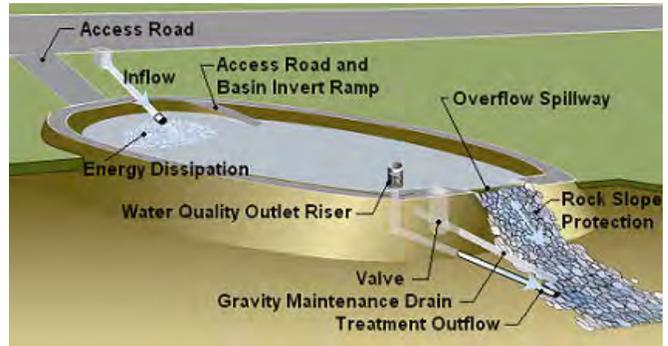
Notes:

Removal efficiency and levels of confidence ratings are based on results from unlined detention basins. The Caltrans Retrofit Pilot Program (2004) constructed five detention basins for study. The litter removal rating is based on best professional judgment.

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

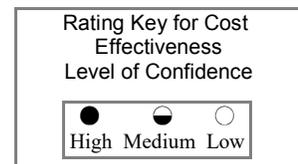
- Capture volume
- Drain time
- Debris screen to protect orifice
- Maintenance access
- Side slopes
- High flow routing
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑



Notes:

Cost assessment is not applicable because cost effectiveness is relative to detention basins. Cost comparisons to other BMPs are based on a 20-year life cycle cost of \$673/m³ (1999 dollars) (Caltrans 2004).

BMP Fact Sheet

Detention Basin

Maintenance Issues

Requirements:

- Regular inspections for standing water, side slope stability, debris and sediment accumulation, and vegetative cover
- If vegetative cover of the basin invert or side slopes is not established to acceptable thresholds, reseeded or erosion control measures may need to be implemented
- Sediment removal

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Space requirements are relatively high

Siting Constraints:

- Site where there is sufficient hydraulic head to facilitate complete drainage
- Do not site in areas where groundwater contamination is a concern, unless lined (and anchored to combat floatation)

Construction:

None identified

Advantages

- Relatively easy to operate and maintain
- Potential for substantial infiltration
- Can be sited more easily than Austin filters

Constraints

- Limited pollutant removal for nutrients and dissolved constituents
- Can only be placed in areas with sufficient hydraulic head

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Performance Demonstrations Literature Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Glick, R., G. C. Chang, and M. E. Barrett. 1998. Monitoring and Evaluation of Stormwater Quality Control Basins, in Watershed Management: Moving from Theory to Implementation, Denver, CO, May 3@, 1998, pp. 369@376.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Certifications, Verifications, or Designations

None identified

BMP Fact Sheet

Dry Weather Flow Diversion

Description

A dry weather flow diversion device can divert dry weather flows from the storm drain system to the sanitary sewer system, and convey it to a publicly owned treatment works (POTW). During wet weather, this diversion is suspended because stormwater flows can be greater than the flow the POTW is designed to manage.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	●	●
Total Phosphorus	●	●
Pesticides	●	●
Total Metals	●	●
Dissolved Metals	●	●
Microbiological	●	●
Litter	●	●
Biochemical Oxygen Demand (BOD)	●	●
Total Dissolved Solids (TDS)	●	●

Rating Key for Constituent Removal Efficiency and Level of Confidence



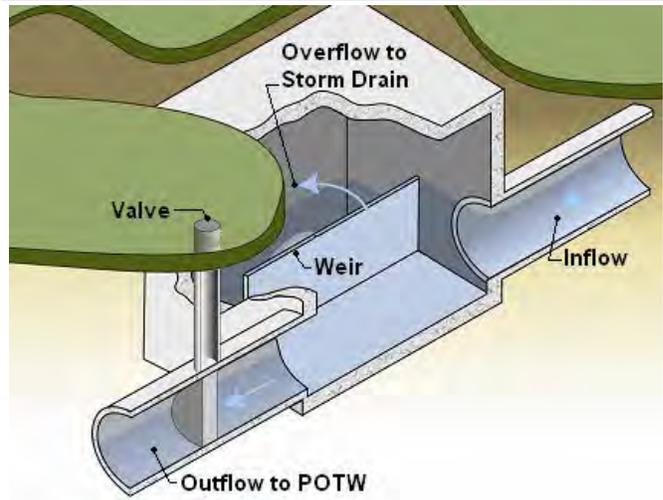
Notes:

Removal efficiency ratings are based on the diversion of dry weather flow events. The device does not treat stormwater flows when closed during wet weather.

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
■	○

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

●	◐	○
High	Medium	Low

Notes:

Dry Weather Flow Diversion

Maintenance Issues

Requirements:

Depends on the complexity of the diversion

Special Training:

May require special training for inspection and maintenance of pumped diversions

Project Development Issues

Right-of-Way Requirements:

Small footprint

Siting Constraints:

Must be able to convey diverted flow to a POTW sewer

Construction:

Coordination required with local POTW

Advantages

Advanced treatment of the diverted flow

Constraints

- Must have agreement with POTW
- Cost is highly variable depending on site conditions

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Performance Demonstrations Literature Sources

None identified

Certifications, Verifications, or Designations

None identified

Filtration

Bed

Austin Sand Filter

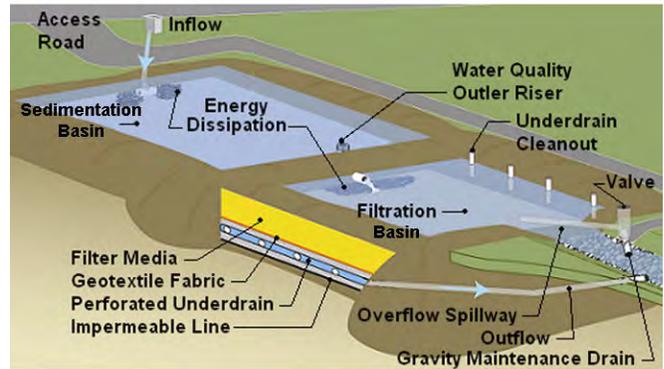
Description

The Austin Sand Filter includes a sedimentation basin and a filtration basin. The sedimentation basin captures and detains the design water quality runoff volume (typically for 24 hrs.) prior to discharge to the filtration basin. The sedimentation basin removes floatable debris and coarse suspended solids, and prevents premature clogging of the filter media surface. The sedimentation chamber effluent discharges to the filtration basin typically through a perforated riser. In the filtration basin, the water first passes through a sand layer, then through a geotextile layer, and finally into a gravel underdrain. Pollutant removal is achieved primarily by physical filtration of pollutants through the filtration media, and the settling of solids in the sedimentation basin. An Austin Sand Filter can also be designed so that the sedimentation and filtration sections are combined into one basin. In this design, gabions are used to disperse water and encourage sedimentation prior to the sand bed.

Caltrans Evaluation Status

Approved

Schematic



Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	○	●
Total Phosphorus	◐	●
Pesticides	NA	
Total Metals	◐	●
Dissolved Metals	◐	◐
Microbiological	◐	○
Litter	●	◐
Biochemical Oxygen Demand (BOD)	◐	◐
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence

● ◐ ○
High Medium Low

Source: Caltrans

Key Design Elements

- Capture volume
- Orifice plate on effluent pipe to enhance sand media contact time
- Media area and depth
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
◐◐	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

● ◐ ○
High Medium Low

Notes:

Except where noted, removal efficiency and levels of confidence ratings are based on the Caltrans Retrofit Pilot Program Final Report (2004). Five Austin Sand Filters were constructed and monitored. While nitrate concentrations increased by 35%, total nitrogen decreased by 32%. The phosphorus removal efficiency rating is based on the average of results from Caltrans and Glick et al. (1998). BOD ratings are based on metadata compiled by Young et al. (1996). Litter removal ratings are based on best professional judgment.

Notes:

Cost effectiveness determination pending further evaluation.

Filtration

Bed

Austin Sand Filter

Maintenance Issues

Requirements:

- Media scraping
- Sediment removal
- Media replacement

Special Training:

Training required for media removal and replacement

Project Development Issues

Right-of-Way Requirements:

Space requirements are marginally higher than those for a detention basin

Siting Constraints:

- Head requirement of about 4 feet
- Avoid locations with base flow because of clogging due to algae growth

Construction:

If used for construction site runoff, remove and replace sand after drainage area has been completely stabilized

Advantages

- High constituent removal for suspended solids, total metals, and bacteria
- Provides consistent pollutant removal when properly maintained
- Treats runoff from drainage areas up to 20 hectares

Constraints

- Limited pollutant removal for nutrients
- More expensive to construct than a detention basin

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

US EPA. Storm Water Technology Fact Sheet, Sand Filters. EPA 832@9@07.

Performance Demonstrations Literature Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Caltrans. 2007. Caltrans Statewide [Austin] Sand Filter Study Final 2006 Stormwater Monitoring Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@6@28.01.1.

Erickson, A. J., J. S. Gulliver, and P. T. Weiss. 2007. Enhanced Sand Filtration for Storm Water Phosphorus Removal. Journal of Environmental Engineering, 10.1061, (ASCE) 0733@372 133:5(485).

Glick, R., G. C. Chang, and M. E. Barrett. 1998. Monitoring and Evaluation of Stormwater Quality Control Basins, in Watershed Management: Moving from Theory to Implementation, Denver, CO, May 3@, 1998, pp. 369@376.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Certifications, Verifications, or Designations

None identified



Filtration

Bed

Delaware Sand Filter

Description

Delaware Sand Filters are often located at the curbside edge of a paved area or parking lot, and consist of two parallel concrete chambers: a sedimentation chamber and a sand filter chamber. The sedimentation chamber holds a permanent pool of water. The sedimentation chamber removes coarse suspended solids and prevents premature clogging of the filter media surface. The sedimentation effluent discharges over a weir into the sand filter chamber where water is filtered first through a 12 to 18 inch sand filter, then through a geotextile layer, and finally into an underdrain. These on-line devices process all runoff leaving the site up to the point where the overflow limit is reached. The typical shape of the device is narrower (but longer) than some other treatment BMPs, which can be advantageous in some situations.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	○	◐
Total Phosphorus	◐	●
Pesticides	NA	
Total Metals	●	●
Dissolved Metals	◐	●
Microbiological	◐	◐
Litter	●	◐
Biochemical Oxygen Demand (BOD)	○	○
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence

● High ◐ Medium ○ Low

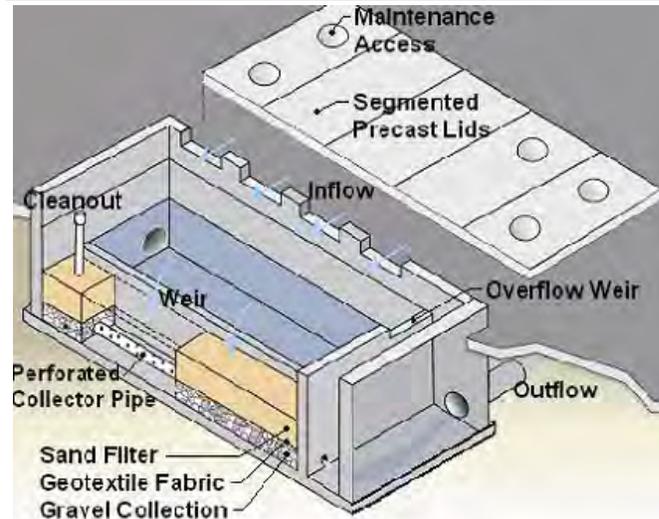
Notes:

This device was sited as part of the Caltrans BMP Retrofit Pilot Program (2004). Although not thought to be effective for removing dissolved constituents, some removal was observed. The litter removal rating is based on best professional judgment. Caltrans (2004) reported that nitrate concentrations increased by 78%, and a high removal efficiency for dissolved zinc. BOD ratings are based on metadata compiled by Young et al. (1996).

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- The Delaware unit that was evaluated was designed and installed according to the guidelines described by Young et al. (1996), which requires the sedimentation volume to equal 5 mm of runoff (0.2 inches). Consequently, if it is desired to treat a larger water quality volume, the unit must act as a flow-through device
- Size the filter based on unit values for the sedimentation chamber volume and filter bed area per acre of tributary area treated
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
◐	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

● High ◐ Medium ○ Low

Notes:



Delaware Sand Filter

Filtration

Bed

Maintenance Issues

Requirements:

- Maintenance for smaller, underground filters is usually best done manually
- Disposal of accumulated trash and replacement of the upper few inches of sand when the filter clogs
- Vector control or abatement

Special Training:

Training required for media removal

Project Development Issues

Right-of-Way Requirements:

Space requirements are relatively high

Siting Constraints:

- Do not site where runoff from bare soil or construction activities will be allowed to enter the filter
- Minimum head requirement of 3 feet
- Avoid locations with base flow

Construction:

None identified

Advantages

- Can be installed underground in urban settings with covers appropriate for the intended above ground land use, such as sidewalk or landscaping
- Similar in performance to the Austin Filter design with the principal advantage being narrower footprint that requires less head
- Waste media from the filters does not appear to be toxic and is likely to be environmentally safe for landfill disposal

Constraints

- The sedimentation basin holds a permanent pool of water and has the potential to provide breeding opportunities for mosquitoes
- Relatively expensive to construct compared to other approved BMPs (Caltrans 2004)
- Limited pollutant removal capability for nutrients

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

US EPA. Storm Water Technology Fact Sheet, Sand Filters. EPA 832@9@07.

Performance Demonstrations Literature Sources

Bell, W., L. Stokes, L. J. Gavan, and T. N. Nguyen. 1995. Assessment of the Pollutant Removal Efficiencies of Delaware Sand Filter BMPs. Department of Transportation and Environmental Services. Alexandria, VA. p. 140.

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Horner, R. R., and C. R. Horner. 1995. Design, Construction, and Evaluation of a Sand Filter Stormwater Treatment System. Part III. Performance Monitoring. Report to Alaska Marine Lines, Seattle, WA.

Shaver, E., and R. Baldwin. 1991. Sand Filter Design for Water Quality Treatment. Delaware Department of Natural Resources and Environmental Control. Dover, DE. 14 pp.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Certifications, Verifications, or Designations

None identified

BMP Fact Sheet

Infiltration

Basin

Description

Infiltration basins are depressions used to detain stormwater runoff until it percolates into the groundwater table. Pollutant removal occurs through the infiltration of runoff and the adsorption of pollutants into the soil and vegetation. Infiltration basins are designed to infiltrate within 72 hours to prevent vector problems due to standing water. There needs to be sufficient space between the basin invert and the seasonally high groundwater elevation to allow infiltration to occur.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	●	●
Total Phosphorus	●	●
Pesticides	●	●
Total Metals	●	●
Dissolved Metals	●	●
Microbiological	●	●
Litter	●	●
Biochemical Oxygen Demand (BOD)	●	●
Total Dissolved Solids (TDS)	●	●

Rating Key for Constituent Removal Efficiency and Level of Confidence

●	◐	○
High	Medium	Low

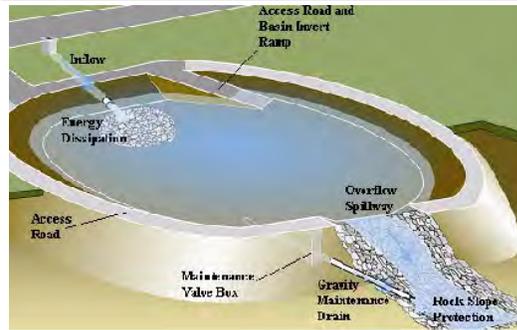
Notes:

The removal rating for infiltration is assumed to be 100% for the design water quality volume because no water is discharged to surface waters. Removal efficiencies reported in the literature are usually based on overflow discharge (Young et al. 1996). Litter is assumed to be captured within the basin.

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Capture volume
- Basin invert area
- Maintenance access
- High flow routing
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
◐	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

●	◐	○
High	Medium	Low

Notes:

Based on Caltrans data (2004)

Infiltration

Basin

Maintenance Issues

Requirements:

- Conduct regular inspections for standing water, debris and sediment accumulation, and slope stability
- Avoid rubber tired vehicles in basin to reduce compaction
- Tracked equipment recommended for major maintenance

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Space requirements are relatively high for infiltration basins

Siting Constraints:

- Infiltration basins can only be placed in areas where soil is hydrologic soil group type A, B, or C soils and that meet permeability requirements
- Soil cannot have more than 30% clay or more than 40% clay and silt combined
- Minimum infiltration rate of 0.5 in/hr is preferred
- Distance between the groundwater elevation and the basin invert should be at least 4 feet, but 10 feet is preferable

Construction:

- Stabilize area draining into the facility. If possible, place a diversion berm to prevent sediment from entering the facility
- Build the basin without driving heavy equipment over the infiltration surface. Any equipment should have “low pressure” treads or tires
- After final grading, deeply till the infiltration surface
- Use appropriate erosion control seed mix

Advantages

Due to the infiltration of the entire water quality volume, the constituent removal is considered to be 100%

Constraints

- Site only in areas with the appropriate soil type/content and distance from the groundwater elevation to facilitate infiltration
- Restrict use if the runoff does not meet the requirement of a RWQCB-issued Basin Plan, or if the potential site is above a known pollutant plume

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Performance Demonstrations Literature Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Gaus, J. 1993. Soils of Infiltration Basins in the Puget Sound Region: Trace Metals and Concentrations. Masters Thesis. Univ. of Washington.

Hilding, K. 1993. A Study of Infiltration Basins in the Puget Sound Region. Masters Thesis. Dept. of Biological and Agricultural Engineering. Univ. of California, Davis.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Certifications, Verifications, or Designations

None identified

Infiltration

Trench

Description

An infiltration trench is typically a long and narrow excavation that is lined with filter fabric and backfilled with stone aggregate or gravel to form an underground basin. Runoff is diverted to the trench and infiltrates into the soil. Pollutants are filtered out of the runoff as it infiltrates the surrounding soils. Infiltration trenches must be sited in areas where soils meet the minimum infiltration rate. Regulators may caution against installation of this device in highly industrial areas or areas where highly soluble constituents may be discharged to the trench.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	●	●
Total Phosphorus	●	●
Pesticides	●	●
Total Metals	●	●
Dissolved Metals	●	●
Microbiological	●	●
Litter	●	●
Biochemical Oxygen Demand (BOD)	●	●
Total Dissolved Solids (TDS)	●	●

Rating Key for Constituent Removal Efficiency and Level of Confidence

● High ◐ Medium ○ Low

Notes:

Two infiltration trenches were evaluated as part of the Caltrans BMP Retrofit Pilot Program (2004). The removal rating for infiltration is assumed to be 100% for the design water quality volume because no water is discharged to surface waters. Removal efficiencies reported in the literature are usually based on overflow discharge (Young et al. 1996). Litter is assumed to be captured within the basin.

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Trench depth and invert area
- Capture volume
- Backfill material
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
◐	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑ Cost ↓	Benefit ↑ Cost ↑
Benefit ↓ Cost ↓	Benefit ↓ Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

● High ◐ Medium ○ Low

Notes:

Infiltration

Trench

Maintenance Issues

Requirements:

- Remove trash and debris from the site on a regular basis
- Sediment accumulation should be inspected and, if visible on top of the trench, the top layer of trench, silt, filter fabric, and stone should be removed
- Replace fabric; stone can be reinstalled after it is washed

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Space requirements are relatively high, but it can fit in a narrow right-of-way

Siting Constraints:

- Do not site within about 100 feet of building or bridge foundations. Infiltration trenches sited within about 100 feet would require detailed site structural and geotechnical investigation. Infiltration trenches are suitable for drainage areas up to 4 hectares. Trenches work best at sites with an up-gradient drainage area slope of less than 5%
- Trenches should be sited where infiltration rates are at least one-half in/hr and there is at least about 10 feet separation between trench invert and the groundwater
- Trenches are not recommended in industrial land use areas or in locations where soluble constituents may impact ground water quality

Construction:

- During excavation for trench construction, light equipment should be used to avoid compaction of the soil
- Stabilize the entire area draining to the facility before construction begins. If impossible, place a diversion berm around the perimeter of the infiltration site to prevent sediment entrance during construction

Advantages

- Due to the infiltration of the entire water quality volume, the constituent removal is considered to be 100%
- Infiltration trenches can be narrow and are not highly visible

Constraints

- Infiltration trenches must have soils with adequate permeability and suitable groundwater separation
- Major maintenance (removal and replacement of the rock matrix) is relatively costly
- Pretreatment is recommended to reduce the amount of influent sediment
- Construction costs per capture volume are higher than infiltration basins
- Can clog prematurely if not properly maintained

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

US EPA. Storm Water Technology Fact Sheet, Infiltration Trench. EPA 832@9@19.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Performance Demonstrations Literature Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Certifications, Verifications, or Designations

None identified



Litter and Debris Removal

GSRD–Inclined Screen

Description

The Gross Solids Removal Device (GSRD) Inclined Screen (IS) is a non-proprietary device whose primary function is to remove gross solids (litter and vegetative material) from stormwater runoff. Currently, there is one IS configuration approved as a full capture treatment device. This GSRD IS has a parabolic wedge-wire screen with spacing up to 5 mm (Caltrans 2007). The device is configured with an influent trough to allow some solids to settle (see schematic).

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	NA	
Total Nitrogen	NA	
Total Phosphorus	NA	
Pesticides	NA	
Total Metals	NA	
Dissolved Metals	NA	
Microbiological	NA	
Litter	●	●
Biochemical Oxygen Demand (BOD)	NA	
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence

● ◐ ○
High Medium Low

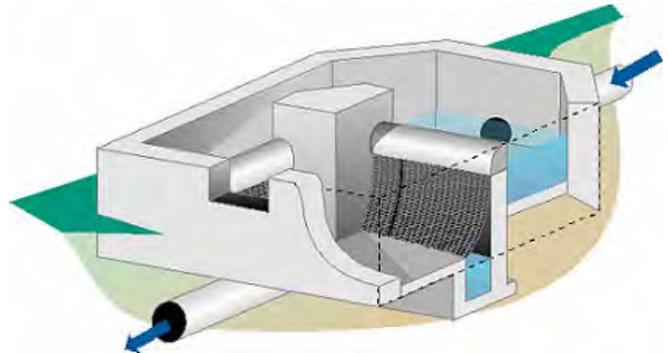
Notes:

Litter ratings are based on field studies (Caltrans 2003). Litter removal is the target constituent for the device. No long-term water quality monitoring studies have been conducted to evaluate treatment effectiveness of the GSRD IS on other water quality constituents.

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Size the GSRD IS to hold gross solids to be deposited during a 1-year period and pass the design flow (e.g., 25-year flow)
- Regulations may have a lower design storm than is associated with the drainage of the highway, and if upstream diversion is used the design event given in the regulation could be used
- Hydraulic head
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
◐	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

● ◐ ○
High Medium Low

Notes:



Litter and Debris Removal

GSRD–Inclined Screen

Maintenance Issues

Requirements:

- Periodic inspections required to ensure that the device is functional
- Sediment/debris removal

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Small footprint

Siting Constraints:

Must provide sufficient hydraulic head to operate by gravity (about 3 feet)

Construction:

None identified

Advantages

- Small footprint
- Based on pilot studies, the devices remove nearly all the gross solids from stormwater runoff with minimal maintenance requirements

Constraints

Hydraulic head requirement

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Performance Demonstrations Literature Sources

Caltrans. 2003a. Phase I Gross Solids Removal Devices Pilot Study: 2000@2002. Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@03@72.31.22.

Caltrans. 2003b. Phase II Gross Solids Removal Devices Pilot Study: 2001@2003. Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@03@97.31.22.

Caltrans. 2003c. Phase III Gross Solids Removal Devices Pilot Study: 2002@2003. Interim Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@03@99.31.24.

Certifications, Verifications, or Designations

LA RWQCB: Full Capture certification for trash



Litter and Debris Removal

GSRD–Linear Radial

Description

The Gross Removal Device (GSRD) Linear Radial (LR) is a non-proprietary device whose primary function is to remove gross solids (litter and vegetative material) from stormwater runoff. Currently, there is one GSRD LR configuration approved as a full capture treatment device. This GSRD LR utilizes a modular well casing with 5 mm x 64 mm louvers to serve as the screen. The GSRD LR is placed on a 2-percent slope.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	NA	
Total Nitrogen	NA	
Total Phosphorus	NA	
Pesticides	NA	
Total Metals	NA	
Dissolved Metals	NA	
Microbiological	NA	
Litter	●	●
Biochemical Oxygen Demand (BOD)	NA	
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence

●	◐	○
High	Medium	Low

Notes:

Litter ratings are based on field studies (Caltrans 2003). Litter is the target constituent for the device. No long-term water quality monitoring studies have been conducted to evaluate treatment effectiveness of the GSRDs LR on other water quality constituents.

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Annual estimated gross solids loading rate size to hold gross solids to be deposited during a 1-year period and pass the design flow (e.g., 25-year flow)
- Regulations may have a lower design storm than is associated with the drainage of the highway, and if upstream diversion is used the design event given in the regulation could be used
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
◻	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑ Cost ↓	Benefit ↑ Cost ↑
Benefit ↓ Cost ↓	Benefit ↓ Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

●	◐	○
High	Medium	Low

Notes:



Litter and Debris Removal

GSRD–Linear Radial

Maintenance Issues

Requirements:

- Periodic inspections required to ensure that the device is functional
- Sediment/debris removal

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Small footprint

Siting Constraints:

- Must provide sufficient area to accommodate the length of linear radial GSRD required
- Low head requirement

Construction:

None identified

Advantages

- Small footprint
- Based on pilot studies, the device removes nearly all the gross solids from stormwater runoff with minimal maintenance requirements

Constraints

Length requirement

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Performance Demonstrations Literature Sources

Caltrans. 2003. Phase I Gross Solids Removal Devices Pilot Study: 2000@002. Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@03@72.31.22.

Certifications, Verifications, or Designations

LA RWQCB: Full Capture certification for trash



Multi-Chambered Treatment

Description

Multi-chambered treatment trains (MCTTs) use three treatment mechanisms. The first chamber is a catch basin used to remove large, gritized material. The second chamber is a settling chamber that removes settleable solids with tube separators, and oil and grease with sorbent pads. The third chamber is a sand/peat filter. The filtration chamber consists of a 450µm filter media layer with a 50/50 mixture of sand and peat moss. This layer is separated from a gravel-packed underdrain by a layer of filter fabric. The filter area is determined from the recommended solids loading rate of a peat/sand mixture (5000 g TSS/m²/year). Gravity draining can be used to return the filtered runoff to the drainage system. These devices were originally designed to reduce toxicity in the runoff from critical stormwater source areas and to be implemented where toxicity in runoff is an identified problem.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	○	○
Total Phosphorus	○	○
Pesticides	NA	
Total Metals	◐	●
Dissolved Metals	○	◐
Microbiological	○	○
Litter	●	◐
Biochemical Oxygen Demand (BOD)	NA	
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence

● ◐ ○
High Medium Low

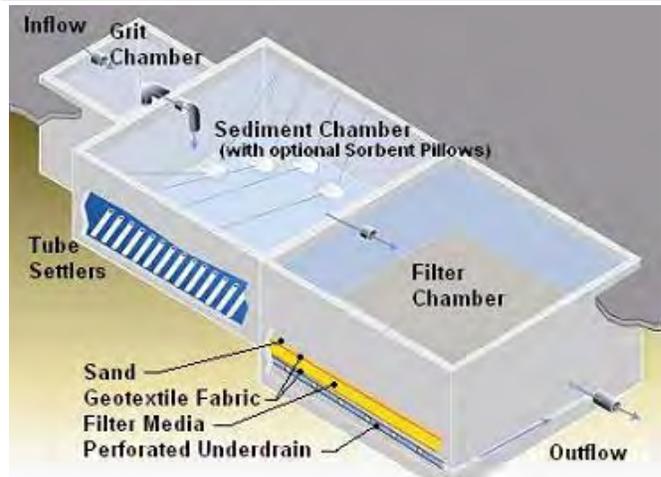
Notes:

Two MCTTs were sited, constructed, and monitored as part of the Caltrans BMP Retrofit Pilot Program (2004). The high TSS removal efficiency rating is based on Pitt et al. (1996). Caltrans data showed 75% TSS removal, but average influent was only 41 mg/L, nitrate concentrations increased by 62%, and dissolved zinc removal efficiency rating was high (Caltrans 2004). The litter removal efficiency rating is based on best professional judgment. Level of confidence based on the Caltrans study.

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Capture volume
- Mosquito proofing
- Settling chamber area
- Filter area
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
◐	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

● ◐ ○
High Medium Low

Notes:



Multi-Chambered Treatment

Maintenance Issues

Requirements:

- Periodic cleaning and replacement of media
- Inspection of mosquito proofing
- Vector control or abatement

Special Training:

Training required for media replacement

Project Development Issues

Right-of-Way Requirements:

Space requirements are relatively high

Siting Constraints:

- Site where there is a small, impervious contributing watershed
- Do not site MCTTs where runoff from bare soil or construction activities will be allowed to enter the filter
- MCTTs should be sited where enough vertical clearance (head) is provided, about 6.5 feet

Construction:

- Material availability for the filter, excavation for the device/unknown field conditions, and interface with existing activities at the site are the primary issues to be addressed in the construction of MCTTs
- The tube settler system is a special order item with a significant lead time

Advantages

- Constituent removal for suspended solids, metals, and bacteria similar to that for an Austin Sand Filter
- The MCTTs can provide consistent pollutant removal when properly maintained
- The target area for use of MCTTs are vehicle service facilities, parking areas, paved storage areas, and fueling stations with drainage areas up to 1 hectare

Constraints

- More expensive to construct than gravity drained Austin Sand Filters, which provide comparable performance
- The presence of tube settlers in the sedimentation basin impedes maintenance activities
- A permanent pool of water is maintained in the MCTT, which increases vector concerns

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Performance Demonstrations Literature Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Pitt, R., B. Robertson, P. Barron, A. Ayyoubi, and S. Clark. 1999. Stormwater Treatment at Critical Areas Vol. 1: The Multi-Chambered Treatment Train. Birmingham: University of Alabama at Birmingham, Department of Civil and Environmental Engineering.

Certifications, Verifications, or Designations

None identified



Traction Sand Trap

Double Barrel

Description

Double Barrel Traction Sand Traps are inverted pipe sections that capture traction sand that was previously applied to snowy or icy roads.

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	○	●
Total Nitrogen	○	○
Total Phosphorus	○	○
Pesticides	NA	
Total Metals	○	●
Dissolved Metals	○	○
Microbiological	NA	
Litter	NA	
Biochemical Oxygen Demand (BOD)	NA	
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence



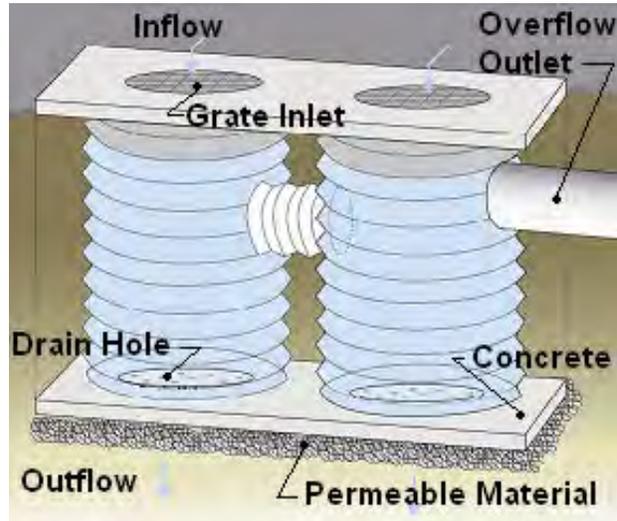
Notes:

Removal ratings and levels of confidence are based on the evaluations of two sand traps that were part of the Tahoe Sand Trap Effectiveness Study (2003).

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Sand storage capacity
- Invert 3 to 6 ft above groundwater if drainage is allowed through base (CMP riser type)
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
☐	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑	Benefit ↑
Cost ↓	Cost ↑
Benefit ↓	Benefit ↓
Cost ↓	Cost ↑

Rating Key for Cost Effectiveness Level of Confidence



Notes:



Traction Sand Trap

Double Barrel

Maintenance Issues

Requirements:

- Annual vacuoring out of the traction sand traps
- Vector control or abatement

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Small footprint

Siting Constraints:

Low head requirement

Construction:

None identified

Advantages

- Sand traps require very little land space
- Requires very little or no hydraulic head to operate

Constraints

Treatment for most constituents is marginal

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

Performance Demonstrations Literature Sources

Caltrans. 2003. Caltrans Tahoe Highway Runoff Characterization and Sand Trap Effectiveness Studies. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@T@3@54.36.02.

Certifications, Verifications, or Designations

None identified

BMP Fact Sheet

Wet Basin/Pond



Description

A Wet Basin holds a permanent pool of water designed to detain and treat a runoff water quality volume. The basin supports plant species that provide constituent removal by biological processes. In addition, the vegetation may help reduce erosion of the side slopes and trap sediments. Sedimentation processes also occur in the basin. Wet basins are usually deep enough to prevent resuspension of particles, and should be sited where a permanent flow of water can be maintained from a dry weather flow source. In some references, this BMP is referred to as a "wet pond."

Constituent Removal

Constituent Group	Removal Efficiency	Level of Confidence
Total Suspended Solids (TSS)	●	●
Total Nitrogen	◐	◐
Total Phosphorus	○	○
Pesticides	NA	
Total Metals	●	●
Dissolved Metals	◐	●
Microbiological	●	○
Litter	●	◐
Biochemical Oxygen Demand (BOD)	NA	
Total Dissolved Solids (TDS)	NA	

Rating Key for Constituent Removal Efficiency and Level of Confidence

● ◐ ○
High Medium Low

Notes:

Removal ratings and levels of confidence were based on an evaluation of a wet basin as part of the Caltrans BMP Retrofit Pilot Program Study (2004). Average nitrate concentration from discharges after storm events was 132% greater than stormwater influent, however dry weather flow reductions caused a net annual removal of total nitrogen. The litter removal efficiency rating is based on best professional judgment.

Caltrans Evaluation Status

Approved

Schematic



Source: Caltrans

Key Design Elements

- Drawdown time
- Length width ratio
- Depth (deeper reduces maintenance of emerged vegetation)
- Permanent pool to capture volume ratio
- Basin side slopes
- Sedimentation forebay
- Vegetation selection
- Liner requirements
- Caltrans designers should follow the Project Planning and Design Guide (Caltrans 2007)

Cost Effectiveness Relative to Detention Basins

Cost Effectiveness	Level of Confidence
◐	●

Rating Key for Cost Effectiveness Relative to Detention Basins

Benefit ↑ Cost ↓	Benefit ↑ Cost ↑
Benefit ↓ Cost ↓	Benefit ↓ Cost ↑

Rating Key for Cost Effectiveness Level of Confidence

● ◐ ○
High Medium Low

Notes:



Maintenance Issues

Requirements:

- Sensitive species inspections
- Vegetation removal to maintain efficacy of mosquito fish
- Sediment removal (hand removal with machetes was found to be more cost-effective than mechanical removal)
- Vector control or abatement

Special Training:

None identified

Project Development Issues

Right-of-Way Requirements:

Space requirements are high for wet basins

Siting Constraints:

- A wet basin usually has an area of 1 to 3 percent of the contributing drainage area
- Soil should have a low infiltration rate or be lined with a clay or geotextile liner so that water level is maintained in the basin
- Wet basins should be sited where a permanent pool of water can be maintained from a dry weather flow source

Construction:

- Excavated soil surface should be suitable to support plant life
- If a pond liner is used, it must be carefully constructed to avoid punctures

Advantages

- High removal efficiencies for many constituents
- Recreational and aesthetic benefits

Constraints

- There are potential problems associated with mosquitoes and the device may become a regulated wetland if not consistently maintained per an established schedule
- A permanent pool of water must be maintained and therefore may have limitations on siting
- Wet basins are larger than extended detention basins

Design, Construction, Maintenance, and Cost Sources

Caltrans. 2007. Stormwater Quality Handbook: Project Planning and Design Guide. Sacramento: Caltrans, Office of Storm Water Management, Division of Design. CTSW@RT@7@72.19.1.

King County. 2005. Surface Water Design Manual, King County Surface Water Management Division, Washington. Retrieved January 17, 2009, from Dnr.metrokc.gov/wlr/dss/2005SWDM/2005ManualwithErrata.pdf

US EPA. Storm Water Technology Fact Sheet, Wet Detention Ponds. EPA 832@9@48.

Performance Demonstrations Literature Sources

Caltrans. 2004. BMP Retrofit Pilot Program Final Report. Sacramento: Caltrans, Division of Environmental Analysis. CTSW@RT@1@50.

Schueler, T. R. 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Department of Environmental Programs, Metropolitan Washington Council of Governments, Washington, DC.

Urbonas, B. R., J. T. Doerfer, J. Sorenson, J. T. Wulliman, and T. Fairley. 1992. Urban Storm Drainage Criteria Manual, Volume 3 @Best Management Practices, Stormwater Quality, Urban Drainage and Flood Control District, Denver, CO.

Weber, S. L. 2007. Evaluation of Two Washington State Department of Transportation Stormwater Facilities Along State Route 18 Highway. Report prepared for MBA requirement from University of New Mexico.

Young, G. K., S. Stein, P. Cole, T. Kammer, F. Graziano, and F. Bank. 1996. Evaluation and Management of Highway Runoff Water Quality. U.S. Department of Transportation.

Certifications, Verifications, or Designations

None identified

ATTACHMENT J-9

March 26, 1999

RECEIVED MAR 30 1999

Deb Smith
Environmental Program Manager
California Regional Water Quality Control Board
101 Centre Plaza Drive
Monterey Park, CA 91754

Dear Deb:

We wanted to let you know that the court approved the Consent Decree in Heal the Bay, Inc.; Santa Monica BayKeeper, Inc. v. Browner, Case No. 98-4825 SBA on March 22, 1999.

We have enclosed a copy with attachments. If you have any questions, please feel to call either one of us.

Sincerely,



David S. Beckman
Alex N. Helperin

HEAL THE BAY, INC., SANTA MONICA
BAYKEEPER, INC., and TERRY TAMMINEN,

Plaintiffs,

v.

CAROL BROWNER, Administrator of the
United States Environmental
Protection Agency, FELICIA MARCUS,
Regional Administrator of the United
States Environmental Protection
Agency, Region IX, and the UNITED
STATES ENVIRONMENTAL PROTECTION
AGENCY,

Defendants.

RECEIVED MAR 30 1999
RICHARD W. WIEKING
CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND
No. C 98-4825 SBA

AMENDED CONSENT DECREE

A. WHEREAS, Heal the Bay, Inc., Santa Monica BayKeeper, Inc., and Terry Tamminen (collectively, "Plaintiffs") filed a complaint in this action ("Complaint") against Defendants Carol Browner, in her official capacity as the Administrator of the United States Environmental Protection Agency; Felicia Marcus, in her official capacity as Regional Administrator of the United States Environmental Protection Agency, Region IX; and the United States Environmental Protection Agency (collectively, "EPA"), pursuant to, inter alia, Section 303(d) of the Clean Water Act ("Act" or "CWA"), 33 U.S.C. 1313(d);

B. WHEREAS, Section 303(d) of the Act and EPA's implementing regulations, 40 CFR 130.7(b)-(e), provide for, among other

AMENDED CONSENT DECREE:
Heal the Bay, Santa Monica BayKeeper, et al. v. Browner, et al.

1
2 things: (1) identification of waters for which applicable
3 technology-based effluent limitations and other required controls
4 are not stringent enough to implement water quality standards;
5 (2) establishment of a priority ranking for such waters; and
6 (3) establishment of total maximum daily loads ("TMDLs") for
7 those waters;

8 C. WHEREAS, the subject of this action concerns EPA's
9 alleged duty to either approve or disapprove TMDLs submitted to
10 EPA by the State of California ("State") for waters in that
11 region of the State administered by the Los Angeles Regional
12 Water Quality Control Board (hereinafter referred to as the "Los
13 Angeles Region"), and certain related claims, as set forth in the
14 Complaint filed herewith. The geographic boundaries of the Los
15 Angeles Region are set forth in Attachment 1 hereto;

16 D. WHEREAS, overall, storm water and urban runoff constitute
17 the most significant sources of pollution to the waters of the
18 Los Angeles Region. However, these sources of pollution have not
19 been sufficiently controlled to date;

20 E. WHEREAS, storm water and urban runoff in the Los Angeles
21 Region contain high levels of pollutants of concern, including,
22 but not limited to, heavy metals, sediment, nutrients, and
23 pathogens;

24 AMENDED CONSENT DECREE:

Heal the Bay, Santa Monica BayKeeper, et al. v. Browner, et al.

1 F. WHEREAS, the establishment of total maximum daily loads
2 must account for, among other things, all significant sources of
3 pollutants, including pollutants in storm water and urban runoff,
4 and, accordingly, the parties agree to direct attention to
5 reducing these significant sources of pollutants to the waters of
6 the Los Angeles Region;

7 G. WHEREAS, "water quality standards" ("WQS") has the
8 meaning provided at 40 CFR 130.2(d) and 130.3 as codified as of
9 the Effective Date of this Amended Consent Decree ("Consent
10 Decree") or as subsequently amended;

11 H. WHEREAS, 40 CFR 130.7(b)(3) states that the terms "water
12 quality standard applicable to such waters" and "applicable water
13 quality standards" refer to those water quality standards
14 established under Section 303 of the Act, including numeric
15 criteria, narrative criteria, waterbody uses and anti-degradation
16 requirements;

17 I. WHEREAS, 40 CFR 122.26(b)(13) defines "storm water" to
18 mean "storm water runoff, snow melt runoff, and surface runoff
19 and drainage."

20 J. WHEREAS, 40 CFR 122.1(b)(2) provides, in part, that
21 "[d]ischarges of storm water as set forth in § 122.26" are "point
22 sources requiring NPDES permits for discharges;"

23
24 AMENDED CONSENT DECREE:

Heal the Bay, Santa Monica BayKeeper, et al. v. Browner, et al.

1 K. WHEREAS, 40 CFR 130.2(h) defines "Wasteload allocation
2 (WLA)," in part, as "[t]he portion of a receiving water's loading
3 capacity that is allocated to one of its existing or future point
4 sources of pollution."

5 L. WHEREAS, in order to resolve this lawsuit, the parties
6 also have entered into an Amended Settlement Agreement
7 ("Settlement Agreement") which has been filed separately with the
8 Court; its terms are not incorporated into this Consent Decree;

9 M. WHEREAS, the parties have agreed to a settlement of this
10 action without an admission of fact or law, which they consider
11 to be a just, fair, adequate and equitable resolution of the
12 claims raised in this action;

13 N. WHEREAS, in particular, Plaintiffs state that their
14 consent to this Consent Decree is predicated upon facts
15 including, without limitation, that the Consent Decree provides
16 for remedies that will be implemented without delay, including
17 the near-term establishment of TMDLs to remedy critical water-
18 quality related environmental and public health problems;

19 O. WHEREAS, therefore, the parties understand that,
20 notwithstanding any other provision herein, if the Consent Decree
21 is not approved for any reason within 90 days of submission,
22 Plaintiffs may withdraw their consent to entry of the Consent
23 Decree; thereafter, neither the Consent Decree nor Plaintiffs'

24 AMENDED CONSENT DECREE:

Heal the Bay, Santa Monica BayKeeper, et al. v. Browner, et al.

1 agreement to lodge it shall preclude Plaintiffs from litigating
2 claims including those asserted in the Complaint and seeking
3 whatever remedy may be consistent with law. In any such
4 litigation, EPA reserves all of its defenses, and the parties
5 agree that the Consent Decree may not be used in support of any
6 fact or matter of law.

7 P. WHEREAS, it is in the interest of the public, the parties
8 and judicial economy to resolve the issues in this action without
9 protracted litigation, including a trial; and

10 Q. WHEREAS, the Court finds that this Consent Decree
11 represents a just, fair, adequate and equitable resolution of the
12 claims raised in this action.

13 NOW, THEREFORE, it is hereby ORDERED, ADJUDGED AND DECREED
14 as follows:

15 GENERAL TERMS

16 1. The obligations arising under this Consent Decree are
17 to be performed by EPA and not by Carol Browner or Felicia Marcus
18 in their respective individual capacities. This Consent Decree
19 applies to, is binding upon, and inures to the benefit of
20 Plaintiffs (and their successors, assigns, and designees) and of
EPA.

21 2. For the purposes of this Consent Decree,

22 a. "Water Quality Limited Segment" ("WQLS") has the
23 meaning provided at 40 CFR 130.2(j), as codified as of the

24 AMENDED CONSENT DECREE:

Heal the Bay, Santa Monica BayKeeper, et al. v. Browner, et al.

1 Effective Date of this Consent Decree or as subsequently amended;

2 b. "Total Maximum Daily Load" ("TMDL") has the meaning
3 provided at 33 U.S.C. Section 1313(d) and 40 CFR 130.2(i), as
4 codified as of the Effective Date of this Consent Decree or as
5 subsequently amended. A TMDL shall be established with "a margin
6 of safety which takes into account any lack of knowledge
7 concerning the relationship between effluent limitations and
8 water quality", pursuant to 33 U.S.C. 1313(d)(1)(C). A TMDL
9 "shall be established at a level necessary to implement the
10 applicable water quality standards with seasonal variations",
11 pursuant to 33 U.S.C. 1313(d)(1)(C);

12 c. "TMDL Analytical Unit" means a group, listed in
13 Attachment 2, of related WQLSs and associated pollutants for
14 which TMDLs will be developed;

15 d. "Effective Date" means the date upon which this
16 Consent Decree is entered by the Court; and

17 e. "Continuing planning process" ("CPP") has the
18 meaning provided at Section 303(e) of the CWA, 33 U.S.C. 1313(e),
19 and at 40 CFR 130.5, as codified as of the Effective Date of this
20 Consent Decree or as subsequently amended.

21 ESTABLISHMENT OF TMDLS

22 3. The parties understand that California has the initial
23 opportunity pursuant to Section 303(d) of the Act to adopt and
24 submit to EPA for approval TMDLs to be established under this
Consent Decree. However, EPA agrees to ensure that a TMDL will
be completed for each and every pairing of a WQLS and an
associated pollutant in the Los Angeles Region set forth in

AMENDED CONSENT DECREE:

Heal the Bay, Santa Monica BayKeeper, et al. v. Browner, et al.

1 Attachment 2 (incorporated herein as if set forth in full, and
2 referred to herein as "the List of Waters and Pollutants Covered
3 by the Consent Decree") by completing the following:

4 (a) Schedule for Specified Waters. With respect to each
5 and every pairing of a WQLS and an associated pollutant set forth
6 in each TMDL Analytical Unit identified in the "Schedule for
7 Specified Waters" (Attachment 3, incorporated herein as if set
8 forth in full), EPA shall either:

9 (i) approve a TMDL submitted by the State by the
10 date identified in Attachment 3, or

11 (ii) if EPA has not approved a TMDL by the date
12 identified in Attachment 3, establish a TMDL within one (1) year
13 after the date identified in Attachment 3, unless the State
14 submits and EPA approves a TMDL prior to EPA establishing the
15 TMDL within EPA's one year backstop period; and

16 (b) Minimum Pace Requirement. EPA shall assure that a
17 minimum pace for TMDL development is achieved by either, (i)
18 approving, by the following deadlines, a TMDL for each and every
19 pairing of a WQLS and an associated pollutant set forth in the
20 following aggregate number of "TMDL Analytical Units" (Attachment
21 2) submitted by the State:

<u>Date</u>	<u>Cumulative</u> <u>TMDL Analytical Units</u>
1 year after the Effective Date	1
2 years " " " "	4
3 years " " " "	9
4 years " " " "	14

24 AMENDED CONSENT DECREE:

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1	5 years	"	"	"	"	19
2	6 years	"	"	"	"	24
3	7 years	"	"	"	"	29
4	8 years	"	"	"	"	34
5	9 years	"	"	"	"	39
6	10 years	"	"	"	"	44
7	11 years	"	"	"	"	53
8	12 years	"	"	"	"	58;

8 or, (ii) establishing, within one (1) year of each deadline set
9 forth above, a TMDL for each and every pairing of a WQLS
10 and an associated pollutant needed to complete the aggregate
11 number of TMDL Analytical Units required for that deadline,
12 unless the State submits and EPA approves a TMDL prior to EPA
13 establishing the TMDL within EPA's one year backstop period; and

14 (c) Final Deadline. By thirteen (13) years after the
15 Effective Date, approve or establish a TMDL for each and every
16 remaining pairing of a WQLS and an associated pollutant in the
17 Los Angeles Region set forth in the List of Waters and Pollutants
18 Covered by the Consent Decree (Attachment 2). If EPA finds it
19 necessary to utilize year thirteen (13) of this schedule to
20 satisfy this obligation, EPA shall assure that TMDLs approved or
21 established in year thirteen (13) are for low priority WQLSs
22 covered by this Consent Decree, TMDLs for higher priority WQLSs
23 covered by this Consent Decree having been approved or
24 established in years one (1) through twelve (12) of the schedule.
"Low priority" and "higher priority" herein refer to priorities
set forth in the California 1998 Section 303(d) List, as approved

1 by EPA, October, 1998, although the inclusion of one or more
2 "low" priority WQLS(s) and associated pollutant(s) in an
3 Analytical Unit contained in Attachment 3 is not intended to
4 affect, nor affects, the schedule required therein.

5 4. Where the parties mutually consent to any revision of
6 Attachments 2 and/or 3, such revision shall be effected by
7 written agreement submitted to the Court for approval, except for
8 extensions of sixty (60) days or less, which revision may be
9 effected by written agreement of the parties and notice to the
10 Court.

11 MEASURING COMPLIANCE WITH TMDL DEADLINES

12 5. The approval or establishment by EPA of a TMDL for each
13 and every pairing of a WQLS and an associated pollutant listed
14 within any TMDL Analytical Unit counts as completion of that TMDL
15 Analytical Unit for purposes of compliance with subparagraph
16 3(b), above. By way of illustration and example, credit under
17 paragraph 3(b) of the Consent Decree for completion of TMDL
18 Analytical Unit # 7 accrues when EPA approves or establishes 5
19 TMDLs: one TMDL for PCBs for each of the 5 listed WQLSs in TMDL
20 Analytical Unit # 7. Where a deadline for a specified TMDL
21 Analytical Unit is provided in Attachment 3, the approval or
22 establishment by EPA of a TMDL for each and every pairing of a
23 WQLS and an associated pollutant listed within that specified
24 TMDL Analytical Unit counts as completion of the specified TMDL
Analytical Unit for purposes of subparagraph 3(a), above, and
also for purposes of the milestones required by paragraph 3(b).
By way of illustration and example, credit under paragraph 3(a)

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1 of the Consent Decree for completion of TMDL Analytical Unit # 56
2 accrues when EPA approves or establishes 3 TMDLs: 1 TMDL for
3 lead (Pb), 1 TMDL for copper (Cu), and 1 TMDL for zinc (Zn) for
4 the listed WQLS, Marina del Rey Harbor - Back Basins.

5 Thereafter, this TMDL Analytic Unit also counts toward the
6 milestones required by paragraph 3(b).

7 6. EPA and the Plaintiffs understand that future
8 Section 303(d) Lists for the Los Angeles Region may include
9 additional WQLSs or pollutants ("Additional WQLSs or Pollutants")
10 that may warrant TMDL development prior to TMDL development for
11 some WQLSs or pollutants listed in Attachment 2. EPA's
12 obligation, if any, with respect to such Additional WQLSs or
13 Pollutants is not within the scope of this Consent Decree.
14 However, to the extent that EPA seeks credit under the Consent
15 Decree for completing a TMDL for an Additional WQLS or Pollutant,
16 it must follow the procedure described in Paragraph 7 to obtain
17 such credit.

18 7. After obtaining Plaintiffs' written agreement, which
19 consent Plaintiffs may at their sole discretion withhold, EPA
20 may, after Court approval, substitute one or more such Additional
21 WQLSs or Pollutants for an agreed upon number of WQLSs or
22 pollutants set forth in Attachment 2 and, after approving or
23 establishing a TMDL for each such Additional WQLS or Pollutant,
24 EPA may count that approved or established TMDL, in accordance
with the parties' agreement, for purposes of compliance with the
milestones contained in this Consent Decree. No implication

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1 shall be drawn as a result of Plaintiffs' rejection of a request
2 to substitute Additional WQLSs or Pollutants.

3 8. In fulfilling its obligations under this Consent
4 Decree, EPA is under no obligation to establish TMDLs for any
5 pairing of a WQLS and a pollutant that EPA determines for
6 purposes of this Decree only, consistent with Section 303(d) of
7 the Act and its implementing regulations, including 40 CFR
8 130.7(b), as codified as of the Effective Date of this Consent
9 Decree or as subsequently amended, does not require a TMDL or
10 which has been removed after the Effective Date from an EPA
11 approved California Section 303(d) list of waters requiring TMDLs
12 pursuant to Section 303(d)(1) of the Act, consistent with the
13 provisions of the Act and EPA's implementing regulations.

14 Accordingly, if it complies with the notification procedure
15 required by paragraph 9 of this Consent Decree, for the purposes
16 of measuring EPA's compliance with the milestones described in
17 paragraph 3, EPA may also count toward TMDL development any
18 pairing of a WQLS and a pollutant set forth in Attachments 2:

19 (i) after it is removed from a Section 303(d) list of waters
20 requiring a TMDL pursuant to Section 303(d)(1) (approved by EPA
21 after the Effective Date); or (ii) after EPA determines for
22 purposes of this Decree only, consistent with Section 303(d) and
23 40 CFR 130.7, as codified as of the Effective Date or this
24 Consent Decree or as subsequently amended, that a TMDL is not
required.

25 9. If EPA makes a determination pursuant to paragraph
26 8(ii) of the Consent Decree that a TMDL is not required for any

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1 pairing of a WQLS and a pollutant, EPA shall notify Plaintiffs
2 within thirty (30) days of EPA's determination and provide
3 Plaintiffs with the basis for its determination. EPA's
4 determination under paragraph 8(ii) is not a final agency action
5 subject to review independent of this Consent Decree. However,
6 if Plaintiffs do not concur with EPA's determination under
7 paragraph 8(ii), EPA agrees that the Court may solely for
8 purposes of determining EPA's compliance with the requirements of
9 paragraph 3 of this Consent Decree, and pursuant to a request by
10 Plaintiffs under paragraph 23 of the Consent Decree ("Dispute
11 Resolution"), review the record of EPA's determination under
12 paragraph 8(ii) and decide whether or not EPA's determination is
13 consistent with the Clean Water Act and its implementing
14 regulations, including 40 CFR 130.7, as codified as of the
15 Effective Date of this Consent Decree or as subsequently amended.
16 If the Court disapproves EPA's determination under paragraph
17 8(ii), then within six (6) months after that ruling (or if the
18 pairing of a WQLS and an associated pollutant is listed on
19 Attachment 3, then the later of six (6) months after the ruling
20 or the date the TMDL is scheduled to be complete), EPA shall
21 either: (i) approve a state established TMDL for each pairing of
22 a WQLS and an associated pollutant at issue or (ii) establish a
23 TMDL for each pairing of a WQLS and an associated pollutant at
24 issue.

TMDL PROGRESS REPORTS AND DOCUMENTATION

10. Beginning one year after the Effective Date and
continuing every year thereafter until fourteen (14) years after

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1 the Effective Date, EPA shall provide Plaintiffs, and any
2 interested party upon written request, with an annual written
3 progress report covering the one-year period just ended. Each
4 report shall be provided within ninety (90) days after the end of
5 the period that is the subject of the progress report, and with
6 respect to the Los Angeles Region shall identify:

7 a. the TMDLs submitted by the State during the
8 reporting period, the date of each submission, EPA action taken
9 on each submission and the date of the action taken;

10 b. the TMDLs that EPA established during the reporting
11 period; and

12 c. all WQLSs, and pollutants associated with each WQLS,
13 that are on the 1998 Section 303(d) list that are not included on
14 the most recent EPA approved Section 303(d) lists or which EPA
15 determined consistent with Section 303(d) and 40 CFR 130.7, as
16 codified as of the Effective Date of this Consent Decree or as
17 subsequently amended, do not need a TMDL.

18 11. Six (6) months after the Effective Date, and annually
19 thereafter for each of the next three (3) years, EPA shall by
20 conference call inform Plaintiffs of the general status of
21 actions to comply with the Consent Decree, including TMDLs
22 submitted, EPA action taken on each submission and the date of
23 that action, TMDLs approved or established by EPA, and all WQLSs
24 (and pollutants associated with those WQLSs) that are on the 1998
Section 303(d) list that are not included on the most recent EPA
approved Section 303(d) list or which EPA determined consistent
with Section 303(d) and 40 CFR 130.7, as codified as of the

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1 Effective Date of this Consent Decree or as subsequently amended,
2 do not need TMDLs.

3 12. These provisions do not limit Plaintiffs' rights under
4 the Freedom of Information Act or other public information
5 provisions of law.

6 CONTINUING PLANNING PROCESS

7 13. By three (3) months from the Effective Date:

8 a. EPA will provide Plaintiffs a copy of the State's
9 Continuing planning process ("CPP");

10 b. EPA will keep at EPA Region IX a copy of the most
11 recent State CPP reviewed by EPA for public review during the
12 pendency of this Consent Decree; and

13 c. EPA will publish in the Federal Register a notice
14 informing the public that: the CPP is available for public
15 review; that by six months from entry of the Consent Decree EPA
16 will prepare and make available to interested parties upon
17 request for their review and comment EPA's preliminary written
18 summary of its review of that portion of the CPP related to the
19 Section 303(d) program; and interested parties may request copies
20 of the CPP and EPA's preliminary written summary when available.

21 14. By six (6) months from the Effective Date, EPA will:

22 (a) review that portion of the CPP related to the Section 303(d)
23 program to determine whether it is consistent with Section 303(e)
24 of the Act, 33 U.S.C. 1313(e), and EPA's implementing regulations
at 40 CFR 130.5, as codified as of the Effective Date or as
subsequently amended; (b) prepare a preliminary written summary
of its review, including any recommendations for improvement;

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1 (c) provide the preliminary written summary to the Plaintiffs and
2 the State for comment; and (d) make the preliminary written
3 summary available for comment to other parties upon written
4 request. EPA will consider any comments on the preliminary
5 written summary submitted not later than forty-five (45) days
6 after the preliminary written summary is provided to the
7 Plaintiffs and the State for comment.

8 15. By nine (9) months from the Effective Date, EPA will
9 determine whether that portion of the CPP related to the Section
10 303(d) program is consistent with the Act and its implementing
11 regulations, and it will provide Plaintiffs and the State, and
12 any other interested persons upon request, with a final written
13 summary of EPA's review of the CPP that will include any
14 recommendations for improvement.

15 16. If the State does not modify its CPP to be consistent
16 with any EPA recommendations, the Act and its implementing
17 regulations, EPA shall take appropriate action as provided under
18 the Act and accompanying regulations.

19 REPORT REGARDING MONITORING, ASSESSMENT AND LISTING

20 17. By one (1) year from the Effective Date, EPA will
21 develop a final report evaluating and making any recommendations
22 regarding the Los Angeles Regional Water Quality Control Board's
23 water quality monitoring and assessment program and
24 Section 303(d) listing process. At least sixty (60) days prior
to finalizing the report, EPA will provide a preliminary copy of
the report to Plaintiffs and the Los Angeles Regional Water
Quality Control Board for comment. At that same time EPA will

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1 make a copy available for comment to other interested parties
2 upon prior written request. EPA will consider any comments on
3 the preliminary report submitted not later than forty-five (45)
4 days after the preliminary report is provided to Plaintiffs and
5 the Los Angeles Regional Water Quality Control Board for comment.

6 18. EPA will consider the final report, among other things,
7 to be existing and readily available water quality-related
8 information to be used in reviewing the next State Section 303(d)
9 list for the Los Angeles Region submitted after the Effective
10 Date of this Decree and for determining whether that list can be
11 approved under CWA Section 303(d) and EPA's implementing
12 regulations.

13 FORCE MAJEURE

14 19. The possibility exists that circumstances outside the
15 reasonable control of EPA could delay compliance with the
16 timetables contained in this Consent Decree. Such circumstances
17 may include, but are not limited to, catastrophic environmental
18 events requiring immediate and/or time-consuming response by EPA.
19 In addition, the parties recognize that the performance of the
20 Consent Decree is subject to fiscal and procurement laws and
21 regulations of the United States, which include, but are not
22 limited to, the Anti-Deficiency Act, 31 U.S.C. §§ 1341, et seq.
23 ("ADA"). Circumstances where the expenditure of funds may violate
24 the ADA and/or fiscal and procurement laws and regulations of the
United States include, but are not limited to, sufficient funds
not being appropriated as requested or appropriated funds not
being available for expenditure. Should a delay occur due to

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1 force majeure circumstances, any resulting failure to meet the
2 timetables set forth herein shall not constitute a failure to
3 comply with the Consent Decree. EPA will provide notice to the
4 Plaintiffs after EPA becomes aware of the need for such delay,
5 and will provide Plaintiffs with an explanation of EPA's basis
6 for invoking this term. Plaintiffs may challenge the invocation
7 of this term of the Consent Decree under the dispute resolution
8 terms of this Consent Decree, and EPA shall bear the burden of
9 justifying its invocation of this term.

10 MODIFICATIONS AND EXTENSIONS

11 20. Any dates set forth in this Consent Decree may be
12 extended by written agreement of the parties and notice to the
13 Court. To the extent the parties are not able to agree to an
14 extension, either party may seek a modification to the Consent
15 Decree for good cause shown and in accordance with the procedures
16 specified below:

17 a. If a party files a motion requesting modification of
18 a date or dates established by the Consent Decree and provides
19 notice to the other party at least thirty (30) days prior to
20 filing such motion, and files the motion at least sixty (60) days
21 prior to the date for which modification is sought, then the
22 filing of such motion shall, upon request, automatically extend
23 the date for which modification is sought. Such extension shall
24 remain in effect until the earlier to occur of (i) a dispositive
ruling by the Court on such motion, (ii) the date sought in the
modification, or (iii) sixty (60) days after the original date
for which modification is sought. The party may move the Court

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1 for a longer extension. In the absence of a dispositive ruling
2 from the Court, only one such automatic stay shall be permitted
3 for each deadline for which modification is sought.

4 b. If a party files a motion requesting modification of
5 a date or dates established by the Consent Decree totaling thirty
6 (30) days or less, provides notice to the other party at least
7 thirty (30) days prior to the filing of such motion, and files
8 the motion at least seven (7) days prior to the date for which
9 modification is sought, then the filing of such motion shall,
10 upon request, stay the date for which modification is sought.
11 Such stay shall remain in effect until the earlier to occur of
12 (i) a dispositive ruling by this Court on such motion, or (ii)
13 the date sought in the modification. In the absence of a
14 dispositive ruling from the Court, only one such automatic stay
15 shall be permitted for each deadline for which modification is
16 sought.

17 c. If a party seeking modification does not provide
18 notice pursuant to subparagraphs a. or b., above, that party may
19 move the Court for a stay of the date for which modification is
20 sought. The party seeking modification under this subparagraph
21 shall give notice to the other party as soon as possible of its
22 intent to seek a modification and/or stay of the date sought to
23 be modified.

24 d. Any motion to modify the schedule established in
this Consent Decree shall be accompanied by a motion for
expedited consideration.

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NOTICE

26. Any notice required or made with respect to the Consent Decree shall be in writing and shall be effective upon receipt. For any matter relating to the Consent Decree, the contact persons are:

For the Plaintiffs:

David S. Beckman
Alex N. Helperin
Natural Resources Defense Council, Inc.
6310 San Vicente Blvd., Suite 250
Los Angeles, CA 90048

Mark Gold, Executive Director
Steve Fleischli, Law and Policy Analyst
Heal the Bay
2701 Ocean Park Blvd., Suite 150
Santa Monica, CA 90405

Terry Tamminen, Executive Director
Santa Monica BayKeeper
P.O. Box 10096
Marina del Rey, CA 90295

For the United States:

Associate General Counsel, Water Law Office
Office of General Counsel, 2355
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Director
Water Division
U.S. Environmental Protection Agency,
Region 9
75 Hawthorne St.
San Francisco, CA 94105

AMENDED CONSENT DECREE:

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1 Regional Counsel
2 EPA Region 9
3 U.S. Environmental Protection Agency,
4 Region 9
5 75 Hawthorne St.
6 San Francisco, CA 94105

7 and

8 Chief
9 Environmental Defense Section
10 Environment & Natural Resources Division
11 United States Department of Justice
12 P.O. Box 23986
13 Washington, D.C. 20026-3986

14 Upon written notice to the other parties, any party may designate
15 a successor contact person for any matter relating to the Consent
16 Decree.

17 REPRESENTATIVE AUTHORITY

18 27. Each undersigned representative of a party to the
19 Consent Decree certifies that he or she is fully authorized by
20 the party to enter into and execute the terms and conditions of
21 the Consent Decree, and to legally bind such party to the Consent
22 Decree. By the signatures below, all of the Plaintiffs and EPA
23 consent to entry of this Consent Decree.

24 SECURING COURT APPROVAL

25 28. Upon signature of each undersigned representative of
26 each party to this Consent Decree, Plaintiffs and EPA agree to
27 join in and support such legal proceedings as necessary to secure
28 the Court's timely approval and entry of this Consent Decree.

29 AMENDED CONSENT DECREE:

30 *Heal the Bay, Santa Monica BayKeeper, et al. v. Browner, et al.*

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SEVERABILITY

29. If any provision of the Consent Decree is deemed invalid or unenforceable, the balance of the Consent Decree shall remain in full force and effect.

ENTIRE AGREEMENT

30. This Consent Decree and the Settlement Agreement are the entire agreement between Plaintiffs and EPA in this case. All prior conversations, meetings, discussions, drafts and writings of any kind are specifically superseded by this Consent Decree and the Settlement Agreement.

MUTUAL DRAFTING

31. It is hereby expressly understood and agreed that this Consent Decree was jointly drafted by Plaintiffs and EPA. Accordingly, the parties hereby agree that any and all rules of construction to the effect that ambiguity is construed against the drafting party shall be inapplicable in any dispute concerning the terms, meaning, or interpretation of this Consent Decree.

COUNTERPARTS

32. This Consent Decree may be executed in any number of counterpart originals, each of which shall be deemed to constitute an original agreement, and all of which shall constitute one agreement. The execution of one counterpart by a party's undersigned representative shall have the same force and effect as if that undersigned representative had signed all other counterparts.

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EFFECTIVE DATE

33. This Consent Decree shall become effective upon the date of its entry by the Court; however, the obligation to join in and support such legal proceedings as necessary to secure the Court's timely approval and entry of this Consent Decree accrues upon signature of the agreement by each undersigned representative of each party. If for any reason the Court does not enter this Consent Decree, this Consent Decree shall not become effective.

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RELEASE BY PLAINTIFFS

34. Upon entry by the Court of the Consent Decree, the Consent Decree and accompanying Settlement Agreement shall constitute a final resolution between Plaintiffs and EPA of all counts of the Complaint. Except for claims which may arise under the provisions of the Consent Decree and/or the Settlement Agreement, and/or claims that are reserved by provisions of the Consent Decree (including without limitation paragraph 35) and/or the Settlement Agreement, Plaintiffs hereby release, discharge, and covenant not to assert (by way of the commencement of an action, the joinder of EPA in an existing action or in any other fashion) any and all claims, causes of action, suits or demands of any kind whatsoever in law or in equity which it may have had, or may now or hereafter have, against EPA based upon matters which have been asserted in the Complaint.

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RESERVATION OF RIGHTS

35. This Consent Decree and the Settlement Agreement do not waive or limit in any way Plaintiffs' rights except as expressly provided therein. Nothing in the Consent Decree or Settlement Agreement shall be construed to waive or limit any right to challenge or file suit on matters including, but not limited to, (1) California's 1998 or subsequent Section 303(d) Lists, whether such Section 303(d) Lists are prepared by California or by EPA; (2) any TMDLs, whether such TMDLs are established by California or by EPA, and/or TMDL implementation; (3) non-TMDL CWA obligations, such as the issuance, reissuance, modification, or revocation and reissuance of NPDES permits; or (4) the failure to establish TMDLs for waters and/or pollutants outside the Los Angeles Region or for Additional WQLSs or Pollutants in the Los Angeles Region. EPA reserves all of its claims and defenses in any such action.

USE OF CONSENT DECREE

36. This Consent Decree shall not constitute an admission or evidence of any fact, wrongdoing, misconduct, or liability on the part of the United States, its officers, or any person affiliated with it.

APPLICABLE LAW

37. This Consent Decree shall be governed and construed under the laws of the United States.

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THIRD-PARTY BENEFICIARIES

38. Nothing in this Consent Decree shall be construed to make any other person or entity not executing the Consent Decree a third-party beneficiary to the Consent Decree.

TERMINATION OF CONSENT DECREE AND DISMISSAL OF CLAIMS

39. The Consent Decree shall terminate after fulfillment of all the obligations of EPA under the Consent Decree. Upon termination of the Consent Decree, this case shall be dismissed with prejudice. EPA and Plaintiffs shall jointly file the appropriate notice with the Court so that the Clerk of the Court may close the file.

COSTS

40. EPA agrees that Plaintiffs are entitled to reasonable attorneys' fees and costs accrued as of the Effective Date of the Consent Decree and fees reasonably incurred in obtaining those fees. The parties shall make a good faith effort to reach agreement as to the appropriate amount of the recovery. If the parties cannot reach agreement, Plaintiffs shall file any request for attorneys' fees within ninety (90) days of the Effective Date of the Consent Decree. EPA shall have forty-five (45) days to respond to Plaintiffs' fee request. Nothing herein limits the right of Plaintiffs to seek recovery of reasonable attorneys' fees and costs for monitoring or enforcement of this Consent Decree after the Effective Date to the extent permitted by law, nor limits EPA's right to oppose any such request.

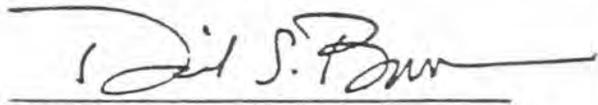
AMENDED CONSENT DECREE:

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1 On behalf of the party or parties designated below, the
2 undersigned agree to the foregoing Consent Decree, and consent to
3 its entry as an order of the Court forthwith.

4
5 For: SANTA MONICA BAYKEEPER, INC., and
6 TERRY TAMMINEN

7 Date: 2/19/99


8 DAVID S. BECKMAN
9 ALEX N. HELPERIN
10 Natural Resources Defense Council
11 6301 San Vicente Blvd., Suite 250
12 Los Angeles, CA 90048

13
14 Counsel for PLAINTIFFS SANTA MONICA
15 BAYKEEPER, INC., and TERRY TAMMINEN

16 For: HEAL THE BAY, INC.

17 Date: 2/19/99


18 STEVEN FLEISCHLI
19 Heal the Bay, Inc.
20 2701 Ocean Park Blvd., Suite 150
21 Santa Monica, CA 90405

22
23 Counsel for Plaintiff HEAL THE BAY,
24 INC.

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FOR CAROL BROWNER, FELICIA MARCUS, and THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

LOIS J. SCHIFFER
Assistant Attorney General
Environmental and Natural
Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Date: 2/19/99



S. RANDALL HUMM
Environmental Defense Section
Department of Justice
P.O. Box 23986
Washington, D.C. 20026-3986

Counsel for Carol Browner, Felicia
Marcus, and the United States
Environmental Protection Agency

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ORDER

UPON CONSIDERATION OF THE FOREGOING, the Court hereby finds that this Amended Consent Decree is fair and reasonable, both procedurally and substantively, consistent with applicable law, in good faith, and in the public interest. THE FOREGOING Amended Consent Decree is hereby APPROVED AND ENTERED AS FINAL JUDGMENT.

SIGNED and ENTERED this 22nd day of March, 1999.

SANDRA BROWN ARMSTRONG
JUDGE, UNITED STATES DISTRICT COURT

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Heal the Bay, Santa Monica BayKeeper, et al. v. Browner, et al.

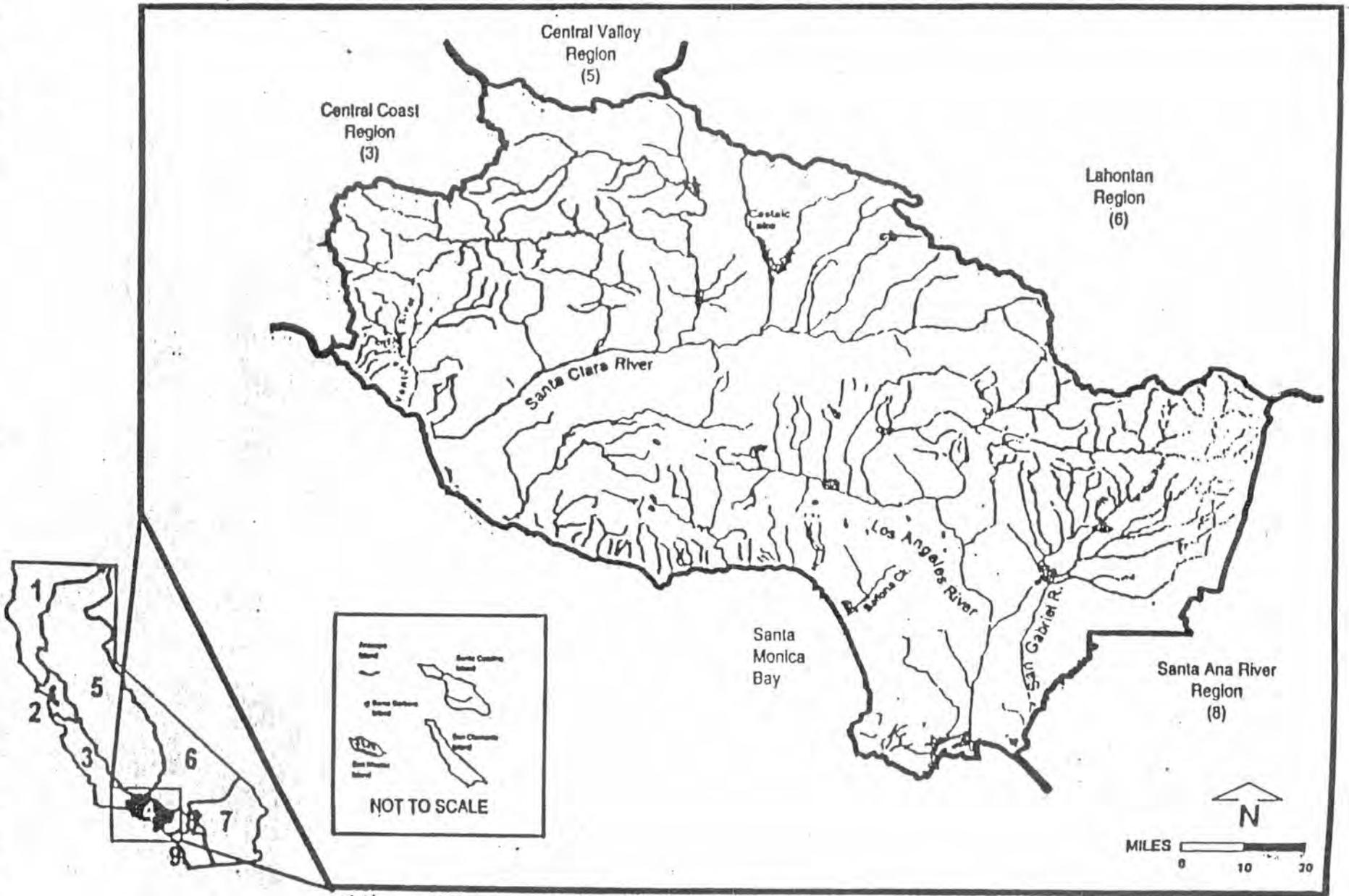


Figure 1-1. Regional Map: Regional Water Quality Control Board, Los Angeles Region.

ATTACHMENT 2
LIST OF WATERS AND POLLUTANTS COVERED BY THE CONSENT DECREE¹

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
1	Calleguas Creek	Fox Barranca Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca) Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca) Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn) Calleguas Creek Reach 1 (estuary to 0.5 mi. S. of Broome Rd.) Calleguas Creek Reach 1 (estuary to 0.5 mi. S. of Broome Rd.) Calleguas Creek Reach 2(0.5 ml. S. of Broome Rd. to Potrero Rd.) Calleguas Creek Reach 2(0.5 ml. S. of Broome Rd. to Potrero Rd.) Calleguas Creek Reach 3 (Potrero to Somis Rd.) Conejo Creek/Arroyo Conejo N. Fork Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd) Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd) Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd) Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit) Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit) Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit) Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.) Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.) Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.) Conejo Creek Reach 4 (above Lynn Rd.) Conejo Creek Reach 4 (above Lynn Rd.) Conejo Creek Reach 4 (above Lynn Rd.) Revolon Slough Main Branch (Mugu Lagoon to Central Ave.) Revolon Slough Main Branch (Mugu Lagoon to Central Ave.) Beardsley Channel (above Central Ave.) Beardsley Channel (above Central Ave.) Mugu Lagoon Duck pond agric. drain/Mugu Drain/Oxnard Drain #2	nitrate + nitrite NH3 nitrate + nitrite NH3 nitrate + nitrite NH3 NH3 nitrogen NH3 nitrogen nitrate + nitrite NH3 NH3 algae low DO/org. enrichment NH3 algae low DO/org. enrichment NH3 algae low DO/org. enrichment NH3 algae Low DO/org. enrichment nitrogen algae nitrogen algae nitrogen nitrogen

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List of Water Quality Limited Segments
Requiring TMDL(s)

Associated 303(d) Listed Pollutant(s) for
which TMDL(s) shall be completed

2

Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd) toxicity
 Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit) toxicity
 Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.) toxicity
 Conejo Creek Reach 4 (above Lynn Rd.) toxicity
 Calleguas Creek Reach 1 (estuary to 0.5 mi. S. of Broome Rd.) toxicity
 Calleguas Creek Reach 2 (0.5 mi. S. of Broome Rd. to Polrero Rd.) toxicity
 Duck pond agric. drain/Mugu Drain/Oxnard Drain #2 toxicity
 Revolon Slough Main Branch (Mugu Lagoon to Central Ave.) toxicity
 Revolon Slough Main Branch (Mugu Lagoon to Central Ave.) chlorpyrifos
 Beardsley Channel (above Central Ave.) toxicity
 Beardsley Channel (above Central Ave.) chlorpyrifos

3

Tapo Canyon Reach 1 chloride
 Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn) chloride
 Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) chloride
 Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca) chloride
 Calleguas Creek Reach 3 (Polrero to Somis Rd.) chloride
 Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit) chloride
 Conejo Creek Reach 4 (above Lynn Rd.) chloride

4

Fox Barranca Boron, sulfate, TDS
 Tapo Canyon Reach 1 Boron, sulfate, TDS
 Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn) Boron, sulfate, TDS
 Arroyo Simi Reach 2 (above Brea Canyon) Boron, sulfate, TDS
 Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca) sulfate, TDS
 Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) sulfate, TDS
 Calleguas Creek Reach 3 (Polrero to Somis Rd.) TDS
 Conejo Creek/Arroyo Conejo N. Fork sulfate, TDS
 Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd) sulfate, TDS
 Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit) sulfate, TDS
 Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.) sulfate, TDS
 Conejo Creek Reach 4 (above Lynn Rd.) sulfate, TDS

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Requiring TMDL(s)

Associated 303(d) Listed Pollutant(s) for
which TMDL(s) shall be completed

Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca)	DDT
Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23))	DDT
Conejo Creek/Arroyo Conejo N. Fork	chlordan, DDT
Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd.)	ChemA, dacthal, DDT, endosulfan, toxaphene
Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	ChemA, dacthal, DDT, endosulfan, toxaphene
Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	ChemA, dacthal, DDT, endosulfan, toxaphene
Conejo Creek Reach 4 (above Lynn Rd.)	ChemA, dacthal, DDT, endosulfan, toxaphene
Calleguas Creek Reach 1 (estuary to 0.5 mi. S. of Broome Rd.)	sediment toxicity
Calleguas Creek Reach 1 (estuary to 0.5 mi. S of Broome Rd.)	ChemA, chlordan, DDT, endosulfan, toxaphene
Calleguas Creek Reach 2 (0.5 mi. S. of Broome Rd. to Potrero Rd.)	sediment toxicity
Calleguas Creek Reach 2 (0.5 mi. S of Broome Rd. to Potrero Rd.)	ChemA, chlordan, dacthal, DDT, endosulfan, toxaphene
Duck pond agric. drain/Mugu Drain/Oxnard Drain #2	ChemA, DDT, chlordan, toxaphene
Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	ChemA, chlordan, dacthal, DDT, dieldrin, endosulfan, toxaphene
Beardsley Channel (above Central Ave.)	ChemA, chlordan, dacthal, DDT, dieldrin, endosulfan, toxaphene
Mugu Lagoon	siltation
Mugu Lagoon	sediment toxicity
Duck pond agric. drain/Mugu Drain/Oxnard Drain #2	sediment toxicity
Mugu Lagoon	Chlordan, dacthal, DDT, endosulfan, toxaphene
Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn)	Cr, Ni, Ag, Zn
Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	Cd, Cr, Ni, Ag
Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	Cd, Cr, Ni, Ag
Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd)	Cd, Cr, Ni, Ag
Mugu Lagoon	Hg
Mugu Lagoon	Cu, Ni, Zn
Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn)	Se
Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	Se
Calleguas Creek Reach 1 (estuary to 0.5 mi. S of Broome Rd.)	PCBs
Calleguas Creek Reach 2 (0.5 mi. S of Broome Rd. to Potrero Rd.)	PCBs
Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	PCBs
Beardsley Channel (above Central Ave.)	PCBs
Mugu Lagoon	PCBs

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TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
8		Rio de Santa Clara/Oxnard Drain #3 Rio de Santa Clara/Oxnard Drain #3 Rio de Santa Clara/Oxnard Drain #3	PCBs ChemA, chlordanes, DDT, toxaphene sediment toxicity
9		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.) Beardsley Channel (above Central Ave.)	trash trash
10		Rio de Santa Clara/Oxnard Drain #3	nitrogen
11	Los Angeles River	Tujunga Wash (d/s Hansen Dam to Los Angeles River) Tujunga Wash (d/s Hansen Dam to Los Angeles River) Los Angeles River Reach 5 (within Sepulveda Basin) Los Angeles River Reach 5 (within Sepulveda Basin) Los Angeles River Reach 5 (within Sepulveda Basin) Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.) Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.) Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.) Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.) Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.) Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.) Los Angeles River Reach 2 (Figueroa St. to w/s Carson St.) Los Angeles River Reach 2 (Figueroa St. to w/s Carson St.) Los Angeles River Reach 2 (Figueroa St. to w/s Carson St.) Los Angeles River Reach 1 (w/s Carson St. to estuary) Los Angeles River Reach 1 (w/s Carson St. to estuary) Los Angeles River Reach 1 (w/s Carson St. to estuary) Los Angeles River Reach 1 (w/s Carson St. to estuary) Burbank Western Channel Burbank Western Channel Burbank Western Channel Verdugo Wash (Reaches 1 & 2)	NH3 scum, odors NH3 scum, odors nutrients (algae) NH3 scum, odors nutrients (algae) NH3 odors, scum nutrients (algae) NH3 odors, scum nutrients (algae) NH3 pH scum nutrients (algae) NH3 Algae odors, scum algae

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Requiring TMDL(s)

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which TMDL(s) shall be completed

	Arroyo Seco Rch 1 (d/s Devil's Gate Dam) & Rch 2 (W. Holly Ave. to Devil's Gate)	algae
	Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	NH3
	Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	pH
	Rio Hondo Reach 2 (from Whittier Narrows Flood Control Basin to Spreading Grounds)	NH3
	Compton Creek	pH
12	Tujunga Wash (d/s Hansen Dam to Los Angeles River)	trash
	Los Angeles River Reach 5 (within Sepulveda Basin)	trash
	Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	trash
	Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.)	trash
	Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	trash
	Los Angeles River Reach 1 (u/s Carson St. to estuary)	trash
	Burbank Western Channel	trash
	Verdugo Wash (Reaches 1 & 2)	trash
	Arroyo Seco Reach 1 (d/s Devil's Gate Dam) & Reach 2 (W. Holly Ave. to Devil's Gate)	trash
	Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	trash
13	Tujunga Wash (d/s Hansen Dam to Los Angeles River)	Cu
	Compton Creek	Cu, Pb
	Burbank Western Channel	Cd
	Los Angeles River Reach 1 (u/s Carson St. to estuary)	Pb
	Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	Pb
	Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	Pb
	Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	Cu, Zn
	Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	Pb
	Monrovia Cyn Creek	Pb
	Aliso Canyon Wash	Se
14	Los Angeles River Reach 5 (within Sepulveda Basin)	chlorpyrifos
15	Tujunga Wash (d/s Hansen Dam to Los Angeles River)	coliform
	Los Angeles River Reach 6 (u/s of Sepulveda Basin)	coliform

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Associated 303(d) Listed Pollutant(s) for
which TMDL(s) shall be completed

	Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	coliform
	Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	coliform
	Los Angeles River Reach 1 (u/s Carson St. to estuary)	coliform
	Verdugo Wash (Reaches 1 & 2)	Coliform
	Arroyo Seco Rch 1 (d/s Devil's Gate Dam) & Rch 2 (W. Holly Ave. to Devil's Gate)	Coliform
	Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	coliform
	Rio Hondo Reach 2 (from Whittier Narrows Flood Control Basin to Spreading Grounds)	coliform
	Compton Creek	coliform
	Bell Creek	coliform
16	Peck Rd Lake	trash
	Echo Park Lake	trash
	Lincoln Park Lake	trash
17	Peck Rd Lake	low DO, org. enrichment
	Peck Rd Lake	odors
	Lincoln Park Lake	NH3
	Lincoln Park Lake	Low DO/org. enrichment
	Lincoln Park Lake	Eutroph.
	Lincoln Park Lake	odors
	Echo Park Lake	pH
	Echo Park Lake	Eutroph., NH3, algae
	Echo Park Lake	odors
	Lake Calabasitas	NH3
	Lake Calabasitas	Eutroph.
	Lake Calabasitas	Low DO, org. enrichment
	Lake Calabasitas	pH
	Lake Calabasitas	odors
18	Los Angeles River Reach 5 (within Sepulveda Basin)	ChemA
19	Echo Park Lake	PCBs
	Peck Rd Lake	DDT, chlordane

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
20	Lake Calabasas	Peck Rd Lake Lincoln Park Lake Echo Park Lake Lake Calabasas	Pb Pb Cu, Pb Cu, Zn
21		Los Angeles River Reach 5 (within Sepulveda Basin) Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	oil oil
22		Los Angeles River Reach 6 (u/s of Sepulveda Basin)	Volatile organics
	Miscellaneous Ventura Coastal Waters WMA		
23		McGrath Beach McGrath Beach Mandalay Beach Santa Clara River Estuary Beach/Surfers Knoll)	Coliform beach closures beach closures coliform
24		Ventura Harbor: Ventura Keys	Coliform
25		McGrath Lake McGrath Lake	chlordanes, DDT, other pesticides sediment toxicity
26		Port Hueneme Harbor	DDT, PCBs
27		Port Hueneme Harbor	PAHs
28		Port Hueneme Harbor	Zn
29		Channel Islands Harbor	Pb, Zn
30		Port Hueneme Harbor	TBT

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Requiring TMDL(s)

Associated 303(d) Listed Pollutant(s) for
which TMDL(s) shall be completed

Santa Clara River

31

Santa Clara River Reach 3 (Dam to abv Sp. Crk./btw Timber Cyn)

chloride

32

Wheeler Canyon/Todd Barranca

nitrate + nitrite

Torrey Canyon Creek

nitrate + nitrite

Brown Barranca/Long Canyon

nitrate + nitrite

Mint Canyon Creek Reach 1

nitrate + nitrite

Santa Clara River Reach 9 (Bouquet Cyn Rd to abv Lang Gaging)

org. enrichment/lowDO

Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd Bridge)

NH3, nitrate + nitrite

Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd Bridge)

org. enrichment/lowDO

Santa Clara River Reach 7 (Blue Cut to West Pier Hwy 99)

NH3

Santa Clara River Reach 3 (Dam to abv Sp. Crk./btw Timber Cyn)

NH3

Santa Clara River Reach 7 (Blue Cut to West Pier Hwy 99)

nitrate + nitrite

33

Santa Clara River Estuary

ChemA, toxaphene

34

Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd Bridge)

coliform

Santa Clara River Estuary

Coliform

35

Elizabeth Lake

Eutroph.

Elizabeth Lake

DO, pH

Lake Hughes

Eutroph.

Lake Hughes

fish kills

Lake Hughes

algae

Lake Hughes

odors

Munz Lake

Eutroph.

36

Elizabeth Lake

trash

Munz Lake

trash

Lake Hughes

trash

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List of Water Quality Limited Segments
Requiring TMDL(s)

Associated 303(d) Listed Pollutant(s) for
which TMDL(s) shall be completed

San Gabriel River Watershed

37

San Gabriel River Reach 3 (Whittier Narrows to Ramona)
San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam)
San Gabriel River Reach 1 (Estuary to Firestone)
San Gabriel River Reach 1 (Estuary to Firestone)
San Gabriel River Reach 1 (Estuary to Firestone)
San Jose Creek Reach 2 (Temple to I-10 at White Ave.)
San Jose Creek Reach 2 (Temple to I-10 at White Ave.)
San Jose Creek Reach 1 (SG confluence to Temple St.)
San Jose Creek Reach 1 (SG confluence to Temple St.)
Coyote Creek
Coyote Creek
Walnut Creek
Walnut Creek

toxicity
NH3
NH3
algae
toxicity
NH3
algae
NH3
algae
NH3
algae
toxicity
pH

38

San Gabriel River East Fork

trash

39

San Jose Creek Reach 2 (Temple to I-10 at White Ave.)
San Gabriel River Estuary
Coyote Creek

Pb
As
Ag

40

Legg Lake

trash

41

Puddingstone Reservoir

DDT, PCBs, chlordane

42

El Dorado Lakes
El Dorado Lakes
Puddingstone Reservoir
Legg Lake
Santa Fe Dam Park Lake

Hg
Cu, Pb
Hg
Cu, Pb
Pb, Cu

43

Coyote Creek
San Gabriel River Reach 1 (Estuary to Firestone)

abnormal fish histology
abnormal fish histology

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
44	Santa Monica Bay WMA	San Gabriel River Estuary El Dorado Lakes El Dorado Lakes Crystal Lake Legg Lake Legg Lake Legg Lake Puddingstone Reservoir Santa Fe Dam Park Lake	abnormal fish histology algae, NH3, eutroph. pH org. enrichment/lowDO NH3 pH odors low DO, org. enrichment pH
45	Santa Monica Bay WMA	San Jose Creek Reach 1 (SG confluence to Temple St.) San Jose Creek Reach 2 (Temple to I-10 at White Ave.) San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam) San Gabriel River Reach 1 (Estuary to Firestone) Coyote Creek	coliform coliform coliform coliform coliform
46	Santa Monica Bay WMA	Marina Del Rey Harbor Beach Marina Del Rey Harbor Beach Marine del Rey Harbor - Back Basins	beach closures coliform coliform
47	Santa Monica Bay WMA	Medea Creek Reach 2 (abv. confl. with Lindero) Medea Creek Reach 1 (lake to confl. with Lindero) Las Virgenes Creek Malibu Lagoon Malibu Lagoon Malibu Lagoon Malibu Creek: lagoon to Malibu Lake Stokes Creek Lindero Creek Reach 1 Lindero Creek Reach 2 (above lake) Palo Comado	coliform coliform coliform swimming restrictions coliform, enteric viruses shellfish harvesting ad. coliform Coliform coliform coliform Coliform

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Watershed

List of Water Quality Limited Segments
Requiring TMDL(s)

Associated 303(d) Listed Pollutant(s) for
which TMDL(s) shall be completed

Malibu Beach	beach closures
Malibu Lagoon Beach (Surfrider)	beach closures
Malibu Lagoon Beach (Surfrider)	coliform
Dockweiler Beach	beach closures
Dockweiler Beach	coliform
Redondo Beach	beach closures
Redondo Beach	coliform
Santa Monica Beach	beach closures
Santa Monica Beach	coliform
Paradise Cove Beach	beach closures
Paradise Cove Beach	coliform
Topanga Beach	beach closures
Topanga Beach	coliform
Las Flores Beach	coliform
Torrance Beach	beach closures
Torrance Beach	coliform
Trancas Beach (Broad Beach)	beach closures
Trancas Beach (Broad Beach)	coliform
Will Rogers Beach	beach closures
Will Rogers Beach	coliform
Big Rock Beach	coliform
Big Rock Beach	beach closures
Cabrillo Beach (Outer)	beach closures
Cabrillo Beach (Outer)	coliform
Venice Beach	beach closures
Venice Beach	coliform
Manhattan Beach	beach closures
Hermosa Beach	beach closures
Dan Blocker Memorial Beach	coliform
Leo Carillo Beach (south of County line)	Beach closures
Leo Carillo Beach (south of County line)	coliform
Long Point Beach	coliform
Whites Point Beach	beach closures

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Requiring TMDL(s)

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which TMDL(s) shall be completed

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Point Dume Beach	beach closures
Las Tunas Beach	beach closures
Point Vicente Beach	beach closures
Malaga Cove Beach	beach closures
Lunada Bay Beach	beach closures
Zuma (Westward Beach)	beach closures
Point Fermin Park Beach	beach closures
Puerco Beach	beach closures
Portugese Bend Beach	beach closures
Royal Palms Beach	beach closures
Sea Level Beach	beach closures
Rocky Point Beach	beach closures
Resort Point Beach	beach closures
Robert H. Meyer Memorial Beach	beach closures
Abalone Cove Beach	beach closures
Flat Rock Point Beach Area	beach closures
Escondido Beach	beach closures
Carbon Beach	beach closures
Castlerock Beach	beach closures
La Costa Beach	beach closures
Bluff Cove Beach	beach closures
Inspiration Point Beach	beach closures
Nicholas Canyon Beach	Beach closures
Palos Verdes Shoreline Point Beach	pathogens
Santa Monica Canyon	coliform
Ashland Avenue Drain	coliform
Sepulveda Canyon	coliform
Pico Kenter Drain	coliform, enteric viruses
Ballona Creek Estuary	coliform
Ballona Creek Estuary	shellfish harvesting adv.
Ballona Creek	coliform, enteric viruses

50

Malibu Lagoon	eutroph.
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	Malibu Creek: Lagoon to Malibu Lake	nutrients (algae)
	Malibu Creek: lagoon to Malibu Lake	unnatural scum/foam
	Las Virgenes Creek	nutrients (algae)
	Las Virgenes Creek	unnatural scum/foam
	Las Virgenes Creek	low DO, org. enrichment
	Lindero Creek Reach 2 (above lake)	unnatural scum/foam
	Lindero Creek Reach 2 (above lake)	algae
	Medea Creek Reach 2 (abv. confl. with Lindero)	algae
	Medea Creek Reach 1 (lake to confl. with Lindero)	algae
	Lindero Creek Reach 1	unnatural scum/foam
	Lindero Creek Reach 1	algae
	Mallbou Lake	algae, eutroph.
	Mallbou Lake	low DO, org. enrichment
	Lake Lindero	eutroph., algae
	Lake Lindero	odors
	Westlake Lake	NH3
	Westlake Lake	eutroph., algae
	Westlake Lake	low DO, org. enrichment
	Lake Sherwood	NH3
	Lake Sherwood	Eutroph., algae
	Lake Sherwood	low DO, org. enrichment
51	Ballona Wetland	trash
	Ballona Creek	trash
52	Santa Monica Bay Nearshore and Offshore Zone	Hg
	Santa Monica Bay Nearshore and Offshore Zone	Cd, Cu, Pb, Ni, Ag, Zn
53	Santa Monica Bay Nearshore and Offshore Zone	chlordanes
54	Marina del Rey Harbor - Back Basins	DDT, PCBs, chlordanes
	Marina del Rey Harbor - Back Basins	dieldrin
	Marina del Rey Harbor - Back Basins	benthic comm. effects
	Marina del Rey Harbor - Back Basins	fish consumption advisory

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	Malibu Lagoon Beach (Surfrider)	DDT, PCBs
	La Costa Beach	DDT, PCBs
	Big Rock Beach	DDT, PCBs
	Bluff Cove Beach	DDT, PCBs
	Cabrillo Beach (Outer)	DDT, PCBs
	Carbon Beach	DDT, PCBs
	Castlerock Beach	DDT, PCBs
	Escondido Beach	DDT, PCBs
	Flat Rock Point Beach Area	DDT, PCBs
	Inspiration Point Beach	DDT, PCBs
	Las Tunas Beach	DDT, PCBs
	Abalone Cove Beach	DDT, PCBs
	Malaga Cove Beach	DDT, PCBs
	Las Flores Beach	DDT, PCBs
	Long Point Beach	DDT, PCBs
	Malibu Beach	DDT
	Palos Verdes Shoreline Point Beach	pesticides
59	Sepulveda Canyon	NH3
	Pico Kenter Drain	NH3
60	Topanga Cyn Creek	Pb
	Sepulveda Canyon	Pb
	Pico Kenter Drain	Pb
	Pico Kenter Drain	Cu
	Pico Kenter Drain	toxicity
	Santa Monica Canyon	Pb
61	Westlake Lake	chlordanes
	Malibou Lake	chlordanes, PCBs
62	Ashland Avenue Drain	low DO, org. enrichment
63	Medea Creek Reach 2 (abv. confl. with Lindero)	trash

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		Medea Creek Reach 1 (lake to confl. with Lindero)	trash
		Lake Lindero	trash
		Lindero Creek Reach 2 (above lake)	trash
		Lindero Creek Reach 1	trash
		Malibu Creek: lagoon to Malibu Lake	trash
		Las Virgenes Creek	trash
64		Pico Kenter Drain	trash
65		Ballona Wetland	exotic vegetation
		Ballona Wetland	habitat alteration, hydromodification, reduced tidal flushing
66		Santa Monica Bay Nearshore and Offshore Zone	debris
67		Lake Lindero	chloride, spec. cond.
68		Westlake Lake	Pb
		Westlake Lake	Cu
		Malibu Lake	Cu
		Lake Sherwood	Hg
		Lake Calabajas	Zn
		Lake Calabajas	Cu
		Lake Lindero	Se
		Triunfo Cyn Creek Reach 1	Pb, Hg
		Triunfo Cyn Creek Reach 2	Pb, Hg
		Medea Creek Reach 2 (abv. confl. with Lindero)	Se
		Medea Creek Reach 1 (lake to confl. with Lindero)	Se
		Las Virgenes Creek	Se
		Lindero Creek Reach 2 (above lake)	Se
		Lindero Creek Reach 1	Se
69		Ashland Avenue Drain	toxicity

TMDL
ANALYTICAL
UNIT#

Watershed

List of Water Quality Limited Segments
Requiring TMDL(s)

Associated 303(d) Listed Pollutant(s) for
which TMDL(s) shall be completed

70

Ballona Creek
Marina del Rey Harbor - Back Basins

TBT
TBT

71

Malibu Lagoon

benthic comm. effects

Dominguez Channel and
LALB Harbors WMA

72

Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)
Cabrillo Beach (Inner) LA Harbor

beach closure
beach closures

73

Dominguez Channel Estuary (to Vermont)
Dominguez Channel Estuary (to Vermont)
Dominguez Channel Estuary (to Vermont)
Dominguez Channel (above Vermont)
Dominguez Channel (above Vermont)
Los Angeles Harbor: Consolidated Slip
Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)
Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)
Los Angeles Harbor: Southwest Slip
Los Angeles Harbor: Southwest Slip
San Pedro Bay nearshore and offshore zone: Cabrillo Pier area
San Pedro Bay nearshore and offshore zone: Cabrillo Pier area
Cabrillo Beach (Inner) LA Harbor
Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)
Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)
Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)
Machado Lake (Harbor Lake)

benthic comm. effects
ChemA, chlordane, DDT, PCBs
aldrin, dieldrin
ChemA, chlordane, DDT, PCBs
aldrin, dieldrin
benthic comm. effects
DDT, PCBs
sediment toxicity
chlordane
DDT, PCBs
sediment toxicity
DDT, PCBs
sediment toxicity
DDT, PCBs
sediment toxicity
DDT, PCBs
sediment toxicity
ChemA, chlordane, DDT, PCBs, dieldrin

74

Dominguez Channel (above Vermont)

PAHs

TMDL
ANALYTICAL
UNIT#

Watershed

List of Water Quality Limited Segments
Requiring TMDL(s)

Associated 303(d) Listed Pollutant(s) for
which TMDL(s) shall be completed

	Dominguez Channel Estuary (to Vermont)	PAHs
	Los Angeles Harbor: Consolidated Slip	PAHs
	Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)	PAHs
	Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)	PAHs
	San Pedro Bay nearshore and offshore zone: Cabrillo Pier area	PAHs
75	Torrance Carson Channel	Cu, Pb
	Wilmington Drain	Cu, Pb
	Dominguez Channel (above Vermont)	Cu, Pb
	Dominguez Channel (above Vermont)	Cr
	Dominguez Channel (above Vermont)	Zn
	Dominguez Channel Estuary (to Vermont)	Cu, Pb
	Dominguez Channel Estuary (to Vermont)	Cr
	Dominguez Channel Estuary (to Vermont)	Zn
	Los Angeles Harbor: Consolidated Slip	Pb
	Los Angeles Harbor: Consolidated Slip	Cr, Zn
	Los Angeles Harbor (part. Main Ch., Fish Hbr and breakwater)	Cu, Zn
76	Machado Lake (Harbor Lake)	algae, eutroph.
	Machado Lake (Harbor Lake)	NH3
	Machado Lake (Harbor Lake)	odors
77	Wilmington Drain	NH3
	Dominguez Channel (above Vermont)	NH3
	Dominguez Channel Estuary (to Vermont)	NH3
78	San Pedro Bay nearshore and offshore zone: Cabrillo Pier area	Zn, Cu, Cr
79	Los Angeles Harbor: Consolidated Slip	TBT
	Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)	TBT
80	Dominguez Channel (above Vermont)	coliform
	Dominguez Channel Estuary (to Vermont)	coliform

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PROOF OF SERVICE

STATE OF CALIFORNIA)
) SS.
COUNTY OF LOS ANGELES)

I am employed in the County of Los Angeles, State of California. I am over the age of 18 and not a party to the within action. My business address is: 6310 San Vicente Boulevard, Suite 250, Los Angeles, California 90048.

On March 25, 1999 I served the following document described as **AMENDED CONSENT DECREE** on the interested parties in said action by placing a true copy thereof in the United States mail enclosed in a sealed envelope with postage prepaid addressed as follows:

Gary Hess
Office of Regional Counsel
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

S. Randall Humm
United States Department of Justice
Environment & Natural Resources Division
Environment Defense Section
P.O. Box 23986
Washington, D.C. 20026-3986

I am "readily familiar" with the firm's practice of collection and processing correspondence for mailing. It is deposited with U.S. postal service on that same day in the ordinary course of business. I am aware that on motion of party served, service is presumed invalid if postal cancellation date or postage meter date is more than 1 day after date of deposit for mailing in affidavit.

I declare that I am employed in the office of a member of the bar of this Court at whose direction the service was made.

Executed on March 25, 1999 at Los Angeles, California.


Virginia Calvano

ATTACHMENT J-10

Los Angeles Regional Water Quality Control Board

February 15, 2018

Mr. John Landgard, EH&S Manager
Sentinel Peak Resources California, LLC
Inglewood Oil Field
5640 South Fairfax Avenue
Los Angeles, CA 90056

Dear Mr. Landgard:

TRANSMITTAL OF WASTE DISCHARGE REQUIREMENTS (WDRs) AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND TIME SCHEDULE ORDER – SENTINEL PEAK RESOURCES CALIFORNIA, LLC., INGLEWOOD OIL FIELD, LOS ANGELES, CALIFORNIA (NPDES NO. CA0057827, CI-6240)

On December 1, 2017, we transmitted you the tentative National Pollutant Discharge Elimination System (NPDES) Permit and the tentative Time Schedule Order (TSO) for the Inglewood Oil Field. After considering your comments submitted on January 5, 2018, we transmitted you the Response to Comments on January 29, 2018.

Pursuant to Division 7 of the California Water Code, this Regional Water Board at a public hearing held on February 8, 2018, reviewed the requirements in the tentative permit and the tentative TSO, considered all factors in the case, and adopted Order No. R4-2018-0020 for your waste discharge and Time Schedule Order No. R4-2018-0021. Order R4-2018-0020 serves as an NPDES permit, and it expires on March 31, 2023. Section 13376 of the California Water Code requires that an application/Report of Waste Discharge for a new permit must be filed at least 180 days before the expiration date.

Please note the following changes to the tentative requirements that were made by the Board during the hearing:

- The addition of Item iv in Section VI.C.3.a of the Order (page 20): The Discharger is required to submit a report to the Regional Board within 12 months of the effective date of this Order that analyzes the feasibility of implementing additional stormwater storage capacity to handle high-intensity storm events.

You are required to implement the Monitoring and Reporting Program (MRP) on the effective date (April 1, 2018) of Order No. R4-2018-0020. Your first quarterly monitoring report for the period of April 1, 2018 through June 30, 2018 is due by August 15, 2018. The semiannual progress report required by the TSO is also due by August 15, 2018.

Please continue to electronically submit Self-Monitoring Reports (SMRs) and the TSO semiannual progress reports using the State Water Resource Control Board's California Integrated Water Quality System (CIWQS) Program web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS web site will provide additional information for SMR and the progress report submittal in the event there is a planned service interruption for electronic submittal. Please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

Please convert all of the regulatory documents, submissions and correspondence that you would normally submit to us as hard copies to a searchable Portable Document Format (PDF). Please reference Inglewood Oil Field, NPDES No. CA0057827 and Compliance File CI-6240 on the documents. Documents that are less than 10 megabytes (MB) should be emailed to losangeles@waterboards.ca.gov with a copy to JauRen.Chen@waterboards.ca.gov. Documents that are 10 MB or larger should be transferred to a disk and mailed to the address listed above. If you need additional information regarding electronic submittal of documents please visit the Regional Water Board's website listed above and navigate to Paperless Office.

If you have any questions, please contact Jau Ren Chen at (213) 576-6656.

Sincerely,



Cassandra Owens, Chief
Industrial Permitting Unit

Enclosures

MAILING LIST (VIA EMAIL ONLY)

David Smith, Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
Robyn Stuber, Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
NPDES Wastewater Unit, State Water Resources Control Board, Division of Water Quality
Kenneth Wong, U.S Army Corps of Engineers
Bryant Chesney, NOAA, National Marine Fisheries Service
Jeff Phillips, Department of Interior, U.S. Fish and Wildlife Service
William Paznokas, Department of Fish and Game, Region 5
Daniel Dudak, California Department of Conservation, Division of Oil, Gas, and Geothermal Resources
Tim Smith, Los Angeles County, Department of Public Works, Waste Management Division
Bellete Yohannes, City of Los Angeles, Bureau of Sanitation, Industrial Waste Management
Angelo Bellomo, Los Angeles County, Department of Health Services
Sarah Sikich, Heal the Bay
Bruce Reznik, Los Angeles Waterkeeper
Corinne Bell, Natural Resources Defense Council
Jason Weiner, Ventura Coastkeeper

MAILING LIST (Continued)

Karly Katona, County of Los Angeles
Emily Duchon, ALTA Planning + Design
Randy Anderson, ALTA Planning + Design
Ana Petric, Mountain Recreation & Conservation Authority
Timothy Stapleton, Los Angeles County, Department of Regional Planning
Paul Ferrazzi, City of Culver City
Nabil Abu-Ghazaleh, West Los Angeles College
Glenn Striegler, Los Angeles Unified School District
Scott Zeidman, Culver City Unified School District
Roger Shockley, Vickers Family Trust
Liz Gosnell, Cone Fee Family Trust
Ian Cousineau, Raintree Community HOA
Gary Gless, Windsor Hills HOA
Jon Melvin, Blair Hills HOA
Catherine Cottles, United HOA (View Park)
Ronda Jones, Baldwin Hills Estates HOA
John Kuechle, Culver Crest Neighborhood Assoc.
Carmen Spiva, Ladera Heights Civic Association
George Mallory, Homeowner (Lewis Homes)
Irma Munoz, Homeowner (Baldwin Vista)
Toni Tabor, Windsor Hills Block Club
Lark Galloway-Gilliam, Community Health Councils, Inc.
Gwendolyn Flynn, Community Health Councils, Inc.
David McNeill, Baldwin Hills Conservancy
Robert Garcia, The City Project
Daniel Tormey, Catalyst Environmental Solutions
Christine Halley, Sentinel Peak Resources California, LLC
Jim Nelson, Sentinel Peak Resources California, LLC
James Ashby, PG Environmental
Sarah Torres, PG Environmental

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 • Fax (213) 576-6640
<http://www.waterboards.ca.gov/losangeles>

**ORDER NO. R4-2018-0020
NPDES NO. CA0057827**

**WASTE DISCHARGE REQUIREMENTS
FOR THE SENTINEL PEAK RESOURCES CALIFORNIA, LLC
INGLEWOOD OIL FIELD**

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

Table 1. Discharger Information

Discharger	Sentinel Peak Resources California, LLC
Name of Facility	Inglewood Oil Field
Facility Address	5640 South Fairfax Avenue
	Los Angeles, California 90056
	Los Angeles County

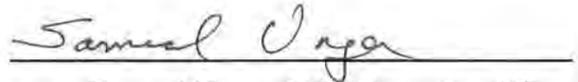
Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Storm water runoff and construction storm water	33.9894°	-118.3692°	Centinela Creek
002	Storm water runoff and construction storm water	34.0144°	-118.3747°	Ballona Creek Reach 2
003	Storm water runoff and construction storm water	34.9908°	-118.3611°	Centinela Creek
004	Storm water runoff and construction storm water	34.0008°	-118.3842°	Ballona Creek Reach 2
005	Storm water runoff and construction storm water	34.0081°	-118.3867°	Ballona Creek Reach 2
006	Storm water runoff and construction storm water	34.0100°	-118.3867°	Ballona Creek Reach 2

Table 3. Administrative Information

This Order was adopted on:	February 8, 2018
This Order shall become effective on:	April 1, 2018
This Order shall expire on:	March 31, 2023
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	180 days prior to the Order expiration date
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Los Angeles Region have classified this discharge as follows:	Major

I, Samuel Unger, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on **February 8, 2018**.

A handwritten signature in cursive script that reads "Samuel Unger". The signature is written in black ink and is positioned above a horizontal line.

Samuel Unger, P.E., Executive Officer

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I. FACILITY INFORMATION

Information describing Sentinel Peak Resources California, LLC, Inglewood Oil Field (Field or Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), finds:

- A. Legal Authorities.** This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge locations described in Table 2 subject to the WDRs in this Order.
- B. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through J are also incorporated into this Order.
- C. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, and V.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- D. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.
- E. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that this Order supersedes Order No. R4-2013-0021 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger is authorized to discharge from the identified Facility and outfalls into waters of the United States, and shall comply with the requirements in this Order. This action in no way prevents the Regional Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

- A.** Wastes discharged shall be limited to a maximum of 7.55 million gallons per day (MGD) of storm water (storm water runoff and construction storm water) through Discharge Points 001 through 006 as described in the Fact Sheet (Attachment F). The discharge of non-storm water (wastewater related to industrial activities) and wastes from accidental spills or other sources is prohibited.

- B. Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to a storm drain system, the Ballona Creek, or other waters of the State, are prohibited.
- C. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or a nuisance as defined by section 13050 of the Water Code.
- D. Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.
- E. The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board (State Water Board) as required by the federal CWA and regulations adopted thereunder.
- F. The discharge of oil or any residuary product of petroleum to waters of the State, except in accordance with the waste discharge requirements or other provisions of Division 7 of the Water Code, is prohibited.
- G. The discharge of any radiological, chemical, or biological warfare agent into the waters of the state is prohibited under Water Code section 13375.
- H. The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to waters of the United States, is prohibited unless specifically authorized elsewhere in this permit or another NPDES permit. This requirement is not applicable to products used for lawn and agricultural purposes.
- I. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.
- J. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.
- K. The discharge of trash to surface waters of the State or the deposition of trash where it may be discharged into surface waters of the State is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Discharge Point 001 (LAI Last Chance Basin)

- a. The Discharger shall maintain compliance with the following effluent limitations individually at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program (Attachment E):

Table 4a. Effluent Limitations at Discharge Point 001 (LAI Last Chance Basin)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--
	lbs/day ¹	--	167	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	--	15	--	--
	lbs/day ¹	--	83	--	--
pH	s.u.	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	--	75	--	--
	lbs/day ¹	--	417	--	--
Non-Conventional Pollutants					
Chronic Toxicity ²	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--
Settleable Solids	ml/L	--	0.3	--	--
Temperature	deg. F	--	--	--	86
Turbidity	NTU	--	75	--	--
Total Petroleum Hydrocarbons (TPH) ^{3, 5}	µg/L	--	100	--	--
	lbs/day ¹	--	0.56	--	--
Priority Pollutants					
Copper, Total Recoverable (All-weather) ⁴	µg/L	--	23	--	--
	lbs/day ¹	--	0.13	--	--
Lead, Total Recoverable (All-weather) ⁴	µg/L	--	10.8	--	--
	lbs/day ¹	--	0.060	--	--
Zinc, Total Recoverable (All-weather)	µg/L	--	185	--	--
	lbs/day ¹	--	1.03	--	--
Cyanide	µg/L	--	8.5	--	--
	lbs/day ¹	--	0.047	--	--
Bis (2-Ethylhexyl) Phthalate	µg/L	--	12	--	--
	lbs/day ¹	--	0.067	--	--

- The mass emission rates are based on the maximum permitted flow rate of 0.666 MGD at Discharge Point 001, and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$
- The maximum daily effluent limitation (MDEL) for chronic toxicity shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
- TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
- Effluent limitations for these metals will be effective after August 7, 2019.
- Effluent limitations for TPH will be effective after August 7, 2019, as per the accompanying Time Schedule Order No. R4-2018-0021.

2. Final Effluent Limitations – Discharge Point 002 (Dabney-Lloyd Basin)

- The Discharger shall maintain compliance with the following effluent limitations individually at Discharge Point 002, with compliance measured at Monitoring Location EFF-002 as described in the Monitoring and Reporting Program (Attachment E):

Table 4b. Effluent Limitations at Discharge Point 002 (Dabney-Lloyd Basin)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--
	lbs/day ¹	--	766	--	--
Oil and Grease	mg/L	--	15	--	--
	lbs/day ¹	--	383	--	--
pH	s.u.	--	--	6.5	8.5
Settleable Solids	ml/L	--	0.3	--	--
Total Suspended Solids (TSS)	mg/L	--	75	--	--
	lbs/day ¹	--	1910	--	--
Non-Conventional Pollutants					
Chronic Toxicity ²	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--
Temperature	deg. F	--	--	--	86
Turbidity	NTU	--	75	--	--
Total Petroleum Hydrocarbons (TPH) ^{3, 6}	µg/L	--	100	--	--
	lbs/day ¹	--	2.55	--	--
Priority Pollutants					
Copper , Total Recoverable (Dry-weather) ⁵	µg/L	--	58	--	--
	lbs/day ¹	--	1.48	--	--
Copper , Total Recoverable (Wet-weather) ^{4, 5}	µg/L	--	14	--	--
	lbs/day ¹	--	0.36	--	--
Lead, Total Recoverable (Dry-weather) ⁵	µg/L	--	32	--	--
	lbs/day ¹	--	0.82	--	--
Lead, Total Recoverable (Wet-weather) ⁵	µg/L	--	77	--	--
	lbs/day ¹	--	1.97	--	--
Selenium , Total Recoverable (All-weather)	µg/L	--	8.7	--	--
	lbs/day ¹	--	0.22	--	--
Zinc, Total Recoverable (Dry-weather) ⁵	µg/L	--	733	--	--
	lbs/day ¹	--	18.7	--	--
Zinc, Total Recoverable (Wet-weather) ^{4, 5}	µg/L	--	105	--	--
	lbs/day ¹	--	2.68	--	--

- The mass emission rates are based on the maximum permitted flow rate of 3.06 MGD at Discharge Point 002, and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$
- The maximum daily effluent limitation (MDEL) for chronic toxicity shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
- TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
- Effluent limitations for these metals will be effective after August 7, 2019.
- Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona

Creek is equal to or greater than 64 cfs. Flow data can be obtained by contacting Mr. Arthur Gotingco (Tel: 626-458-6379; Email: agoting@dpw.lacounty.gov) at LACDPW.

6. Effluent limitations for TPH will be effective after August 7, 2019, as per the accompanying Time Schedule Order No. R4-2018-0021.

3. Final Effluent Limitations – Discharge Point 003 (Stocker Basin)

- a. The Discharger shall maintain compliance with the following effluent limitations individually at Discharge Point 003, with compliance measured at Monitoring Location EFF-003 as described in the Monitoring and Reporting Program (Attachment E):

Table 4c. Effluent Limitations at Discharge Point 003 (Stocker Basin)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--
	lbs/day ¹	--	159	--	--
Oil and Grease	mg/L	--	15	--	--
	lbs/day ¹	--	79	--	--
pH	s.u.	--	--	6.5	8.5
Settleable Solids	ml/L	--	0.3	--	--
Total Suspended Solids (TSS)	mg/L	--	75	--	--
	lbs/day ¹	--	397	--	--
Non-Conventional Pollutants					
Chronic Toxicity ²	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--
Temperature	deg. F	--	--	--	86
Turbidity	NTU	--	75	--	--
Total Petroleum Hydrocarbons (TPH) ^{3, 5}	µg/L	--	100	--	--
	lbs/day ¹	--	0.53	--	--
Priority Pollutants					
Copper, Total Recoverable (All-weather) ⁴	µg/L	--	23	--	--
	lbs/day ¹	--	0.12	--	--
Lead, Total Recoverable (All-weather) ⁴	µg/L	--	10	--	--
	lbs/day ¹	--	0.053	--	--
Zinc, Total Recoverable (All-weather)	µg/L	--	185	--	--
	lbs/day ¹	--	0.98	--	--

1. The mass emission rates are based on the maximum permitted flow rate of 0.634 MGD at Discharge Point 003, and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$
2. The maximum daily effluent limitation (MDEL) for chronic toxicity shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
3. TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
4. Effluent limitations for these metals will be effective after August 7, 2019.

5. Effluent limitations for TPH will be effective after August 7, 2019, as per the accompanying Time Schedule Order No. R4-2018-0021.

4. Final Effluent Limitations – Discharge Point 004 (Vickers - I Basin)

- a. The Discharger shall maintain compliance with the following effluent limitations individually at Discharge Point 004, with compliance measured at Monitoring Location EFF-004 as described in the Monitoring and Reporting Program (Attachment E):

Table 4d. Effluent Limitations at Discharge Point 004 (Vickers - I Basin)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--
	lbs/day ¹	--	395	--	--
Oil and Grease	mg/L	--	15	--	--
	lbs/day ¹	--	198	--	--
pH	s.u.	--	--	6.5	8.5
Settleable Solids	ml/L	--	0.3	--	--
Total Suspended Solids (TSS)	mg/L	--	75	--	--
	lbs/day ¹	--	988	--	--
Non-Conventional Pollutants					
Chronic Toxicity ²	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--
Temperature	deg. F	--	--	--	86
Turbidity	NTU	--	75	--	--
Total Petroleum Hydrocarbons (TPH) ^{3, 5}	µg/L	--	100	--	--
	lbs/day ¹	--	1.3	--	--
Priority Pollutants					
Copper, Total Recoverable (Dry-weather) ⁴	µg/L	--	58	--	--
	lbs/day ¹	--	0.76	--	--
Copper, Total Recoverable (Wet-weather) ⁴	µg/L	--	14	--	--
	lbs/day ¹	--	0.18	--	--
Lead, Total Recoverable (Dry-weather) ⁴	µg/L	--	32	--	--
	lbs/day ¹	--	0.42	--	--
Lead, Total Recoverable (Wet-weather) ⁴	µg/L	--	77	--	--
	lbs/day ¹	--	1.01	--	--
Zinc, Total Recoverable (Dry-weather) ⁴	µg/L	--	733	--	--
	lbs/day ¹	--	9.66	--	--
Zinc, Total Recoverable (Wet-weather) ⁴	µg/L	--	105	--	--
	lbs/day ¹	--	1.38	--	--

1. The mass emission rates are based on the maximum permitted flow rate of 1.58 MGD at Discharge Point 004, and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$

2. The maximum daily effluent limitation (MDEL) for chronic toxicity shall be reported as “Pass” or “Fail” and “% Effect”. The MDEL is exceeded when a toxicity test results in a “Fail,” and the percent effect is greater than or equal to 0.50. Report “Pass” or “Fail” and “% Effect” for Maximum Daily Effluent Limitation (MDEL).
3. TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
4. Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is equal to or greater than 64 cfs. Flow data can be obtained by contacting Mr. Arthur Gotingco (Tel: 626-458-6379; Email: agoting@dpw.lacounty.gov) at LACDPW.
5. Effluent limitations for TPH will be effective after August 7, 2019, as per the accompanying Time Schedule Order No. R4-2018-0021.

5. Final Effluent Limitations – Discharge Point 005 (Lower Vickers - II Basin)

- a. The Discharger shall maintain compliance with the following effluent limitations individually at Discharge Point 005, with compliance measured at Monitoring Location EFF-005 as described in the Monitoring and Reporting Program (Attachment E):

Table 4e. Effluent Limitations at Discharge Point 005 (Lower Vickers - II Basin)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--
	lbs/day ¹	--	253	--	--
Oil and Grease	mg/L	--	15	--	--
	lbs/day ¹	--	126	--	--
pH	s.u.	--	--	6.5	8.5
Settleable Solids	ml/L	--	0.3	--	--
Total Suspended Solids (TSS)	mg/L	--	75	--	--
	lbs/day ¹	--	632	--	--
Non-Conventional Pollutants					
Chronic Toxicity ²	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--
Temperature	deg. F	--	--	--	86
Turbidity	NTU	--	75	--	--
Total Petroleum Hydrocarbons (TPH) ^{3, 5}	µg/L	--	100	--	--
	lbs/day ¹	--	0.84	--	--
Priority Pollutants					
Copper , Total Recoverable (Dry-weather) ⁴	µg/L	--	58	--	--
	lbs/day ¹	--	0.49	--	--
Copper , Total Recoverable (Wet-weather) ⁴	µg/L	--	14	--	--
	lbs/day ¹	--	0.12	--	--
Lead, Total Recoverable (Dry-weather) ⁴	µg/L	--	32	--	--
	lbs/day ¹	--	0.27	--	--
Lead, Total Recoverable (Wet-weather) ⁴	µg/L	--	77	--	--
	lbs/day ¹	--	0.65	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Zinc, Total Recoverable (Dry-weather) ⁴	µg/L	--	733	--	--
	lbs/day ¹	--	6.17	--	--
Zinc, Total Recoverable (Wet-weather) ⁴	µg/L	--	105	--	--
	lbs/day ¹	--	0.88	--	--

- The mass emission rates are based on the maximum permitted flow rate of 1.01 MGD at Discharge Point 005, and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$
- The maximum daily effluent limitation (MDEL) for chronic toxicity shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
- TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
- Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is equal to or greater than 64 cfs. Flow data can be obtained by contacting Mr. Arthur Gotingco (Tel: 626-458-6379; Email: agotingco@dpw.lacounty.gov) at LACDPW.
- Effluent limitations for TPH will be effective after August 7, 2019, as per the accompanying Time Schedule Order No. R4-2018-0021

6. Final Effluent Limitations – Discharge Point 006 (Upper Vickers - II Basin)

- The Discharger shall maintain compliance with the following effluent limitations individually at Discharge Point 006, with compliance measured at Monitoring Location EFF-006 as described in the Monitoring and Reporting Program (Attachment E):

Table 4f. Effluent Limitations at Discharge Point 006 (Upper Vickers - II Basin)

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--
	lbs/day ¹	--	150	--	--
Oil and Grease	mg/L	--	15	--	--
	lbs/day ¹	--	75	--	--
pH	s.u.	--	--	6.5	8.5
Settleable Solids	ml/L	--	0.3	--	--
Total Suspended Solids (TSS)	mg/L	--	75	--	--
	lbs/day ¹	--	375	--	--
Non-Conventional Pollutants					
Chronic Toxicity ²	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--
Temperature	deg. F	--	--	--	86
Turbidity	NTU	--	75	--	--
Total Petroleum Hydrocarbons (TPH) ^{3, 6}	µg/L	--	100	--	--
	lbs/day ¹	--	0.50	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants					
Copper , Total Recoverable (Dry-weather) ⁵	µg/L	--	58	--	--
	lbs/day ¹	--	0.29	--	--
Copper , Total Recoverable (Wet-weather) ^{4, 5}	µg/L	--	14	--	--
	lbs/day ¹	--	0.070	--	--
Lead, Total Recoverable (Dry-weather) ⁵	µg/L	--	32	--	--
	lbs/day ¹	--	0.16	--	--
Lead, Total Recoverable (Wet-weather) ⁵	µg/L	--	77	--	--
	lbs/day ¹	--	0.39	--	--
Mercury , Total Recoverable (All-weather)	µg/L	--	0.10	--	--
	lbs/day ¹	--	0.00050	--	--
Zinc, Total Recoverable (Dry-weather) ⁵	µg/L	--	733	--	--
	lbs/day ¹	--	3.67	--	--
Zinc, Total Recoverable (Wet-weather) ^{4, 5}	µg/L	--	105	--	--
	lbs/day ¹	--	0.53	--	--

- The mass emission rates are based on the maximum permitted flow rate of 0.6 MGD at Discharge Point 006, and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$
- The maximum daily effluent limitation (MDEL) for chronic toxicity shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
- TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
- Effluent limitations for these metals will be effective after August 7, 2019.
- Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is equal to or greater than 64 cfs. Flow data can be obtained by contacting Mr. Arthur Gotingco (Tel: 626-458-6379; Email: agoting@dpw.lacounty.gov) at LACDPW.
- Effluent limitations for TPH will be effective after August 7, 2019, as per the accompanying Time Schedule Order No. R4-2018-0021.

B. Effluent Sediment Limitations

1. Final Effluent Sediment Limitations – Discharge Points 001 through 006

- The Ballona Creek Estuary Toxic Pollutants TMDL requires the Discharger maintain compliance with the following sediment limitations in the effluents from Discharge Points 001 through 006, with compliance measured at Monitoring Locations EFF-001 through 006, respectively, as described in the attached Monitoring and Reporting Program (MRP) (Attachment E). The Discharger shall collect sufficient effluent sample to provide an adequate amount of effluent sediments for sediment analyses or other such analytical method approved in advance by the Regional Board that would allow direct comparison of effluent sediment levels with sediment limitations.

Table 5. Effluent Sediment Limitations—Discharge Points 001 through 006

Parameter	Units	Effluent Sediment Limitations
		Maximum Daily
Cadmium, Total Recoverable	mg/kg	1.2
Copper, Total Recoverable	mg/kg	34
Lead, Total Recoverable	mg/kg	46.7
Silver, Total Recoverable	mg/kg	1.0
Zinc, Total Recoverable	mg/kg	150
Chlordane	µg/kg	1.3
DDTs ¹	µg/kg	1.9
Total PCBs ²	µg/kg	3.2

1. The State Water Board Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality, August 25, 2009, (known as Sediment Quality Plan, Attachment A) listed chemical analytes needed to characterize sediment contamination exposure and effect. According to Sediment Quality Plan, DDTs shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD and 2,4'DDD.
2. According to Sediment Quality Plan, total PCBs (polychlorinated biphenyls) shall mean the sum of the following PCB congeners: 2,4'-dichlorobiphenyl, 2,2',5-trichlorobiphenyl, 2,4,4'-trichlorobiphenyl, 2,2',3,5'-tetrachlorobiphenyl, 2,2',5,5'-tetrachlorobiphenyl, 2,3',4,4'-tetrachlorobiphenyl, 2,2',4,5,5'-pentachlorobiphenyl, 2,3,3',4,4'-pentachlorobiphenyl, 2,3',4,4',5-pentachlorobiphenyl, 2,2',3,3',4,4'-hexachlorobiphenyl, 2,2',3,4,4',5'-hexachlorobiphenyl, 2,2',4,4',5,5'-hexachlorobiphenyl, 2,2',3,3',4,4',5-heptachlorobiphenyl, 2,2',3,4,4',5,5'-heptachlorobiphenyl, 2,2',3,4,4',5,5',6-heptachlorobiphenyl, 2,2',3,3',4,4',5,6-octachlorobiphenyl, 2,2',3,3',4,4',5,5',6-nonachlorobiphenyl, and decachlorobiphenyl.

C. Land Discharge Specifications – Not Applicable

D. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in Ballona Creek or its tributary, Centinela Creek.:

1. The pH of the receiving water shall not be depressed below 6.5 or raised above 8.5 as a result of the waste discharge. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of the waste discharge. Natural conditions shall be determined on a case-by-case basis.
2. Surface water temperature to rise greater than 5° F above the natural temperature of the receiving waters at any time or place. At no time shall the temperature be raised above 80° F as a result of waste discharged.
3. The mean annual concentration of dissolved oxygen shall be greater than 7 mg/L, and no single determination shall be less than 5.0 mg/L except when natural conditions cause lesser concentrations. Natural conditions shall be determined on a case-by-case basis.

4. Water Contact Standards

In fresh water designated for water contact recreation (REC-1), the waste discharged shall not cause the following bacterial standards to be exceeded in the receiving water.

- a. Geometric Mean Limit
 - i. *E. coli* density shall not exceed 126/100 mL.
- b. Single Sample Limit
 - i. *E. coli* density shall not exceed 235/100 mL.

5. Exceedance of the total ammonia (as N) concentrations specified in the Resolution No. 2002-011, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) with Beneficial Use Designations for Protection of Aquatic Life; and the Regional Water Board Resolution No. 2005-014, An Amendment to the Water Quality Control Plan for the Los Angeles Region to Revise Early Life Stage Implementation Provision of the Freshwater Ammonia Objectives for Inland Surface Waters (including enclosed bays, estuaries and wetlands) for Protection of Aquatic Life.
6. The presence of visible, floating, suspended or deposited macroscopic particulate matter or foam.
7. Where natural turbidity is between 0 to 50 NTU, increases in turbidity shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases in turbidity shall not exceed 10%.
8. Oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the receiving water or on objects in the water.
9. Suspended or settleable materials, chemical substances or pesticides in amounts that cause nuisance or adversely affect any designated beneficial use.
10. Toxic or other deleterious substances in concentrations or quantities which cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
11. Accumulation of bottom deposits or aquatic growths.
12. The presence of substances that result in increases of BOD that adversely affect beneficial uses.
13. Taste or odor-producing substances in concentrations that alter the natural taste, odor, and/or color of fish, shellfish, or other edible aquatic resources; cause nuisance; or adversely affect beneficial uses.
14. Alteration of apparent color beyond present natural background levels.
15. Damage, discolor, or formation of sludge deposits on flood control structures or facilities, or overloading of the design capacity.
16. Degradation of surface water communities and populations including vertebrate, invertebrate, and plant species.
17. Problems associated with breeding of mosquitoes, gnats, black flies, midges, or other pests.

18. Nuisance or adversely affect beneficial uses of the receiving water, including but not limited to biostimulatory substances at concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
19. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board will revise or modify this Order in accordance with such standards.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:
 - a. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of 40 C.F.R. sections 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
 - b. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the Regional Water Board to local agencies.
 - c. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to sections 301, 302, 303(d), 304, 306, 307, 316, 318, 405, and 423 of the federal CWA and amendments thereto.
 - d. These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
 - e. Oil or oily material, chemicals, refuse, or other wastes that constitute a condition of pollution or nuisance shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.
 - f. A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.

- g. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - i. Violation of any term or condition contained in this Order;
 - ii. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
 - iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- h. If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.
- i. The Discharger shall file with the Regional Water Board a report of waste discharge at least 180 days before making any material change or proposed changes in the character, location, or volume of the discharge.
- j. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture an intermediate or final product or byproduct of any toxic pollutant that was not reported on their application.
- k. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Water Board.
- l. The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code is subject to civil liability of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil liability of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.
- m. Violation of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.
- n. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to the planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:
 - i. Name and general composition of the chemical,
 - ii. Frequency of use,
 - iii. Quantities to be used,
 - iv. Proposed discharge concentrations, and
 - v. U.S. EPA registration number, if applicable.
- o. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may

subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

- p. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.
- q. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Wat. Code § 1211.)
- r. The provisions of this order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

- a. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the federal CWA, and amendments thereto, the Regional Water Board may revise and modify this Order in accordance with such more stringent standards.
- b. This Order may be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order and based on the results of the RPA.
- c. This Order may be reopened and modified, in accordance with the provisions set forth in 40 C.F.R., parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new minimum levels (MLs).
- d. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for the Ballona Creek Watershed.
- e. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to: fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.
- f. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** The Discharger shall submit to the Regional Water Board an Initial Investigation TRE workplan (1-2 pages) **within 90 days** of the effective date of this permit. This plan shall describe the steps the Discharger intends to follow in the event that toxicity is detected. See section V of the Monitoring and Reporting Program (Attachment E) for an overview of TRE requirements.
- b. **Effluent Sediment Monitoring.** The Ballona Creek Estuary Toxic Pollutants TMDL requires the Discharger maintain compliance with the sediment limitations in Table 5. The Discharger is required to collect a sufficient amount of effluent sediment from each discharge point for the sediment analyses. Since the TSS concentration in the final discharge may be less than the TSS effluent limitation of 75 mg/L, a very large volume of effluent sample may be required in order to gather enough sediment for the required analyses (metals and organics). Therefore, high resolution analytical methods (EPA approved) may be used to analyze specific constituents in the sediments. Because of the much lower method detection limits provided by the high resolution analytical methods, less amount of sediments will be required for the demonstration of compliance with the sediment limitations. **Within 90 days** of the effective date of this Order, the Discharger may submit a work plan to the Regional Water Board for approval by the Executive Officer to analyze discharge sediments using high resolution analytical methods. The work plan shall include the proposed high resolution analytical methods for sediment analyses, the sampling protocols and the estimated volume of effluent required for each analysis when using the proposed high resolution analytical method at a prespecified TSS level (less than 75 mg/L) in the effluent.

3. Best Management Practices and Storm Water Pollution Prevention

- a. Storm Water Pollution Prevention, Best Management Practices, and Spill Contingency Plans.

The Discharger shall submit, within **90 days** of the effective date of this Order (unless otherwise stated):

- i. An updated **Storm Water Pollution Prevention Plan (SWPPP)** that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff and trash from being discharged directly to waters of the State. The SWPPP shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The Discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge point; describe the activities in each area and the potential for contamination of storm water runoff and the discharge of trash or hazardous waste/material; and address the feasibility of containment and/or treatment of storm water. In addition, the SWPPP shall address and include best management practices procedures that the Discharger will implement to prohibit the discharge of trash from the Facility. The SWPPP shall be developed in accordance with the requirements in Attachment G.
- ii. An updated **Best Management Practices Plan (BMPP)** that will be implemented to reduce the discharge of pollutants to the receiving water. The BMPP shall include site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material and trash

from being discharged to waters of the State. Further, the Discharger shall ensure that the storm water discharges from the Facility would neither cause nor contribute to a nuisance in the receiving water, and that unauthorized discharges (i.e. spills or non-storm water discharges) to the receiving water have been effectively prohibited. In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material and trash discharge to surface waters. The BMPs shall be consistent with the general guidance contained in the U.S. EPA Guidance Manual for Developing Best Management Practices (BMPs) (EPA 833-B-93-004). The BMPP can be included and submitted as part of the SWPPP.

- iii. An updated **Spill Control Plan (SCP)**, that describes the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The SCP may be substituted with an updated version of the Discharger's existing Spill Prevention Control and Countermeasure (SPCC) Plan.
- iv. Submit a report to the Regional Board within **12 months** of the effective date of this Order that analyzes the feasibility of implementing additional stormwater storage capacity to handle high-intensity storm events.

Each plan shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The plans shall be reviewed annually and at the same time and updated as required. Updated information shall be submitted to the Regional Water Board within 30 days of revision.

The Discharger shall implement the SWPPP, BMPP, and SCP (or SPCC) within 10 days of approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. The Discharger shall continue to implement any existing and previously approved SWPPP, BMPP, and SCP (or SPCC) until the updated version is approved by the Executive Officer or until the stipulated 90-day period after the updated SWPPP, BMPP, and SCP (or SPCC) submittal has occurred.

4. Construction, Operation and Maintenance Specifications

The Discharger shall at all times properly operate and maintain all facilities and systems installed or used to achieve compliance with this Order.

5. Other Special Provisions – Not Applicable

6. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. Single Constituent Effluent Limitation.

If the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (see Reporting Requirement I.H. of the MRP), then the Discharger is out of compliance.

B. Effluent Limitations Expressed as a Sum of Several Constituents.

If the sum of the individual pollutant concentrations is greater than the effluent limitation, then the Discharger is out of compliance. In calculating the sum of the concentrations of a

group of pollutants, consider constituents reported as ND or DNQ to have concentrations equal to zero, provided that the applicable ML is used.

C. Effluent Limitations Expressed as a Median.

In determining compliance with a median limitation, the analytical results in a set of data will be arranged in order of magnitude (either increasing or decreasing order); and

1. If the number of measurements (n) is odd, then the median will be calculated as $X_{(n+1)/2}$, or
2. If the number of measurements (n) is even, then the median will be calculated as $[X_{n/2} + X_{(n/2)+1}]/2$, i.e. the midpoint between the n/2 and n/2+1 data points.

D. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

E. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection 2 above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation; though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

In determining compliance with the AMEL, the following provisions shall also apply to all constituents:

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month;
2. If the analytical result of a single sample monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. The concentration of a pollutant (an arithmetic mean or a median) in these samples estimated from the

“Multiple Sample Data Reduction” section above, will be used for compliance determination.

3. In the event of noncompliance with an AMEL, the sampling frequency for that constituent may be increased to weekly and may continue at this level until compliance with the AMEL has been demonstrated.

F. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

G. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

H. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation.)

I. Chronic Toxicity.

The discharge is subject to determination of “Pass” or “Fail” and “Percent Effect” from a single-effluent concentration chronic toxicity test at the discharge IWC using the Test of Significant Toxicity (TST) statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (H_0) for the TST statistical approach is: Mean discharge IWC response $\leq 0.75 \times$ Mean control response. A test result that rejects this null hypothesis is reported as “Pass”. A test result that does not reject this null hypothesis is reported as “Fail”. The relative “Percent Effect” at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100\%$.

The Median Monthly Effluent Limitation (MMEL) for chronic toxicity is exceeded and a violation will be flagged when the median of no more than three independent chronic toxicity tests, conducted within the same calendar month and analyzed using the TST statistical approach, results in “Fail”. The MMEL for chronic toxicity shall only apply when there is a discharge more than one day in a calendar month period. During such calendar months, up to three independent toxicity tests are required when one toxicity test results in “Fail.”

The Maximum Daily Effluent Limitation (MDEL) for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed using the TST statistical approach, results in “Fail” and the “Percent Effect” is $\geq 50\%$.

J. Mass and Concentration Limitations.

Compliance with mass effluent limitations and concentration effluent limitations for the same parameter shall be determined separately. When the concentration for a parameter in a sample is reported as ND or DNQ, the corresponding mass emission rate determined using that sample concentration shall also be reported as ND or DNQ.

K. Median Monthly Effluent Limitation (MMEL).

If the median of daily discharges over a calendar month exceeds the MMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance in a 31-day month). However, an alleged violation of the MMEL will be considered one violation for the purpose of assessing State mandatory minimum penalties. If no sample (daily discharge) is taken over a calendar month, no compliance determination can be made for that month with respect to effluent violation determination, but compliance determination can be made for that month with respect to reporting violation determination.

L. Bacterial Standards and Analyses.

The geometric mean used for determining compliance with bacterial standards is calculated using the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \dots \times C_n)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for *Enterococcus*). The detection method used for each analysis shall be reported with the results of the analysis.

Detection methods used for coliforms (total, fecal, and *E. coli*) and *Enterococcus* shall be those presented in Table 1A of 40 C.F.R. part 136 (revised May 18, 2012), unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R. part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices

BMPs are methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and non-structural controls and operation maintenance procedures, which can be applied before, during, and/or after pollution-producing activities.

Bioaccumulative

Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic

Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory’s MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Dry Weather

Any day when the maximum daily flow in the Ballona Creek is less than 64 cubic feet per second (cfs). Flow data for Ballona Creek is currently monitored between Sawtelle Boulevard and Sepulveda Boulevard by Los Angeles County Department of Public Works (LACDPW) at Stream Gage No. F38C-R.

Effluent Concentration Allowance (ECA)

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as wasteload allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake’s Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Existing Discharger

Any Discharger that is not a new discharger. An existing discharger includes an “increasing discharger” (i.e., any existing facility with treatment systems in places for its current discharge that is or will be expanding, upgrading, or modifying its permitted discharge after the effective date of this Order.)

Four-Day Average of Daily Maximum Flows

The average of daily maxima taken from the data set in four-day intervals.

Inland Surface Waters

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Median Monthly Effluent Limitation (MMEL)

The MMEL is, for the purposes of this Policy, an effluent limit based on the median results of three independent toxicity tests, conducted within the same calendar month, and analyzed using the TST statistical approach. The MMEL is exceeded when the median results (i.e. two out of three) is a "fail".

Method Detection Limit (MDL)

MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)

ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

Persistent Pollutants

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Regional Water Board.

Reporting Level (RL)

The RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Significant Storm Event

A continuous discharge of storm water for a minimum of one hour, or the intermittent discharge of storm water for a minimum of 3 hours in a 12-hour period.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ)

Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Reduction Evaluation (TRE)

TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

Trash

All improperly discarded solid material from any production, manufacturing, or processing operation including, but not limited to, products, product packaging, or containers constructed of plastic, steel, aluminum, glass, paper, or other synthetic or natural material.

Wet Weather

Any day when the maximum daily flow in the Ballona Creek is equal to or greater than 64 cubic feet per second (cfs). Flow data for Ballona Creek is currently monitored between Sawtelle Boulevard and Sepulveda Boulevard by Los Angeles County Department of Public Works (LACDPW) at Stream Gage No. F38C-R.

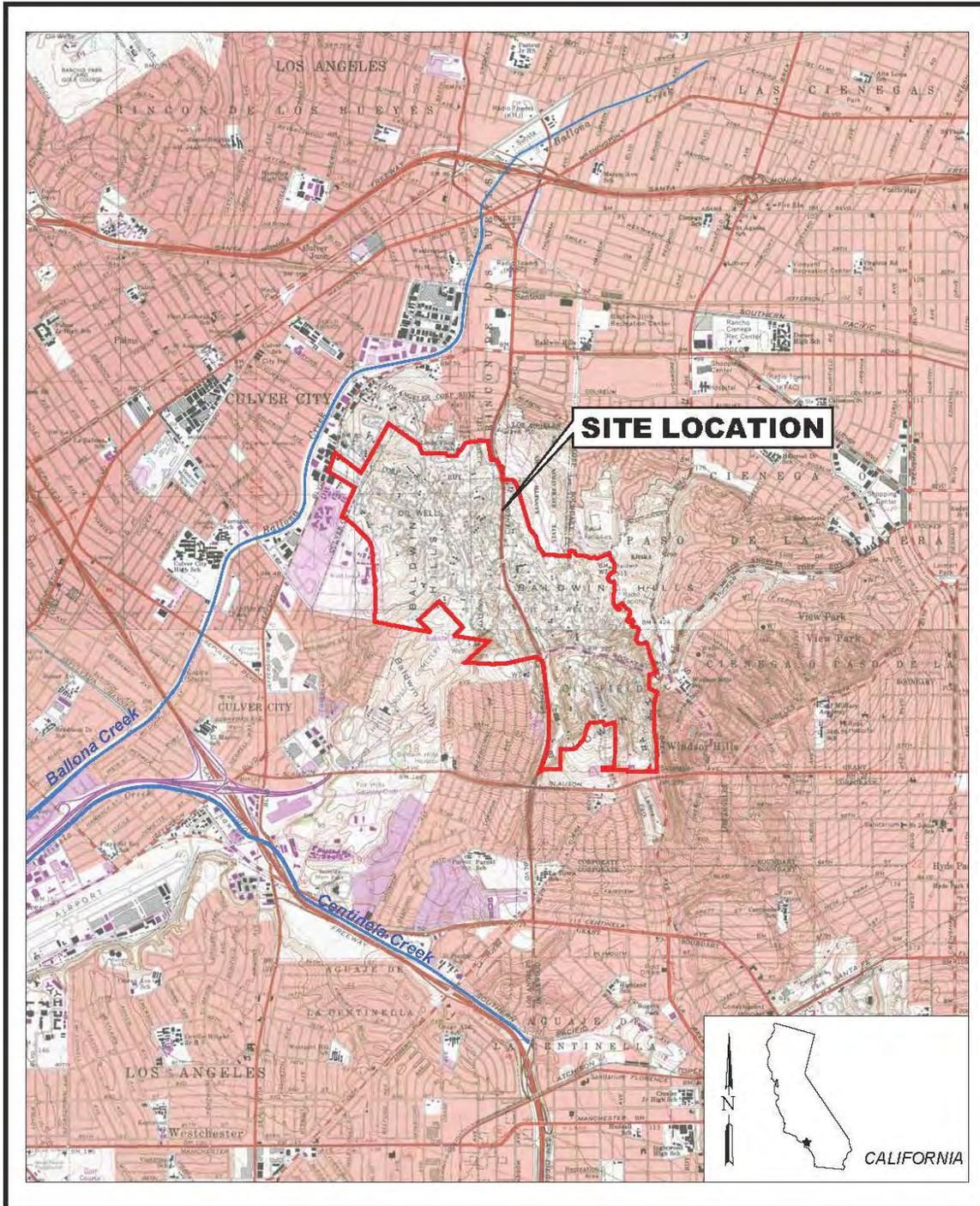
ACRONYMS AND ABBREVIATIONS

AMEL.....	Average Monthly Effluent Limitation
B.....	Background Concentration
BAT.....	Best Available Technology Economically Achievable
Basin Plan	Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties
BCT	Best Conventional Pollutant Control Technology
BMP.....	Best Management Practices
BMPP	Best Management Practices Plan
BPJ	Best Professional Judgment
BOD.....	Biochemical Oxygen Demand 5-day @ 20 °C
BPT	Best Practicable Treatment Control Technology
C.....	Water Quality Objective
C.C.R.	California Code of Regulations
CEQA	California Environmental Quality Act
C.F.R.....	Code of Federal Regulations
CTR.....	California Toxics Rule
CV	Coefficient of Variation
CWA.....	Clean Water Act
CWC	California Water Code
Discharger	Sentinel Peak Resources California, LLC
DMR	Discharge Monitoring Report
DNQ	Detected But Not Quantified
ELAP	State Water Resources Control Board, Drinking Water Division, Environmental Laboratory Accreditation Program
ELG	Effluent Limitations, Guidelines, and Standards
Facility	Inglewood Oil Field
g/kg.....	grams per kilogram
gpd	gallons per day
IWC	In-stream Waste Concentration
LA.....	Load Allocations
LACDPW	County of Los Angeles, Department of Public Works
LOEC.....	Lowest Observed Effect Concentration
µg/L	micrograms per Liter
mg/L	milligrams per Liter
MDEL	Maximum Daily Effluent Limitation
MEC	Maximum Effluent Concentration
MGD.....	Million Gallons per Day
ML	Minimum Level
MMEL	Monthly Median Effluent Limitation
MRP	Monitoring and Reporting Program
ND	Not Detected
ng/L	nanograms per liter
NOEC	No Observable Effect Concentration
NPDES	National Pollutant Discharge Elimination System
NSPS.....	New Source Performance Standards
NTR.....	National Toxics Rule
OAL.....	Office of Administrative Law
PAHs	Polynuclear Aromatic Hydrocarbons
pg/L	picograms per liter

PMEL.....	Proposed Maximum Daily Effluent Limitation
PMP.....	Pollutant Minimization Plan
POTW.....	Publicly Owned Treatment Works
ppm	parts per million
ppb	parts per billion
QA	Quality Assurance
QA/QC.....	Quality Assurance/Quality Control
Ocean Plan.....	Water Quality Control Plan for Ocean Waters of California
Regional Water Board.....	California Regional Water Quality Control Board, Los Angeles Region
RPA.....	Reasonable Potential Analysis
SCP.....	Spill Contingency Plan
Sediment Quality Plan	<i>Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality</i>
SIP.....	State Implementation Policy (Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California)
SMR	Self-Monitoring Reports
State Water Board	California State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TAC	Test Acceptability Criteria
TBEL	Technology-Based Effluent Limitation
Thermal Plan	Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California
TIE.....	Toxicity Identification Evaluation
TMDL.....	Total Maximum Daily Load
TOC.....	Total Organic Carbon
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document
TSS	Total Suspended Solid
TST.....	Test of Significant Toxicity Statistical Approach
TU _c	Chronic Toxicity Unit
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WDR.....	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WLA.....	Waste Load Allocations
WQBELs.....	Water Quality-Based Effluent Limitations
WQS.....	Water Quality Standards
%	Percent

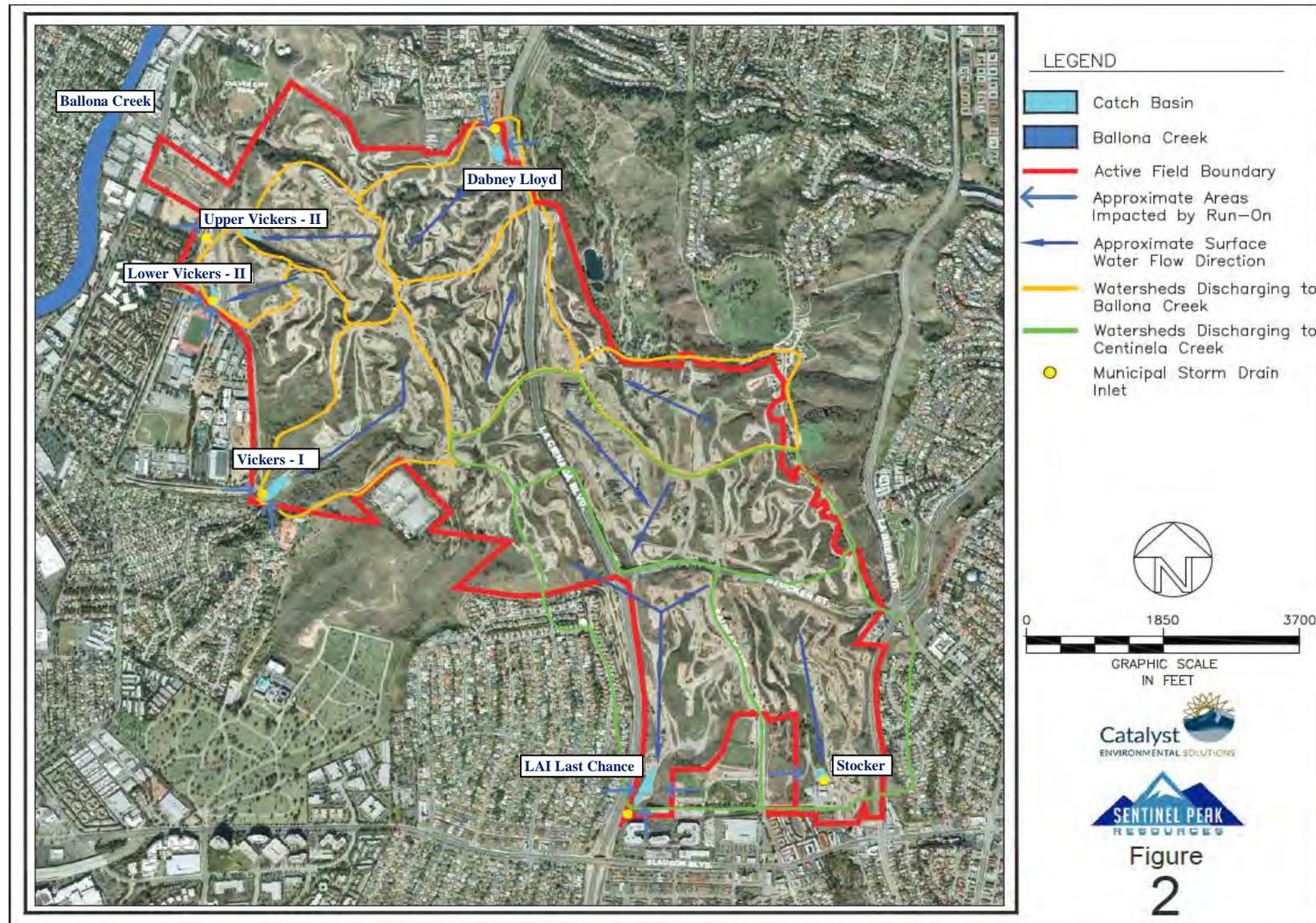
ATTACHMENT B – MAPS

Location of Inglewood Oil Field



 <p>DRAFTED BY: JCampbell DATE: 3/25/17</p>	<p>Regional Location Map</p> <p>Sentinel Peak Resources 5640 South Fairfax Avenue, Los Angeles, California 90056</p>	<p>Figure 1</p> <p>PROJECT: 100001</p>
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ATTACHMENT C – FACILITY FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(i); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, §§ 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
5. Notice

- a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the Regional Water Board. As of December 21, 2020, notices shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(i).)
- b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Regional Water Board. As of December 21, 2020, notice shall also be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2))
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. §§ 122.41(l)(3), 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N for the measured pollutant or pollutant parameter.

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. chapter 1, subchapter N, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. §§ 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
 6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):
1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
 2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

- c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)
6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R. § 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted to the Regional Water Board and must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours:
 - c. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - d. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Regional Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the initial recipient defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. § 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.
- B.** The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent

conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions [section 122.41(a)(2)] [Water Code sections 13385 and 13387].

- C. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000 [40 C.F.R. section 122.41(a)(3)].
- D. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 C.F.R. section 122.41(j)(5)].
- E. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 C.F.R. section 122.41(k)(2)].

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):
 - a. 100 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(1)(i));
 - b. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
 - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
 - d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):
 - a. 500 micrograms per liter ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(2)(i));

- b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
- c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
- d. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (CI-6240)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 6240)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and California laws and/or regulations.

I. GENERAL MONITORING PROVISIONS

- A.** Effluent sampling stations shall be established for Discharge Points 001 through 006, respectively, and shall be located where representative samples of that effluent can be obtained.
- B.** The Regional Water Board shall be notified in writing of any changes in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.
- C.** Effluent samples shall be taken downstream of any addition to treatment works and prior to mixing with the receiving waters.
- D.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. sections 136.3, 136.4, and 136.5 (revised August 28, 2017); or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.
- E.** Laboratory Certification. Laboratories analyzing monitoring samples shall be certified by the State Water Board, Drinking Water Division, Environmental Laboratory Accreditation Program (ELAP) in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.
- F.** For any analyses performed for which no procedure is specified in the U.S. EPA guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.
- G.** Each monitoring report must affirm in writing that “all analyses were conducted at a laboratory certified for such analyses by the State Water Board or approved by the Executive Officer and in accordance with current U.S. EPA guideline procedures or as specified in this MRP”.
- H.** The monitoring reports shall specify the analytical method used, the Method Detection Limit (MDL), and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:
 - 1.** An actual numerical value for sample results greater than or equal to the ML; or
 - 2.** “Detected, but Not Quantified (DNQ)” if results are greater than or equal to the laboratory’s MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported; or,
 - 3.** “Not-Detected (ND)” for sample results less than the laboratory’s MDL with the MDL indicated for the analytical method used.

Analytical data reported as “less than” for the purpose of reporting compliance with permit limitations shall be the same or lower than the permit limit(s) established for the given parameter.

Current MLs (Attachment H) are those published by the State Water Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, February 24, 2005.

- I. The MLs employed for effluent analyses to determine compliance with effluent limitations shall be lower than the effluent limitations established in this Order for a given parameter as per the sufficiently sensitive regulations at 40 C.F.R. section 122.44(i)(1)(iv). If the ML value is not below the effluent limitations, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.
- J. The MLs employed for effluent analyses not associated with determining compliance with effluent limitations in this Order shall be lower than the lowest applicable water quality objective, for a given parameter as per the sufficiently sensitive regulations at 40 C.F.R. section 122.44(i)(1)(iv). Water quality objectives for parameters may be found in Chapter 3 of the Basin Plan and the CTR (40 C.F.R. section 131.38). If the ML value is not below the water quality objective, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test, the associated laboratory QA/QC procedures, reporting levels (RLs), and method detection limits (MDLs).

Where no U.S. EPA-approved method exists, the Regional Water Board, in consultation with the State Water Board Quality Assurance Program, shall establish a ML that is not contained in Attachment H to be included in the Discharger's permit in any of the following situations:

- 1. When the pollutant under consideration is not included in Attachment H;
 - 2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in 40 C.F.R. part 136 (revised August 28, 2017);
 - 3. When the Discharger agrees to use an ML that is lower than that listed in Attachment H;
 - 4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment H, and proposes an appropriate ML for their matrix; or,
 - 5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the U.S. EPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.
- K. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 C.F.R. section 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Water Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.
 - L. Field analyses with short sample holding times such as pH, total residual chlorine, dissolved oxygen and temperature, may be performed using properly calibrated and maintained portable instruments by trained personnel acting on the Discharger's behalf, using methods in accordance with 40 C.F.R. part 136. All field instruments must be calibrated per manufacturer's instructions. A manual containing the standard operating procedures for all field analyses,

including records of personnel proficiency training, instruments calibration and maintenance, and quality control procedures shall be maintained onsite, and shall be available for inspection by Regional Water Board staff. Information including instrument calibration, time of sample collection, time of analysis, name of analyst, quality assurance/quality control data, and measurement values shall be clearly documented during each field analysis and submitted to the Regional Water Board as part of the corresponding regular monitoring report.

- M.** All analyses shall be accompanied by the chain of custody, including but not limited to date and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.
- N.** The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.
- O.** The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Unless otherwise specified in the analytical method, duplicate samples must be analyzed at a frequency of 5% (1 in 20 samples) with at least one if there are fewer than 20 samples in a batch. A batch is defined as a single analytical run encompassing no more than 24 hours from start to finish. A similar frequency shall be maintained for analyzing spiked samples.
- P.** The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:
 - State Water Resources Control Board
 - Quality Assurance Program Officer
 - Office of Information Management and Analysis
 - 1001 I Street,
 - Sacramento, CA 95814
- Q.** For parameters that both average monthly and maximum daily limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the average monthly limit, the Discharger may collect four additional samples at approximately equal intervals during the month, until compliance with the average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. In the event of noncompliance with an average monthly effluent limitation, the sampling frequency for that constituent may be increased to weekly and may continue at this level until compliance with the average monthly effluent limitation has been demonstrated. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.
- R.** In the event wastes are transported to a different disposal site during the reporting period, the following shall be reported in the monitoring report:
 - 1. Types of wastes and quantity of each type;
 - 2. Name and address for each hauler of wastes (or method of transport if other than by hauling); and
 - 3. Location of the final point(s) of disposal for each type of waste.

If no wastes are transported off-site during the reporting period, a statement to that effect shall be submitted.

- S. Each monitoring report shall state whether or not there was any change in the discharge as described in the Order during the reporting period.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Effluent and Sediment Monitoring Station		
001	EFF-001	A location where a representative sample of effluent can be obtained from Discharge Point 001 at <i>LAI Last Chance Basin</i> , prior to discharging into the storm drain.
002	EFF-002	A location where a representative sample of effluent can be obtained from Discharge Point 002 at <i>Dabney-Lloyd Basin</i> , prior to discharging into the storm drain.
003	EFF-003	A location where a representative sample of effluent can be obtained from Discharge Point 003 at <i>Stocker Basin</i> , prior to discharging into the storm drain.
004	EFF-004	A location where a representative sample of effluent can be obtained from Discharge Point 004 at <i>Vickers – I Basin</i> , prior to discharging into the storm drain.
005	EFF-005	A location where a representative sample of effluent can be obtained from Discharge Point 005 at <i>Lower Vickers – II Basin</i> , prior to discharging into the storm drain.
006	EFF-006	A location where a representative sample of effluent can be obtained from Discharge Point 006 at <i>Upper Vickers – II Basin</i> , prior to discharging into the storm drain.
Receiving Water Monitoring Station		
--	RSW-001	A location above all Discharge Points in Ballona Creek and below National Boulevard where a representative sample can be obtained.
--	RSW-002	A location above Sawtelle Boulevard and below all Discharge Points in Ballona Creek where a representative sample can be obtained.
--	RSW-003	A location in the vicinity and upstream of Discharge Point 003 (Stocker Basin) in Centinela Creek where a representative sample can be obtained.
--	RSW-004	A location in the vicinity of West Jefferson Boulevard in Centinela Creek where a representative sample can be obtained.
--	RSW-005	The Los Angeles County Department of Public Works' Stream Gauge station F38C-R. The stream flow data may be obtained by contacting LACDPW at (626) 458-5100 or through Mr. Arthur Gotingco at (626) 458-6379 or at agoting@dpw.lacounty.gov . The data for this station is downloaded once a month with a 1-2 week processing time for the provisional data.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-001, EFF-002, EFF-003, EFF-004, EFF-005 and EFF-006

1. The Discharger shall monitor discharges from Discharge Points 001 through 006 at Monitoring Locations EFF-001 through 006 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding minimum level.

Table E-2a. Effluent Monitoring at Monitoring Locations EFF-001 through 006

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow ¹	Gallons/day	Meter	1/Discharge Event	--
Conventional Pollutants				
Biochemical Oxygen Demand (BOD ₅) 5-day @ 20°C ²	mg/L	Grab	1/Discharge Event ³	5
Oil and Grease ²	mg/L	Grab	1/Discharge Event ³	5
pH	standard units	Grab	1/Discharge Event ³	5, 6
Total Suspended Solids (TSS) ²	mg/L	Grab	1/Discharge Event ³	5
Non-conventional Pollutants				
Ammonia, Total (as N) ²	mg/L	Grab	1/Year ⁴ (First discharge of the year)	5
Chronic Toxicity	Pass or Fail, and % effect (TST approach)	Grab	1/Year ⁴ (First discharge of the year)	5, 7, 8
<i>E. Coli</i>	CFU/100mL or MPN/100mL	Grab	1/Discharge Event ³	5, 9
Methyl Tertiary Butyl Ether (MTBE)	µg/L	Grab	1/Year ⁴ (First discharge of the year)	5
Nitrate (as N)	mg/L	Grab	1/Year ⁴ (First discharge of the year)	5
Nitrite (as N)	mg/L	Grab	1/Year ⁴ (First discharge of the year)	5
Nitrite plus nitrate, Total (as N)	mg/L	Grab	1/Year ⁴ (First discharge of the year)	5
Phenols ²	mg/L	Grab	1/Year ⁴ (First discharge of the year)	5
Settleable Solids	ml/L	Grab	1/Discharge Event ³	5
Temperature	°F	Grab	1/Discharge Event ³	5, 6
Total Petroleum Hydrocarbons (TPH) as Gasoline (C ₄ -C ₁₂) ^{2, 10}	µg/L	Grab	1/Discharge Event ³	EPA Method 8015B
TPH as Diesel (C ₁₃ -C ₂₂) ^{2, 10}	µg/L	Grab	1/Discharge Event ³	EPA method 8015B

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
TPH as Waste Oil (C ₂₃₊) ^{2, 10}	µg/L	Grab	1/Discharge Event ³	EPA method 8015B
Turbidity	NTU	Grab	1/Discharge Event ³	5
Priority Pollutants				
Copper, Total Recoverable ²	µg/L	Grab	1/Discharge Event ³	5
Lead, Total Recoverable ²	µg/L	Grab	1/Discharge Event ³	5
Mercury, Total Recoverable ²	µg/L	Grab	1/Discharge Event ³	5
Selenium, Total Recoverable ²	µg/L	Grab	1/Discharge Event ³	5
Zinc, Total Recoverable ²	µg/L	Grab	1/Discharge Event ³	5
Cyanide, Total ²	µg/L	Grab	1/Discharge Event ³	5
Bis(2-Ethylhexyl)Phthalate ²	µg/L	Grab	1/Discharge Event ³	5
TCDD Equivalents ¹²	µg/L	Grab	1/Year ⁴ (First discharge of the year)	5
Remaining Priority Pollutants ¹¹ (excluding asbestos)	µg/L	Grab	1/Year ⁴ (First discharge of the year)	5

¹ Flow shall be recorded daily during each period of discharge. Periods of no flow shall also be reported.

² The mass emission (lbs/day) for the discharge shall be calculated and reported using the pollutant concentration and the actual flow rate measured at the time of discharge, using the formula:

$$M = 8.34 \times C \times Q$$
 where: M = mass discharge for a pollutant (lbs/day)
 C = Reported concentration for a pollutant (mg/L)
 Q = actual discharge flow rate (MGD).

³ During periods of extended discharge, no more than one sample per week (or 7-day period) is required to be collected. Sampling shall be conducted during the first hour of discharge. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report. If there is no discharge to surface water, then no monitoring is required. In the corresponding monitoring report, the Discharger shall indicate under penalty of perjury that no effluent was discharged to surface water during the reporting period.

⁴ Monitoring is only required during years in which a discharge occurs. Annual samples shall be collected during the first discharge of the year. In the corresponding monitoring report, the Discharger shall indicate under penalty of perjury that no effluent was discharged to surface water during the reporting period.

⁵ Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, provided as Attachment H in this Order Where no methods are specified for a given pollutant, the methods must be approved by the Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select a sufficiently sensitive method from the listed methods and corresponding ML necessary to demonstrate compliance with applicable effluent limitations.

⁶ A hand-held field meter may be used for pH and temperature, provided the meter utilizes an EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer’s instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

- 7 For the first chronic toxicity sampling event under this Order, the Discharger shall conduct species sensitivity screening in accordance to section V.A.4 of this MRP. Thereafter, sampling shall be performed annually using the most sensitive species.
- 8 Refer to section V, Whole Effluent Toxicity Testing Requirements. The maximum daily single result shall be reported as “Pass” or “Fail” and “% Effect”.
- 9 Analytical methods used for *E. coli* shall be those presented in Table 1A of 40 C.F.R. part 136, unless alternate methods have been approved by U.S. EPA pursuant to 40 C.F.R. part 136 or improved methods have been determined by the Executive Officer and/or U.S. EPA.
- 10 The Discharger shall report the sum of TPH as Gasoline (C₄-C₁₂), TPH as Diesel (C₁₃-C₂₂), and TPH as Oil (C₂₃₊).
- 11 Priority Pollutants as defined by the California Toxics Rule (CTR) and in Attachment I to this Order.
- 12 TCDD equivalents shall be calculated using the following formula, where the MLs and the toxicity equivalency factors (TEFs) are as listed in the Table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the MLs to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

Dioxin-TEQ (TCDD equivalents) = $\sum(Cx \times TEFx)$
 where: Cx = concentration of dioxin or furan congener x
 TEFx= TEF for congener x

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
2,3,7,8 - tetra CDD	10	1.0
1,2,3,7,8 - penta CDD	50	1.0
1,2,3,4,7,8 - hexa CDD	50	0.1
1,2,3,6,7,8 - hexa CDD	50	0.1
1,2,3,7,8,9 - hexa CDD	50	0.1
1,2,3,4,6,7,8 - hepta CDD	50	0.01
Octa CDD	100	0.0001
2,3,7,8 - tetra CDF	10	0.1
1,2,3,7,8 - penta CDF	50	0.05
2,3,4,7,8 - penta CDF	50	0.5
1,2,3,4,7,8 - hexa CDF	50	0.1
1,2,3,6,7,8 - hexa CDF	50	0.1
1,2,3,7,8,9 - hexa CDF	50	0.1
2,3,4,6,7,8 - hexa CDF	50	0.1
1,2,3,4,6,7,8 - hepta CDFs	50	0.01
1,2,3,4,7,8,9 - hepta CDFs	50	0.01
Octa CDF	100	0.0001

- 2. The Discharger shall monitor effluent sediments (suspended solids) from Discharge Points 001 through 006 at Monitoring Locations EFF-001 through 006, respectively, as follows. The Discharger shall collect a sufficient volume of effluent water sample in order to obtain an adequate amount of effluent sediments for the sediment analyses.

Since the TSS concentration in the final discharge may be less than the TSS effluent limitation of 75 mg/L, a very large volume of effluent sample shall be collected in order to gather enough amount of sediments for the required analyses (metals and organics). Therefore, high resolution analytical methods (EPA approved) may be used to analyze specific constituents in the sediments. Within 90 days of the effective date of this Order, the Discharger may submit a work plan to the Regional Water Board for approval by the Executive Officer to analyze discharge sediments using high resolution analytical methods. The work plan shall include the proposed high resolution analytical methods for sediment analyses, the sampling protocols and the estimated volume of effluent required

for each analysis when using the proposed high resolution analytical method at a prespecified TSS level (less than 75 mg/L) in the effluent.

Table E-2b. Effluent Sediment Monitoring at Monitoring Locations EFF-001 through 006

Parameter	Units	Sample Type ¹	Minimum Sampling Frequency	Required Analytical Test Method
Cadmium, Total Recoverable	mg/kg	Grab	1/Year ¹ (First discharge of the year)	2
Copper, Total Recoverable	mg/kg	Grab	1/Year ¹ (First discharge of the year)	2
Lead, Total Recoverable	mg/kg	Grab	1/Year ¹ (First discharge of the year)	2
Silver, Total Recoverable	mg/kg	Grab	1/Year ¹ (First discharge of the year)	2
Zinc, Total Recoverable	mg/kg	Grab	1/Year ¹ (First discharge of the year)	2
Chlordane	µg/kg	Grab	1/Year ¹ (First discharge of the year)	2
DDTs ³	µg/kg	Grab	1/Year ¹ (First discharge of the year)	2
Total PCBs ⁴	µg/kg	Grab	1/Year ¹ (First discharge of the year)	2

¹ Monitoring is only required during years in which a discharge occurs. Annual samples shall be collected during the first discharge of the year. Sampling shall be performed during the first hour of discharge. If, for safety reasons, a sample cannot be obtained during the first hour of discharge, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report.

² Pollutants shall be analyzed in accordance with U.S. EPA or ASTM methodologies where such methods exist. Where no U.S. EPA or ASTM methods exist, the State Board or Regional Water Board shall approve the use of other methods. Analytical tests shall be conducted by laboratories certified by the State Water Board, Drinking Water Division, Environmental Laboratory Accreditation Program (ELAP) in accordance with Water Code section 13176.

³ The State Water Board Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality, August 25, 2009, (known as Sediment Quality Plan, Attachment A) listed chemical analytes needed to characterize sediment contamination, exposure, and effect. According to the Sediment Quality Plan, DDTs shall mean the sum of 4,4’DDT, 2,4’DDT, 4,4’DDE, 2,4’DDE, 4,4’DDD and 2,4’DDD.

⁴ According to the Sediment Quality Plan, total PCBs (polychlorinated biphenyls) shall mean the sum of the following PCB congeners: 2,4’-dichlorobiphenyl, 2,2’,5’-trichlorobiphenyl, 2,4,4’-trichlorobiphenyl, 2,2’,3,5’-tetrachlorobiphenyl, 2,2’,5,5’-tetrachlorobiphenyl, 2,3’,4,4’-tetrachlorobiphenyl, 2,2’,4,5,5’-pentachlorobiphenyl, 2,3,3’,4,4’-pentachlorobiphenyl, 2,3’,4,4’,5’-pentachlorobiphenyl, 2,2’,3,3’,4,4’-hexachlorobiphenyl, 2,2’,3,4,4’,5’-hexachlorobiphenyl, 2,2’,4,4’,5,5’-hexachlorobiphenyl, 2,2’,3,3’,4,4’,5’-heptachlorobiphenyl, 2,2’,3,4,4’,5,5’-heptachlorobiphenyl, 2,2’,3,4’,5,5’,6’-heptachlorobiphenyl, 2,2’,3,3’,4,4’,5,6’-octachlorobiphenyl, 2,2’,3,3’,4,4’,5,5’,6’-nonachlorobiphenyl, and decachlorobiphenyl.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Testing

1. Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity

The chronic toxicity IWC for this discharge is **100 percent** effluent.

2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform both the required toxicity tests and

Toxicity Identification Evaluation (TIE) studies. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

3. Chronic Freshwater Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity <1 ppt, the Discharger shall conduct the following chronic toxicity tests on effluent samples—at the in-stream waste concentration for the discharge—in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002). In no case shall these species be substituted with another test species unless written authorization from the Regional Board Executive Officer is received.

- a. A static renewal toxicity test with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0).
- b. A static renewal toxicity test with the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.0).
- c. A static renewal toxicity test with the green alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this Order's first required sample collection. The Discharger shall collect a single effluent sample and concurrently conduct three toxicity tests, using the fish, an invertebrate, and the alga species as previously referenced in this section. The sample shall also be analyzed for the parameters required for the discharge as listed in Table E-2a. The species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine annual monitoring during the permit cycle.

Rescreening is required at least once per five (5) years. The Discharger shall rescreen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive, then the rescreening does not need to include more than one suit of tests. If a different species is the most sensitive, or if there is ambiguity, then the Discharger shall proceed with suites of screening tests using enough collected effluent for a minimum of three, but not to exceed five suites.

5. Quality Assurance and Additional Requirements

Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manuals previous referenced. Additional requirements are specified below.

- a. The discharge is subject to a determination of "Pass" or "Fail" and "Percent Effect" from a single-effluent concentration chronic toxicity test at the discharge IWC using the Test of Significant Toxicity (TST) statistical approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity/Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis (H_0) for the TST statistical approach is: Mean discharge IWC response \leq (0.75 x Mean control response). A test result that does not reject this null hypothesis is reported as "Fail". The relative "Percent Effect" at the discharge IWC is defined and reported as: $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100\%$.

- b. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, then the Discharger must re-sample and re-test for the subsequent discharge event.
 - c. Dilution water and control water, including brine controls, shall be laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
 - d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).
 - e. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the Monitoring and Reporting Program and the rationale is explained in the Fact Sheet (Attachment F).
- 6. Preparation of Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan**

The Discharger shall prepare and submit a generic Initial Investigation TRE Work Plan within 90 days of the permit effective date to be ready to respond to toxicity events. The Discharger shall review and update this work plan as necessary so it remains current and applicable to the discharge. At a minimum, the work plan shall include:

- a. A description of the investigation and evaluation techniques that would be used to identify potential causes and source of toxicity, effluent variability, and treatment system efficiency.
 - b. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the Facility.
 - c. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).
- 7. Toxicity Identification Evaluation and Toxicity Reduction Evaluation Process**

- a. **Toxicity Identification Evaluation (TIE).** A toxicity test sample is immediately subject to TIE procedures to identify the toxic chemical(s), if a chronic toxicity test shows "Fail and % Effect value ≥ 50 ". The Discharger shall initiate a TIE using, as guidance, EPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.
- b. **Toxicity Reduction Evaluation (TRE).** When a toxicant or class of toxicants is identified, a TRE shall be performed for that toxicant. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. No later than 30 days after the source of toxicity and appropriate BMPs and/or treatment are identified, the Discharger shall submit a TRE Corrective Action Plan to the Executive Officer for approval. At minimum, the plan shall include:
 - i. The potential sources of pollutant(s) causing toxicity.

- ii. Recommended BMPs and/or treatment to reduce the pollutant(s) causing toxicity.
 - iii. Follow-up monitoring to demonstrate that toxicity has been removed.
 - iv. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.
 - v. A schedule for these actions, progress reports, and the final report.
- c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.
 - d. The Discharger shall conduct routine effluent monitoring for the duration of the TIE/TRE process.
 - e. The Regional Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

8. Reporting

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter titled *Report Preparation*, including:

- a. The valid toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent Effect” at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the calendar month shall be reported on the SMR due date specified in Table E-4.
- b. Water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).
- c. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1, Table A-1, and Appendix B, Table B-1.
- d. TRE/TIE results. The Regional Water Board Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses.
- e. Statistical program (e.g., TST calculator, CETIS, etc.) output results for each toxicity test.
- f. Tabular data and graphical plots clearly showing the laboratory’s performance for the reference toxicant for the previous 20 tests and the laboratory’s performance for the control mean, control standard deviation, and control coefficient of variation for the previous 12-month period.
- g. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon request from the Regional Water Board Chief Deputy Executive Officer or the Executive Officer.

9. Ammonia Removal

Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting

the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

- a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
- b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
- c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
- d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

10. Chlorine Removal

Except with prior approval from the Executive Office of the Regional Water Board, chlorine shall not be removed from bioassay samples.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Locations RSW-001 and RSW-003

1. The Discharger shall monitor the Ballona Creek and the Centinela Creek at upstream monitoring locations RSW-001 and RSW-003 as follows, and include the coordinates of the location where each receiving water sample was collected in the corresponding monitoring report:

Table E-3a. Receiving Water Monitoring Requirements at Monitoring Locations RSW-001 and RSW-003

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	standard units	Grab ¹	1/Year ²	3, 4
Ammonia Nitrogen, Total (as N)	mg/L	Grab ¹	1/Year ²	3
Dissolved Oxygen	mg/L	Grab ¹	1/Year ²	3, 4
Hardness, Total (as CaCO ₃)	mg/L	Grab ¹	1/Year ²	3
Temperature	°F	Grab ¹	1/Year ²	3, 4
Turbidity	NTU	Grab ¹	1/Year ²	3
Priority Pollutants ⁵ (excluding asbestos)	µg/L	Grab ¹	1/Year ²	3
TCDD Equivalents ⁶	µg/L	Grab ¹	1/Year ²	3

¹ The receiving water samples for all parameters including the Priority Pollutants must be collected at the same time. The receiving water samples shall be collected during the first hour of discharge if a discharge occurs with respect to the specific creek. If, for safety reasons, a sample cannot be obtained during the required time

period, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report.

- 2 Annual monitoring at each monitoring location is required. If no discharge to the surface water occurs during the first eleven (11) months of the year, the annual sampling may be conducted at any time in December.
- 3 Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, provided as Attachment H in this Order. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.
- 4 A hand-held field meter may be used for pH, dissolved oxygen and temperature, provided the meter utilizes an EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
- 5 Priority Pollutants as defined by the California Toxics Rule (CTR) defined in Attachment I.
- 6 TCDD equivalents shall be calculated using the following formula, where the MLs and the toxicity equivalency factors (TEFs) are as listed in the Table below. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating TCDD equivalents, the Discharger shall set congener concentrations below the MLs to zero. U.S. EPA method 1613 may be used to analyze dioxin and furan congeners.

$$\text{Dioxin-TEQ (TCDD equivalents)} = \sum(Cx \times \text{TEF}_x)$$

where: Cx = concentration of dioxin or furan congener x
 TEF_x = TEF for congener x

Congeners	Minimum Levels (pg/L)	Toxicity Equivalence Factor (TEF)
2,3,7,8 - tetra CDD	10	1.0
1,2,3,7,8 - penta CDD	50	1.0
1,2,3,4,7,8 - hexa CDD	50	0.1
1,2,3,6,7,8 - hexa CDD	50	0.1
1,2,3,7,8,9 - hexa CDD	50	0.1
1,2,3,4,6,7,8 - hepta CDD	50	0.01
Octa CDD	100	0.0001
2,3,7,8 - tetra CDF	10	0.1
1,2,3,7,8 - penta CDF	50	0.05
2,3,4,7,8 - penta CDF	50	0.5
1,2,3,4,7,8 - hexa CDF	50	0.1
1,2,3,6,7,8 - hexa CDF	50	0.1
1,2,3,7,8,9 - hexa CDF	50	0.1
2,3,4,6,7,8 - hexa CDF	50	0.1
1,2,3,4,6,7,8 - hepta CDFs	50	0.01
1,2,3,4,7,8,9 - hepta CDFs	50	0.01
Octa CDF	100	0.0001

B. Monitoring Locations RSW-002 and RSW-004

1. The Discharger shall monitor the Ballona Creek and the Centinela Creek at downstream monitoring locations RSW-001 and RSW-003 as follows, and include the coordinates of the location where each receiving water sample was collected in the corresponding monitoring report:

Table E-3b. Receiving Water Monitoring Requirements at Monitoring Locations RSW-002 and RSW-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	standard units	Grab	1/Semiannual period ^{1,2}	3, 4
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Semiannual period ^{1,2}	3
Dissolved Oxygen	mg/L	Grab	1/Semiannual period ^{1,2}	3, 4
Temperature	°F	Grab	1/Semiannual period ^{1,2}	3, 4
Turbidity	NTU	Grab	1/Semiannual period ^{1,2}	3
E. coli	MPN/100ml or CFU/100ml	Grab	1/Semiannual period ^{1,2}	3
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Semiannual period ^{1,2}	3

- ¹ One of the receiving water samples shall be collected at approximately the same time the samples are collected at RSW-001 and RSW-003 and during the first hour of discharge if a discharge occurs. If, for safety reasons, a sample cannot be obtained during the required time period, a sample shall be obtained at the first safe opportunity, and the reason for the delay shall be included in the report.
- ² The semiannual monitoring at each monitoring location is required. If no discharge to the surface water occurs during the first five (5) months of any semiannual period, the semiannual receiving water sampling shall be conducted at any time in the last month (June or December) of the semiannual period.
- ³ Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136; for priority pollutants, the methods must meet the lowest MLs specified in Attachment 4 of the SIP, provided as Attachment H in this Order. Where no methods are specified for a given pollutant, the methods must be approved by this Regional Water Board or the State Water Board. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.
- ⁴ A hand-held field meter may be used for pH, dissolved oxygen and temperature, provided the meter utilizes an EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

C. Monitoring Location RSW-005

For each day in which a discharge from the Facility occurs, the Discharger shall report the maximum daily flow (in cubic feet per second) in the Ballona Creek. Flow data for Ballona Creek is currently monitored between Sawtelle Boulevard and Sepulveda Boulevard by Los Angeles County Department of Public Works (LACDPW) at Stream Gage No. F38C-R. This station is designated as RSW-005 in this Order. This information is necessary to determine the wet weather and dry weather condition of the creek, as defined in the Ballona Creek Metals TMDL. Flow data can be obtained by contacting Mr. Arthur Gotingco (Tel: 626-458-6379; Email: agoting@dpw.lacounty.gov) at LACDPW. Data provided by LACDPW is provisional if the request is for current water year (October 1 through September 30) data and there is typically a 2-week period before the previous month's data is available due to processing and quality checking.

IX. OTHER MONITORING REQUIREMENTS

A. Rainfall Monitoring

The Discharger shall measure and record the rainfall on each day of the month or submit the data obtained from the nearest city/county operated rain gauge monitoring station. This information shall be included in the quarterly monitoring report.

B. Visual Observation

The Discharger shall make visual observations of all storm water discharge locations on at least one storm event per month that produces a significant storm water discharge to observe the presence of trash, floating and suspended materials, oil and grease, discoloration, turbidity, and odor. A "significant storm water discharge" is a continuous discharge of storm water for a minimum of one hour, or the intermittent discharge of storm water for a minimum of 3 hours in a 12-hour period.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the Discharger shall indicate under penalty of perjury in the corresponding monitoring report that no effluent was discharged to surface water during the reporting period.
3. If the Discharger conducts monitoring more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the monitoring report. These results shall be reflected in the calculation of the average (or median) used in demonstrating compliance with this Order.
4. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.
5. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.
6. The Discharger shall report the results of chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, section V.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website http://www.waterboards.ca.gov/water_issues/programs/ciwqs/. The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit quarterly SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-4. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
1/Discharge Event	April 1, 2018	One week (or any 7-day period)	Submit with quarterly SMR
1/Quarter	April 1, 2018	January 1 – March 31 April 1 – June 30 July 1 – September 30 October 1 - December 31	May 15 August 15 November 15 February 15
1/Semiannual period	April 1, 2018	January 1 – June 30 July 1 – December 31	August 15 February 15
1/Year	April 1, 2018	January 1 through December 31	February 15 of the following year

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
 - b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.
 - e. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
 - c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected,” or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
- 5. Compliance Determination.** Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
- 6. Multiple Sample Data.** When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
7. The Discharger shall submit SMRs in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

C. Discharge Monitoring Reports (DMRs)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at:

http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

D. Other Reports

1. **Within 90 days** of the effective date of this permit, the Discharger is required to submit the following to the Regional Water Board:
 - a. Initial Investigation TRE workplan
 - b. Storm Water Pollution Prevention Plan (SWPPP)
 - c. Best Management Practices Plan (BMPP)
 - d. Spill Contingency Plan (SCP)

The SWPPP, BMPP, and SCP shall be reviewed at a minimum once per year and updated as needed to ensure all actual or potential sources of trash and pollutants discharged from the Facility are addressed. All changes or revisions to the SWPPP, BMPP, and SCP shall be submitted to the Regional Water Board within 30 days of revisions.

2. **Within 90 days** of the effective date of this permit, the Discharger shall submit a work plan detailing the use of the high resolution analytical methods in sediment analyses to the Regional Water Board for approval by the Executive Officer. The work plan shall include sampling protocols and proposed analytical methods and indicate results generated will be able to demonstrate the compliance with sediment limitations (WLAs in the Ballona Creek Estuary Toxic Pollutants TMDL) (see section IV.A.2. of the MRP).

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	4B192113018
Discharger	Sentinel Peak Resources California, LLC
Name of Facility	Inglewood Oil Field
Facility Address	5640 South Fairfax Avenue
	Los Angeles, CA 90056
	Los Angeles County
Facility Contact, Title and Phone	John Landgard, EH&S Manager, 323-298-2247
Authorized Person to Sign and Submit Reports	Christine Halley, Director of EH&S & Regulatory Affairs
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Oil Field
Major or Minor Facility	Major
Threat to Water Quality	3
Complexity	C
Pretreatment Program	Not Applicable
Recycling Requirements	Not Applicable
Facility Permitted Flow	7.55 million gallons per day (MGD) at Discharge Points 001 to 006
Facility Design Flow	Not Applicable
Watershed	Ballona Creek
Receiving Water	Ballona Creek Reach 2, Centinela Creek
Receiving Water Type	Inland Surface Water

- A. Sentinel Peak Resources California, LLC. (hereinafter, Discharger) is the owner and operator of the Inglewood Oil Field (hereinafter Facility or Field), an actively producing oil and gas field. Sentinel Peak Resources California, LLC. acquired the Field from Freeport-McMoRan Oil & Gas (FM O&G) on January 1, 2017. Plains Exploration & Production Company, the permittee in the prior order governing waste discharge from the Facility, Order No. R4-2013-0021, merged with and into FM O&G on May 31, 2013.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Facility discharges storm water runoff to Ballona Creek Reach 2 and Centinela Creek, waters of the United States, within the Ballona Creek Watershed. The Discharger was previously regulated by Order No. R4-2013-0021 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0057827, adopted on February 7, 2013, which is scheduled to expire on January 10, 2018. Attachment B provides a map of the area around the Facility. Attachment C provides flow schematics of the Facility.
- C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on July 14, 2017. The revised application was received on September 15, 2017. The application was deemed complete on October 3, 2017. A site visit was conducted on September 29, 2017, to observe operations at the Facility and to collect additional data to develop permit limitations and requirements.
- D. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The Inglewood Oil Field comprises approximately 900 acres and is located at 5640 South Fairfax Avenue in Los Angeles, California. Oil and gas exploration and production at the site dates back to the 1920's with over 1,600 wells drilled throughout the historical boundary of the site. Existing operations involve extracting oil and gas from subsurface reservoirs located between 800 and 10,000 feet below ground surface (bgs), removal of water from the crude oil and liquids from the gas. The crude oil is shipped through pipelines to Southern California refineries to be processed into gasoline and other products. The gas is shipped by pipeline to the SoCal Gas Company for use by consumers and industry or is shipped to refineries for use in the refining process. Industrial activities that are performed on the site include:

- Onshore oil production with oil dehydration/separation and oil storage/shipping facilities;
- Water treatment and injection facilities;
- Natural gas separation facilities and storage/handling of natural gas liquids;
- Total crude oil and produced water storage;
- Stormwater Treatment Systems; and,
- Biotreatment of contaminated soil.

The Inglewood Oil Field is located in the Baldwin Hills with elevations ranging from peaks higher than 500 feet East of La Cienega Boulevard, to as low as 100 feet at the northwest corner of the site. No perennial or intermittent streams, as defined by the U.S Geological Survey, are present within the Field boundaries. Six surface water retention basins are located along drainages within the Field boundaries to regulate discharges from the site. Surface runoff sheet flows across drilling pads, service roads, and various slopes to several interim basins and eventually to six surface water retention basins. The six retention basins are designed to retain oil on-site in an event of a spill and prevent oil spills from reaching the Los Angeles County storm drain system or surface water. The retention basin names and the related discharge points are:

Discharge Point	Retention Basin Name
001	LAI Last Chance Basin
002	Dabney-Lloyd Basin
003	Stocker Basin
004	Vickers - I Basin

Discharge Point	Retention Basin Name
005	Lower Vickers - II Basin
006	Upper Vickers - II Basin

A. Description of Wastewater Treatment and Controls

Storm water runoff and construction storm water within the Field are collected in the six retention basins described above. The facility utilizes a storm water treatment system at each basin to remove pollutants. The treatment system components include flocculation, settling, in-line clarification, and filtration. The Discharger continues to explore the appropriate storm water treatment system component(s) to be used at each basin based on the effluent characteristics with respect to each outfall. In addition to the treatment systems, Best Management Practices (BMPs) are in place to minimize the pollutant concentrations in the storm water runoff that drains to the six retention basins. Structural BMPs include containment berms, check dams, excelsior racks (Discharge Points 001, 002, 005 and 006) and numerous temporary BMPs (such as fiber rolls, etc). Further protection is provided at Discharge Points 003, 004 and 006 with discharge intake structures designed for oil-water separation.

The Discharger is required to implement BMPs that will effectively control the transport of pollutants associated with construction activities that will occur periodically in the Field. These BMPs will reduce pollutant concentrations in the storm water traversing the construction area prior to it entering the downstream retention basins. A description of the Field's BMPs is presented in the Storm Water Pollution Prevention Plan (SWPPP) dated April 2017.

B. Discharge Point and Receiving Water

Up to 7.55 MGD of storm water runoff is ultimately discharged into Ballona Creek (Reach 2) or Centinela Creek, waters of the United States, through Discharge Points 001 through 006. Runoff from six retention basins is first discharged to the Los Angeles County Department of Public Works storm drain system. Two of the basins (LAI Last Chance and Stocker) discharge through the storm drain system into Centinela Creek which is located approximately 1.2 miles southwest of the active field boundary. The Centinela Creek drains directly to Balolona Creek Estuary just below the boundary with Ballona Creek Reach 2. The other four basins (Dabney-Lloyd, Vickers - I, Lowers Vickers – II and Upper Vickers – II) discharge through the storm drain system to Ballona Creek Reach 2, which is located approximately 0.2 mile south of the active field boundary at the closest point. The locations of the Discharge Points, the permitted maximum runoff flows, and the receiving waters are listed below:

Discharge Point (Basin Name)	Latitude	Longitude	Maximum Rainfall Runoff Flow (mgd)	Receiving Water
001 (LAI Last Chance)	33.9894°	-118.3692°	0.666	Centinela Creek
002 (Dabney-Lloyd)	34.0144°	-118.3747°	3.06	Ballona Creek Reach 2
003 (Stocker)	34.9908°	-118.3611°	0.634	Centinela Creek
004 (Vickers - I)	34.0008°	-118.3842°	1.58	Ballona Creek Reach 2
005 (Lower Vicker - II)	34.0081°	-118.3867°	1.01	Ballona Creek Reach 2
006 (Upper Vickers - II)	34.0100°	-118.3867°	0.60	Ballona Creek Reach 2

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations from Order No. R4-2013-0021 and monitoring results for Discharge Points 001 through 006 during the term of Order No. R4-2013-0021 are listed in Tables F-2a through F-2f.

Table F-2a. Historic Effluent Limitations and Monitoring Data – Discharge Point 001

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
pH	s.u.	6.5 – 8.5 ³	--	6.8 – 8.25 ⁴
Temperature	°F	86 ⁵	--	74
Biochemical Oxygen Demand (5-day@20°C) (BOD)	mg/L	30	--	10.2
Oil and Grease	mg/L	15	--	1.7 ⁶
Phenols	mg/L	1.0	--	<0.025
Acute Toxicity	% survival	7		95 ⁸
Mercury, Total Recoverable (All-weather)	µg/L	0.10	--	<0.1
Copper, Total Recoverable (All-weather)	µg/L	23	41	58
Lead, Total Recoverable (All-weather)	µg/L	9.9	26	43
Selenium, Total Recoverable (All-weather)	µg/L	8.2	29	3.8
Zinc, Total Recoverable (All-weather)	µg/L	184	420	200

- ¹ These effluent limitations were prescribed in Order No. R4-2013-0021.
- ² Interim maximum daily effluent limitations are effective from February 7, 2013 to February 7, 2018 during the effective period of Time Schedule Order No. R4-2013-0022 and its amendment, TSO No. R4-2013-0022-A01.
- ³ Instantaneous minimum and maximum range.
- ⁴ Range of reporting data.
- ⁵ Instantaneous maximum.
- ⁶ Detected, but not quantified (DNQ) value. The result was an estimated value as it is detected greater than the method detection limit (MDL), but less than the minimum level (ML).
- ⁷ The acute toxicity of the effluent shall be such that:
 - i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and
 - ii. No single test shall produce less than 70% survival.
- ⁸ Lowest survival of any single test.

Table F-2b. Historic Effluent Limitations and Monitoring Data – Discharge Point 002

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
pH	s.u.	6.5 – 8.5 ³	--	6.6 – 8.35 ⁴

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
Temperature	°F	86 ⁵	--	75.1
Biochemical Oxygen Demand (5-day@20°C) (BOD)	mg/L	30	--	11.8
Oil and Grease	mg/L	15	--	1.3 ⁶
Phenols	mg/L	1.0	--	ND (<0.025)
Acute Toxicity	% survival	7		93 ⁸
Mercury, Total Recoverable (All-weather)	µg/L	0.10	--	ND (<0.1)
Copper, Total Recoverable (Dry-weather)	µg/L	39	--	21.8
Lead, Total Recoverable (Dry-weather)	µg/L	21	--	3.9
Selenium, Total Recoverable (Dry-weather)	µg/L	8.2	--	ND (<2)
Zinc, Total Recoverable (Dry-weather)	µg/L	498	--	308
Copper, Total Recoverable (Wet-weather)	µg/L	18	30	57
Lead, Total Recoverable (Wet-weather)	µg/L	59	--	43
Selenium, Total Recoverable (Wet-weather)	µg/L	5.0	--	5.2
Zinc, Total Recoverable (Wet-weather)	µg/L	119	--	190

- ¹ These effluent limitations were prescribed in Order No. R4-2013-0021.
- ² Interim maximum daily effluent limitations are effective from February 7, 2013 to February 7, 2018 during the effective period of Time Schedule Order No. R4-2013-0022 and its amendment, TSO No. R4-2013-0022-A01.
- ³ Instantaneous minimum and maximum range.
- ⁴ Range of reporting data.
- ⁵ Instantaneous maximum.
- ⁶ Detected, but not quantified (DNQ) value. The result was an estimated value as it is detected greater than the method detection limit (MDL), but less than the minimum level (ML).
- ⁷ The acute toxicity of the effluent shall be such that:
 - i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and
 - ii. No single test shall produce less than 70% survival.
- ⁸ Lowest survival of any single test.

Table F-2c. Historic Effluent Limitations and Monitoring Data – Discharge Point 003

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
pH	s.u.	6.5 – 8.5 ³	--	7.7 – 8.6 ⁴

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
Temperature	°F	86 ⁵	--	62
Biochemical Oxygen Demand (5-day@20°C) (BOD)	mg/L	30	--	8.6
Oil and Grease	mg/L	15	--	1.3 ⁶
Phenols	mg/L	1.0	--	0.031 ⁶
Acute Toxicity	% survival	7		95 ⁸
Copper, Total Recoverable (All-weather)	µg/L	23	30	48
Lead, Total Recoverable (All-weather)	µg/L	9.9	23	37
Selenium, Total Recoverable (All-weather)	µg/L	8.2	46	ND (<2)

- 1 These effluent limitations were prescribed in Order No. R4-2013-0021.
- 2 Interim maximum daily effluent limitations are effective from February 7, 2013 to February 7, 2018 during the effective period of Time Schedule Order No. R4-2013-0022 and its amendment, TSO No. R4-2013-0022-A01.
- 3 Instantaneous minimum and maximum range.
- 4 Range of reporting data.
- 5 Instantaneous maximum.
- 6 Detected, but not quantified (DNQ) value. The result was an estimated value as it is detected greater than the method detection limit (MDL), but less than the minimum level (ML).
- 7 The acute toxicity of the effluent shall be such that:
 - i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and
 - ii. No single test shall produce less than 70% survival.
- 8 Lowest survival of any single test.

Table F-2d. Historic Effluent Limitations and Monitoring Data – Discharge Point 004

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
pH	s.u.	6.5 – 8.5 ³	--	7.4 ⁴
Temperature	°F	86 ⁵	--	58 ⁴
Biochemical Oxygen Demand (5-day@20°C) (BOD)	mg/L	30	--	3.7 ⁴
Oil and Grease	mg/L	15	--	1.3 ^{4, 6}
Phenols	mg/L	1.0	--	ND (<0.025) ⁴
Acute Toxicity	% survival	7		68 ^{4, 8}
Copper, Total Recoverable (Dry-weather)	µg/L	39	--	3.8 ⁴
Lead, Total Recoverable (Dry-weather)	µg/L	21	--	ND (<1) ⁴

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
Selenium, Total Recoverable (Dry-weather)	µg/L	8.2	26	2 ⁴
Zinc, Total Recoverable (Dry-weather)	µg/L	498	--	15.3 ⁴
Copper, Total Recoverable (Wet-weather)	µg/L	18	--	NR
Lead, Total Recoverable (Wet-weather)	µg/L	59	--	NR
Selenium, Total Recoverable (Wet-weather)	µg/L	5.0	--	NR
Zinc, Total Recoverable (Wet-weather)	µg/L	119	--	NR

NR = Not Reported. There is no dry-weather discharge during the reporting period.

- ¹ These effluent limitations were prescribed in Order No. R4-2013-0021.
- ² Interim maximum daily effluent limitations are effective from February 7, 2013 to February 7, 2018 during the effective period of Time Schedule Order No. R4-2013-0022 and its amendment, TSO No. R4-2013-0022-A01.
- ³ Instantaneous minimum and maximum range.
- ⁴ There is only one discharge event during the reporting period. The reported data show the results of the only monitoring event occurred on February 7, 2017.
- ⁵ Instantaneous maximum.
- ⁶ Detected, but not quantified (DNQ) value. The result was an estimated value as it is detected greater than the method detection limit (MDL), but less than the minimum level (ML).
- ⁷ The acute toxicity of the effluent shall be such that:
 - i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and
 - ii. No single test shall produce less than 70% survival.
- ⁸ Lowest survival of any single test.

Table F-2e. Historic Effluent Limitations and Monitoring Data – Discharge Point 005

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
pH	s.u.	6.5 – 8.5 ³	--	NR
Temperature	°F	86 ⁴	--	NR
Biochemical Oxygen Demand (5-day@20°C) (BOD)	mg/L	30	--	NR
Oil and Grease	mg/L	15	--	NR
Phenols	mg/L	1.0	--	NR
Acute Toxicity	% survival	⁵		NR
Copper, Total Recoverable (Dry-weather)	µg/L	39	--	NR
Lead, Total Recoverable (Dry-weather)	µg/L	21	--	NR
Selenium, Total Recoverable (Dry-weather)	µg/L	8.2	10	NR

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
Zinc, Total Recoverable (Dry-weather)	µg/L	498	--	NR
Copper, Total Recoverable (Wet-weather)	µg/L	18	33	NR
Lead, Total Recoverable (Wet-weather)	µg/L	59	--	NR
Selenium, Total Recoverable (Wet-weather)	µg/L	5.0	10	NR
Zinc, Total Recoverable (Wet-weather)	µg/L	119	--	NR

NR = Not Reported. There is no discharge during the reporting period.

¹ These effluent limitations were prescribed in Order No. R4-2013-0021.

² Interim maximum daily effluent limitations are effective from February 7, 2013 to February 7, 2018 during the effective period of Time Schedule Order No. R4-2013-0022 and its amendment, TSO No. R4-2013-0022-A01.

³ Instantaneous minimum and maximum range.

⁴ Instantaneous maximum.

⁵ The acute toxicity of the effluent shall be such that:

- i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and
- ii. No single test shall produce less than 70% survival.

Table F-2f. Historic Effluent Limitations and Monitoring Data – Discharge Point 006

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
pH	s.u.	6.5 – 8.5 ³	--	6.9 – 8.65 ⁴
Temperature	°F	86 ⁵	--	68
Biochemical Oxygen Demand (5-day@20°C) (BOD)	mg/L	30	--	5.1
Oil and Grease	mg/L	15	--	2.3 ⁶
Phenols	mg/L	1.0	--	ND (<0.025)
Cyanide	µg/L	8.5	--	ND (<10)
Acute Toxicity	% survival	7		87 ⁸
Mercury, Total Recoverable (All-weather)	µg/L	0.10	--	0.2
Copper, Total Recoverable (Dry-weather)	µg/L	39	61	NR
Lead, Total Recoverable (Dry-weather)	µg/L	21	49	NR
Selenium, Total Recoverable (Dry-weather)	µg/L	8.2	25	NR
Zinc, Total Recoverable (Dry-weather)	µg/L	498	--	NR

Parameter	Units	Effluent Limitations		Maximum Daily of Reported Data (March 2013 through August 2017)
		Maximum Daily ¹	Interim Maximum Daily ²	
Copper, Total Recoverable (Wet-weather)	µg/L	18	61	110
Lead, Total Recoverable (Wet-weather)	µg/L	59	--	94
Selenium, Total Recoverable (Wet-weather)	µg/L	5.0	25	3.8
Zinc, Total Recoverable (Wet-weather)	µg/L	119	190	380

NR = Not Reported. There is no dry-weather discharge during the reporting period.

- ¹ These effluent limitations were prescribed in Order No. R4-2013-0021.
- ² Interim maximum daily effluent limitations are effective from February 7, 2013 to February 7, 2018 during the effective period of Time Schedule Order No. R4-2013-0022 and its amendment, TSO No. R4-2013-0022-A01.
- ³ Instantaneous minimum and maximum range.
- ⁴ Range of reporting data.
- ⁵ Instantaneous maximum.
- ⁶ Detected, but not quantified (DNQ) value. The result was an estimated value as it is detected greater than the method detection limit (MDL), but less than the minimum level (ML).
- ⁷ The acute toxicity of the effluent shall be such that:
 - i. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and
 - ii. No single test shall produce less than 70% survival.
- ⁸ Lowest survival of any single test.

D. Compliance Summary

Based on data submitted to the Regional Water Board from March 2013 through August 2017, the Discharger has the following violations of numeric permit limitations:

Table F-3. Summary of Compliance History

Date Occurred	Monitoring Period	Discharge Point	Violations Type	Pollutant	Reported Value	Permit Limitation*	Units
02/28/2014	1 st Quarter 2014	003	Instantaneous Maximum	pH	8.6	8.5	s.u.
02/28/2014	1 st Quarter 2014	006	Instantaneous Maximum	pH	8.65	8.5	s.u.
02/28/2014	1 st Quarter 2014	001	Daily Maximum	Copper, Total Recoverable	58	41 (Interim limit)	µg/L
02/28/2014	1 st Quarter 2014	001	Daily Maximum	Lead, Total Recoverable	43	26 (Interim limit)	µg/L
02/28/2014	1 st Quarter 2014	002	Daily Maximum	Zinc, Total Recoverable	190	119	µg/L
02/28/2014	1 st Quarter 2014	002	Daily Maximum	Copper, Total Recoverable	57	30 (Interim limit)	µg/L
02/28/2014	1 st Quarter 2014	003	Daily Maximum	Lead, Total Recoverable	37	23 (Interim limit)	µg/L
02/28/2014	1 st Quarter 2014	003	Daily Maximum	Copper, Total Recoverable	48	30 (Interim limit)	µg/L
02/28/2014	1 st Quarter 2014	006	Daily Maximum	Mercury, Total Recoverable	0.2	0.1	µg/L
02/28/2014	1 st Quarter 2014	006	Daily Maximum	Lead, Total Recoverable	94	59	µg/L

Date Occurred	Monitoring Period	Discharge Point	Violations Type	Pollutant	Reported Value	Permit Limitation*	Units
02/28/2014	1 st Quarter 2014	006	Daily Maximum	Zinc, Total Recoverable	380	190	µg/L
09/15/2015	3 rd Quarter 2015	001	Daily Maximum	Copper, Total Recoverable	43.4	41 (Interim limit)	µg/L
09/15/2015	3 rd Quarter 2015	002	Daily Maximum	Copper, Total Recoverable	48.8	30 (Interim limit)	µg/L
09/15/2015	3 rd Quarter 2015	002	Daily Maximum	Zinc, Total Recoverable	154	119	µg/L
02/20/2017	1 st Quarter 2017	004	% survival	Acute Toxicity	68	70	%

* Interim limitations were established in TSO No. R4-2013-0022 and its amendment.

The Regional Water Board issued Settlement Offers R4-2015-0002 and R4-2016-0298 on January 7, 2015 and October 14, 2016, respectively, to address the violations listed above (but excluding the acute toxicity limit violation that occurred on February 20, 2017). The Discharger agreed to these Settlement Offers and delivered to the Regional Water Board signed letters of Acceptance of Conditional Resolution and Waiver of Right to Hearing. The required mandatory minimum penalties in the amount of \$21,000 and \$3,000 were received by the Regional Water Board on April 20, 2015 and December 28, 2016, respectively. Enforcement action is pending with regard to the acute toxicity limit violation that was not included in Settlement Offer R4-2016-0298.

The Facility was issued Time Schedule Order (TSO) R4-2013-0022 on February 7, 2013, because monitoring data indicated that the Facility could not consistently comply with the final effluent limitations for copper, lead, selenium and zinc at Discharge Points 001 through 006 as prescribed in Order R4-2013-0021. The TSO established interim effluent limitations and it required the Facility to undertake several tasks to achieve full compliance with the final effluent limitations as specified in Order R4-2013-0021. The Discharger has completed all of the requirements of this TSO. During the TSO implementation period, the Discharger discovered that the BMPs and other Facility modifications would not provide the level of treatment required to achieve compliance with the final effluent limitations. Per the Discharger’s request, the Regional Water Board issued an amendment (TSO No. R4-2013-0022-A01) to Time Schedule Order No. R4-2013-0022 on September 15, 2016. This TSO amendment provides one-and-a-half years for the design, initial implementation, and installation of the storm water treatment systems at each retention basin. The TSO amendment will expire on February 7, 2018.

E. Planned Changes

The Discharger will evaluate the effectiveness of the storm water treatment components and install an appropriate storm water treatment system at each retention basin.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as

an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. Water Quality Control Plan. Under federal law, all surface waters must have water quality standards designated in the Basin Plans, and most of the inland surface waters in the Region have beneficial uses specifically designated for them. The Regional Water Board adopted a *Water Quality Control Plan for the Los Angeles Region* (hereinafter Basin Plan) on June 13, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply (MUN). Requirements in this Order implement the Basin Plan.

The Basin Plan does not currently assign beneficial uses specific to the Centinela Creek. However, the Basin Plan states that “waters not specifically listed (*generally smaller tributaries*), are designated with the same beneficial uses as the streams, lakes, or reservoirs to which they are tributary.” Moreover, federal regulations that address state water quality standards are contained in 40 C.F.R. sections 131.2 and 131.10 and constitute a rebuttable presumption that beneficial uses supporting the “fishable, swimmable” goals of the federal CWA are attainable. In this case, there is no evidence to disprove attainability, and therefore recreation and aquatic life beneficial uses apply to the Centinela Creek. Because the Centinela Creek is a tributary of the Ballona Creek, the Regional Water Board finds that the beneficial uses identified in the Basin Plan for the Ballona Creek (Reach 2) are applicable to Centinela Creek. Furthermore, these beneficial uses support the “fishable, swimmable” goals of the CWA. Beneficial uses identified in the Basin Plan for Ballona Creek Reach 2 are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Points	Receiving Water Name	Beneficial Use(s)
002, 004, 005 and 006	Ballona Creek Reach 2 (Estuary to National Blvd) (WBD No. 180701040300)	<u>Existing:</u> Limited water contact recreation (LREC-1), non-contact recreation (REC-2). <u>Potential:</u> Municipal and domestic water supply (MUN) ¹ , warm freshwater habitat (WARM), water contact recreation (REC-1) ² and wildlife habitat (WILD).
001 and 003	Centinela Creek, A tributary to Ballona Creek	<u>Same as above.</u>

¹ MUN designations are designated under State Water Board Resolution 88-63 and Regional Water Board Resolution 89-03. Some designations may be considered for exemption at a later date (See pages 2-3, 4 of the Basin Plan for more details).

² Access prohibited by Los Angeles County Department of Public Works.

2. High Flow Suspension. On July 10, 2003, the Regional Water Board adopted Resolution No. 2003-010 (High Flow Suspension) to suspend recreational beneficial uses in

engineered channels during unsafe weather conditions. The High Flow Suspension became effective on November 2, 2004. The High Flow Suspension applies to 1) water contact recreational activities associated with the swimmable goal as expressed in the federal Clean Water Act section 101(a)(2) and regulated under the REC-1 beneficial use, 2) non-contact water recreation involving incidental water contact regulated under the REC-2 beneficial use, and 3) associated bacteriological objectives set to protect those activities. Water quality objectives set to protect other recreational uses associated with the fishable goal as expressed in the federal CWA section 101(a)(2) and regulated under the REC-1 use, and other REC-2 uses (e.g., uses involving the aesthetic aspects of water) shall remain in effect at all times. The High Flow Suspension shall apply on days with rainfall greater than or equal to ½ inch and the 24 hours following the end of the ½-inch or greater rain event, as measured at the nearest local rain gage, using local Doppler radar, or using widely accepted rainfall estimation methods. The High Flow Suspension is applicable to Ballona Creek Reach 2 (Estuary to National Blvd).

3. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*. The white paper evaluated the optimum temperatures for aquatic species routinely available in surface water bodies within the Los Angeles Region including: steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. A maximum effluent temperature limitation of 86°F was determined to be appropriate for protection of aquatic life and is included in this Order.
4. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.
5. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
6. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on

specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

7. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
8. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare, threatened, or endangered species. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.
9. **Trash Provisions.** The State Water Board adopted the "*Amendment to the Ocean Plan and Part I Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California*" (Trash Amendments) through Resolution 2015-0019, which was approved by OAL on December 2, 2015 and became effective upon U.S. EPA approval on January 12, 2016. The Trash Amendments established a narrative water quality objective for trash and a prohibition of the discharge of trash, implemented through permits issued pursuant to CWA section 402(p), waste discharge requirements, or waivers of waste discharge requirements.

The Trash Amendments apply to all surface waters of the State, with the exception of those waters within the jurisdiction of the Los Angeles Regional Water Board where trash or debris TMDLs are in effect prior to the effective date of the Trash Amendments. The Ballona Creek Trash TMDL was effective prior to the effective date of the Trash Amendments. However, the Ballona Creek Trash TMDL did not include any waste load allocations for minor NPDES permittees. As such, this Order implements the requirements of the Trash Provisions through the prohibition of trash discharges. This Order requires the Discharger to develop and implement an updated Storm Water Pollution Prevention Plan (SWPPP), which shall include specific BMPs used as storm water control measures that the Discharger will undertake to prevent the discharge of trash from the Facility to the Ballona Creek or the Centinela Creek. The Discharger is required to detail and submit to the Regional Water Board the updated SWPPP.

10. **Mercury Provisions.** The State Water Board adopted "Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California- Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions" (Mercury Provisions) through Resolution 2017-0027, which was approved by OAL on June 28, 2017 and became effective upon U.S. EPA approval on July 14, 2017. The Mercury Provisions established one narrative and four numeric water quality objectives for mercury and three new beneficial use definitions, implemented through NPDES permits issued pursuant to CWA section 402, waste discharge requirements, or waivers of waste discharge requirements. The Mercury Provisions are applicable to this Facility as the Ballona Creek Reach 2 has potential beneficial uses of Warm and Wild, and there is currently no TMDL or site specific objectives for mercury in Ballona Creek Reach 2. The Mercury Provisions included implementation requirements for individual non-storm water NPDES permits for

municipal and industrial dischargers; storm water discharges including the Municipal Separate Storm Sewer System (MS4) NPDES Permit and the General Permit for Storm Water Discharges Associated with Industrial Activities (Order NPDES No. CAS000001); mine site remediation; nonpoint source discharges; dredging activities; and wetland projects.

The Provisions did not prescribe specific implementation provisions for individual industrial permittees that discharge storm water only. However, requirements for mercury included in this Order is at least as stringent as and is consistent with the requirements included in the Provisions for industrial storm water dischargers regulated under the Industrial General Permit. The type of discharges regulated under the Industrial General Permit is similar to the Facility's discharge as the Facility also discharges storm water only from an industrial site. The Provisions for industrial storm water permittees regulated under the Industrial General Permit includes a revision to the mercury numeric action level (NAL) to 0.3 µg/L (300 ng/L) or lower. This Order establishes a water-quality based effluent limitation (WQBELs) for mercury expressed as a maximum daily effluent limitation of 0.1 µg/L (100 ng/L) for the protection of the human health criterion in the CTR, based on the presence of reasonable potential for mercury with consideration of effluent monitoring data submitted by the Discharger during the term of Order No. R4-2013-0021 (See section IV.C.3 of this Fact Sheet). Therefore, in achieving compliance with the mercury effluent limitation prescribed in this Order, the Discharger will be held to a treatment level that is at least as stringent as and comparable to that required of other industrial storm water dischargers in the Region. Compliance with the permit limitation will protect the mercury objectives set forth in the Provisions, and thus satisfy the requirement of the Mercury Provisions for industrial storm water discharges.

D. Impaired Water Bodies on the CWA section 303(d) List

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all CWA section 303(d)-listed water bodies and pollutants, the Regional Water Board plans to develop and adopt total maximum daily loads (TMDLs) that will specify waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, as appropriate.

U.S. EPA approved the State's 2012 303(d) list of impaired water bodies on June 26, 2015. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 303(d) List of Water Quality Limited Segments (hereinafter 303(d) list) and have been scheduled for TMDL development. Ballona Creek is listed for coliform bacteria, copper (dissolved), cyanide, lead, selenium, toxicity, trash, virus (enteric) and zinc. The downstream, Ballona Creek Estuary, is listed for cadmium, chlordane (tissue & sediment), coliform bacteria, copper, DDT (tissue & sediment), lead (sediment), PAHs (sediment), PCBs (tissue & sediment), sediment toxicity, shellfish harvesting advisory, silver and zinc (sediment). The Ballona Creek Wetlands are listed for exotic vegetation, habitat alterations, hydromodification, reduced tidal flushing and trash.

Coliform bacteria, copper (dissolved), lead, selenium, toxicity, trash, virus (enteric) and zinc are addressed through TMDLs as detailed below. The TMDL to address cyanide is scheduled for completion by 2019.

- 1. Ballona Creek Metals TMDL.** The TMDL for metals in Ballona Creek was approved by the Regional Water Board on July 7, 2005 (Resolution NO. R05-007). The State Water Board approved the TMDL on October 20, 2005; OAL and U.S. EPA approvals were received on December 9, 2005 and December 22, 2005, respectively. The TMDL was subsequently amended by Resolutions No. R2007-015 that was adopted by the Regional

Water Board on September 6, 2007. State Water Board, OAL, and U.S. EPA approval occurred on June 17, 2008, October 6, 2008, and October 29, 2009, respectively. A recently revised metals TMDL, Resolution No. R13-010, was adopted by the Regional Water Board on December 5, 2013; State Water Board, OAL and U.S. EPA approvals were received on June 17, 2014, May 5, 2015 and October 26, 2015, respectively. It became effective on October 26, 2015. This revised metals TMDL designates WLAs for point sources to Ballona Creek.

The discharge from the Inglewood Oil Field has been classified as a major discharge on the basis of the number of points accumulated using the NPDES Permit Rating Work Sheet.

The Ballona Creek Metals TMDL includes specific WLAs for some of the major dischargers, the Los Angeles and the State of California Department of Transportation (CalTrans) MS4 permittees. However, no site specific WLA has been designated for the Inglewood Oil Field in the TMDL. In Attachment A to Resolution No. R13-010, on Page 5 in the section Waste Load Allocations (for point sources), paragraph 1 reads "Waste load allocations (WLA) are assigned to point sources for Ballona Creek and Sepulveda Canyon Channel. A grouped mass-based waste load allocation is developed for the storm water permittees (Los Angeles County MS4 permittees, Caltrans MS4 permittees, General Construction and General Industrial) by subtracting the load allocation from the total loading capacity. Concentration-based waste load allocations are developed for other point sources in the watershed." Inglewood Oil Field is a point source to Ballona Creek, one of the other point sources in the watershed which is referenced. Hence, the Facility requires an effluent limit developed using the appropriate WLA. The TMDL includes concentration-based dry-weather and wet weather WLA for other permits discharging to Ballona Creek. These concentration-based WLAs have been used to develop effluent limits for discharges from the Inglewood Oil Field. This permit implements the applicable WLAs as required in the TMDL, by applying the effluent limitation calculations provided in Section 1.4 of the SIP. Concentration-based WLAs were established for copper, lead and zinc for Discharge Point No. 002, 004, 005, and 006. This Metals TMDL for Ballona Creek is not applicable to the discharges to Centinela Creek because Centinela Creek is not listed as impaired for the targeted constituents and it flows into Ballona Creek Estuary.

2. **Ballona Creek Bacteria TMDL.** The Ballona Creek Bacteria TMDL was approved by the Regional Water Board on June 8, 2006 (Resolution NO. 2006-011). The State Water Board approved the TMDL on November 15, 2006; OAL and U.S. EPA approvals were received on February 22, 2007, and March 26, 2007, respectively. The TMDL was subsequently amended by Resolutions No. R12-008 that was adopted by the Regional Water Board on June 7, 2012. State Water Board, and OAL, approval occurred on March 19, 2013 and November 8, 2013, respectively. It became effective on July 2, 2014 upon the approval by U.S. EPA. This Bacteria TMDL will be implemented through the Los Angeles County Municipal Storm Water NPDES Permit (MS4), the Caltrans Storm Water Permit, any future Phase II MS4 permits, general NPDES permits, general industrial storm water permits, general construction storm water permits, and the authority contained in Sections 13263, 13267, and 13383. There are no WLA assigned to individual NPDES permittees. This permit requires bacterial monitoring of the effluent to ensure that the discharges do not cause or contribute to exceedances of bacteria loads in the receiving waters.
3. **Ballona Creek Trash TMDL.** The Ballona Creek Trash TMDL was adopted by the Regional Water Board on September 9, 2001. The TMDL established a numeric target of zero trash in Ballona Creek. The TMDL was to be implemented via storm water permits in a phased reduction for a period of 10 years. The Ballona Creek Trash TMDL was

approved by the State Water Board on February 19, 2002, the OAL on July 18, 2002, and by U.S. EPA on August 1, 2002. The TMDL became effective on August 28, 2002. The Regional Water Board made minor revisions to the TMDL and the Revised Ballona Creek Trash TMDL was adopted by the Regional Water Board on March 4, 2004 (Resolution No. 2004-0023). The State Water Board approved the TMDL on September 30, 2004 and OAL approved it on February 8, 2005. The Ballona Creek Trash TMDL became effective on August 11, 2005. The Ballona Creek Trash TMDL was further revised by the Regional Water Board on June 11, 2015 (Resolution No. R15-006). The State Water Board and OAL approved it on November 17, 2015, and May 4, 2016, respectively. It became effective upon approval by U.S. EPA on June 30, 2016. This Trash TMDL will be implemented through the LA County MS4 Permit and the Caltrans MS4 Permit.

This permit requires an updated SWPPP that shall include best management practices to prevent hazardous waste/material and trash from being discharged to waters of the United States. The appropriate implementation and maintenance of the best management practices will ensure that trash is not discharged from the Facility to Ballona Creek.

4. **Ballona Creek Estuary Toxic Pollutants TMDL.** The Ballona Creek Estuary Toxic Pollutants TMDL was approved by the Regional Water Board on July 7, 2005 (Resolution No. R05-008). The State Water Board approved the TMDL on October 20, 2005; OAL and U.S. EPA approvals were received on December 9, 2005, and December 22, 2005, respectively. This TMDL became effective on January 11, 2006. The TMDL was amended by Resolution No. R13-010 that was adopted by the Regional Water Board on December 5, 2013; State Water Board, and OAL approvals were received on June 17, 2014, and May 5, 2015, respectively. The revised TMDL became effective on October 26, 2015 upon approval by U.S. EPA. This Toxic Pollutants TMDL assigned concentration-based WLAs for pollutants concentrations in sediments for cadmium, copper, lead, silver, zinc, chlordane, DDTs, and total PCBs in the minor NPDES permits that regulate discharges to Ballona Creek or its tributaries. A WLA for total PAHs is not included in the revised TMDL because recent data indicate that PAHs are not present at levels exceeding existing numeric targets. This permit implements the applicable WLAs as required in this TMDL.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations (C.F.R.). 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

Discharges from the Facility are primarily storm waters collected in six retention basins. Storm water runoff from the Facility could pick up solids, oil and grease-based compounds, and constituents contributing to biochemical oxygen demand (BOD). Further, total suspended solids (TSS), settleable solids, turbidity, oil and grease, pH, and BOD are pollutants typically used to characterize storm water discharges; therefore, these pollutants are considered pollutants of concern for discharges from the Facility. Since the Facility is an actively producing oil and gas field and monitoring data reported in the last permit term indicated the presence of total petroleum hydrocarbons (TPH) in the effluents, TPHs are also a pollutant of concern. In addition, the list of pollutants of concern includes constituents that were detected in the effluent and that are regulated in the Basin Plan, CTR or TMDLs.

Pursuant to 40 C.F.R. section 122.45(d), permit limitations for continuous discharges shall be expressed, unless impracticable, as both average monthly effluent limitations (AMELs) and maximum daily effluent limitations (MDELs). However, discharges through Discharge Points 001 through 006 consist of storm water only. They are intermittent and of short duration. Therefore, consistent with Order No. R4-2013-0021, only MDELs are included to ensure protection of the beneficial uses in the receiving waters.

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. Section 122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitations on a case-by-case basis limitations based on mass are infeasible because the mass of pollutant cannot be related to a measure of production. The limitations, however, must ensure that dilution will not be used as a substitute for treatment.

A. Discharge Prohibitions

The discharge prohibitions enumerated in section III of the Waste Discharge Requirements of this Order are based on the requirements of the Basin Plan, State Water Board's plans and policies, the Water Code, federal law, and previous permit provisions. They are consistent with the requirements set for other discharges to the Ballona Creek that are regulated by NPDES permits.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such

pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2. Applicable Technology-Based Effluent Limitations (TBELs)

Currently, no numeric technology-based ELGs exist for storm water runoff from an oil and gas field. 40 C.F.R. section 435.32, the Onshore Subcategory of the Oil and Gas Extraction Point Source Category, includes requirements that are applicable to facilities engaged in the production, field exploration, drilling, well completion and well treatment in the onshore oil and gas extraction industry. 40 C.F.R. section 435.2 includes effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT). It specifies "Except as provided in §§ 125.30 through 125.32, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by application of the best practicable control technology currently available (BPT): there shall be no discharge of waste water pollutants into navigable waters from any source associated with production, field exploration, drilling, well completion, or well treatment (i.e., produced water, drilling muds, drill cuttings, and produced sand)." This Order does not permit the discharge of any waste water from onsite operations. The permitted discharge consists solely of storm water runoff from the site. The technology-based requirements in this Order are based on case-by-case numeric limitations developed using BPJ in accordance with 40 C.F.R. section 125.3. Technology-based effluent limitations as MDELs were established in Order No. R4-2013-0021 for biochemical oxygen demand (BOD), oil and grease, and phenols. As described below in section VI.D.1., this Order retains TBELs for BOD and oil and grease, but the TBELs for phenols have been removed consistent with antibracksliding requirements. In addition, MDELs were also established for settleable solids, turbidity and TPH based on BPJ because they are pollutants of concern for these types of discharges. These limitations are consistent with effluent limitations included in other Orders within the State for similar types of discharges and compliance with these limitations is not expected to require additional equipment as a storm water treatment system will be installed at each Discharge Point within the Field.

The current Order (R4-2013-0021) required the Discharger to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). This Order requires the Discharger to update and continue to implement the SWPPP. The revised SWPPP will reflect current operations, treatment activities, and staff responsible for implementing and supporting the SWPPP. The SWPPP will outline site-specific management processes for minimizing storm water contamination and for preventing contaminated storm water from being discharged directly into the storm drain. At a minimum, the management practices should ensure that raw materials and chemicals do not come into contact with storm water. The SWPPP shall also outline management practices to eliminate the discharge of trash entrained in storm water discharged from the Facility. This Order requires the SWPPP be consistent with requirements in Attachment G.

This Order requires the Discharger to update and continue to implement a Best Management Practices Plan (BMPP) which may be included in the SWPPP. 40 C.F.R. section 122.44(k) requires that permits include best management practices when reasonably necessary to achieve the effluent limitations and standards or to carry out the purpose and intent of the CWA. Consistent with 40 C.F.R. Part 122.44(k), this Order requires the Discharger to update and continue to implement a BMPP. The purpose of the BMPP is to establish site-specific procedures that minimize the potential to discharge hazardous waste/materials and other contaminants including trash to surface waters.

The BMPP shall be consistent with the general guidance contained in the U.S. EPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). The BMPP shall cover all areas of the Facility and shall include an updated drainage map for the Facility. Further, the BMPP shall identify on a map of appropriate scale the areas that generate effluent and runoff at the permitted discharge points; describe the activities in each area, the potential for contamination of the effluent and storm water. The BMPP shall also identify the responsible individuals for the implementation of the BMPP by name, job title, job duties, and phone number.

An up-to-date SWPPP shall be submitted to the Regional Water Board within 90 days of the effective date of this Order. The SWPPP shall be reviewed annually and at the same time each year. Revisions of the SWPPP shall be submitted to the Regional Water Board within 30 days of any change.

This Order also requires the Discharger to update and continue to implement their Spill Prevention Control and Countermeasure (SPCC) Plan.

The combination of the SWPPP, BMPP, SPCC Plan, and permit limitations based on past performance and reflecting BPJ will serve as the equivalent of technology based effluent limitations, in the absence of established ELGs, in order to carry out the purposes and intent of the CWA.

A summary of the numeric technology-based effluent limitations is provided in Table F-5.

Table F-5. Technology-based Effluent Limitations for Discharge Points 001 through 006

Parameter	Units	Effluent Limitations
Biochemical Oxygen Demand (BOD) (5-day @ 20°C)	mg/L	30
Oil and Grease	mg/L	15
Settleable Solids	ml/L	0.3
Total Petroleum Hydrocarbons (TPH)*	µg/L	100
Turbidity	NTU	75

*. TPH equals the sum of TPH gasoline (C4-C12), TPH diesel (C13-C22), and TPH waste oil (C23+). The limitation was based on the taste and odor threshold of 100 µg/L for diesel in the 1980 U.S. EPA Suggested-No-Adverse-Response Level.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 C.F.R. section 122.44(d)(1)(i) requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to

cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi). WQBELs must also be consistent with the assumption and requirements of TMDL WLAs approved by U.S. EPA.

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated beneficial uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

The specific procedures for determining reasonable potential and, if necessary, for calculating WQBELs are contained in the Technical Support Document (TSD) for storm water discharges and in the SIP for non-storm water discharges. However, Section 3.3.8 of the TSD states that "an analogous approach developed by a regulatory authority can be used to determine the reasonable potential" (for storm water discharges). The Regional Water Board has determined that the procedures for determining reasonable potential and calculating WQBELs contained in the SIP for non-storm water discharges may also be used to evaluate reasonable potential and calculate WQBELs for storm water discharges. Hence, in this Order, the Regional Water Board has used the SIP methodology to evaluate reasonable potential for storm water discharges through Discharge Points 001 through 006.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As noted in section III of the Fact Sheet, the Regional Water Board adopted a Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to the Ballona Creek Reach 2 are summarized in section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

Priority pollutant water quality criteria in the CTR are applicable to Ballona Creek as well as Centinela Creek. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with section 131.38(c)(3); freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this occurs 95 percent or more of the time. The Regional Water Board has determined that freshwater criteria applies to the Ballona Creek Reach 2. The CTR criteria for freshwater or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of Ballona Creek Reach 2 and Centinela Creek, waters of the United States.

Some water quality criteria are hardness dependent. The Discharger is required to monitor the hardness of the receiving waters (Ballona Creek and Centinela Creek). The Discharger reported six (6) wet-weather hardness results (82, 82.1, 108, 22.6, 48.8, 59.2) and four (4) dry-weather hardness results (182, 151, 185, 204) at Centinela Creek monitoring station, RSW-004, during the last permit term. From November 2015 to December 2016, the City of Los Angeles, on behalf of the Ballona Creek Watershed

Management Group, reported fourteen (14) hardness data results including nine (9) dry-weather (261, 188, 250, 334, 405, 312, 460, 439, 213) and five (5) wet-weather (53.4, 30.6, 26.3, 41.6, 17.2) at Centinela Creek monitoring station, CC-CEN. In order to ensure adequate protection of the receiving water, a hardness value (as CaCO₃) of 166.5 mg/L, which is the 50 percentile hardness value of the reported twenty four (24) hardness data, was used for the evaluation of reasonable potential for discharges to Centinela Creek (Discharge Points 001 and 003) from the Facility.

The following table summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluents from Discharge Points 001 and 003. These criteria were used to complete the RPA for Discharge Points 001 and 003.

Table F-6. Applicable Water Quality Criteria for Discharge Points 001 and 003

CTR No.	Constituent	Selected (Lowest) Criteria	CTR Water Quality Criteria			
			Freshwater		Human Health for Consumption of:	
			Acute	Chronic	Water & Organisms	Organisms only
			µg/L	µg/L	µg/L	µg/L
1	Antimony	4,300	--	--	N/A	4,300
2	Arsenic	150	340	150		--
3	Beryllium	No criteria	--	--		--
4	Cadmium*	3.67	8.03	3.67		--
5a	Chromium (III)*	314	2836	314		Narrative
5b	Chromium (VI)	11	16	11		--
6	Copper*	14.42	22.63	14.42		---
7	Lead*	6.09	156.24	6.09		Narrative
8	Mercury	0.051	--	--		0.051
9	Nickel*	80.29	722	80.29		4,600
10	Selenium	5	--	5		Narrative
13	Zinc*	185	185	185		---
14	Cyanide	5.2	22	5.2		220,000
68	Bis(2-Ethylhexyl)Phthalate	5.9	--	--		5.9

Metal concentrations are expressed as total recoverable

'N/A' indicates the water quality criteria for the protection of human health for the consumption of water and organisms are not applicable.

* For these metals, the CTR criteria are based on a hardness value (as CaCO₃) of 166.5 mg/L.

Ballona Creek Metals TMDL. This metals TMDL were amended on December 5, 2013, Resolution No. R13-010, and it became effective on October 26, 2015. The discharge from the Inglewood Oil Field has been classified as a major discharge because the permitted discharge flow (7.55 MGD) exceeds the threshold of one (1) MGD. The Ballona Creek Metals TMDL includes specific WLAs for some of the major dischargers, the MS4 permittees and CalTrans. However, no site specific WLA has been designated for the Inglewood Oil Field in the TMDL. In Attachment A to Resolution No. R13-010, on Page 5 in the section Waste Load Allocations (for point sources), paragraph 1 reads "Waste load allocations (WLA) are assigned to point sources for Ballona Creek and Sepulveda Canyon Channel. A grouped mass-based waste load allocation is developed for the storm water permittees (Los Angeles County MS4, Caltrans, General Construction and General

Industrial) by subtracting the load allocation from the total loading capacity. Concentration-based waste load allocations are developed for other point sources in the watershed.” Inglewood Oil Field is a point source to Ballona Creek, one of the other point sources in the watershed which is referenced. Hence, the Facility requires an effluent limit developed using the appropriate WLA. The TMDL includes concentration-based dry-weather and wet weather WLA for other permits discharging to Ballona Creek. These concentration-based WLAs have been used to develop effluent limits for discharges from the Inglewood Oil Field. This permit implements the applicable WLAs as required in the TMDL, by applying the effluent limitation calculations provided in Section 1.4 of the SIP. Concentration-based WLAs for copper, lead, and zinc are applicable to discharges from Discharge Points 002, 004, 005, and 006 that enter Ballona Creek. This Metals TMDL for Ballona Creek is not applicable to the discharges to Centinela Creek because Centinela Creek is not listed as impaired for the targeted constituents and it flows into Ballona Creek Estuary.

The following table summarizes the dry and wet weather WLAs for copper, lead, and zinc included in the Ballona Creek TMDL that are applicable to the Facility’s discharge through Discharge Points 002, 004, 005 and 006 to Ballona Creek Reach 2.

Table F-7. Applicable TMDL Waste Load Allocations for Discharge Points 002, 004, 005 and 006

Parameter	Units	Waste Load Allocation	
		Dry-Weather	Wet-Weather
Copper, Total Recoverable	µg/L	35.56	13.70
Lead, Total Recoverable	µg/L	19.65	76.75
Zinc, Total Recoverable	µg/L	446.55	104.77

Ballona Creek Estuary Toxic Pollutants TMDL. The TMDL was amended by Resolution No. R13-010 that was adopted by the Regional Water Board on December 5, 2013; State Water Board, and OAL approvals were received on June 17, 2014, and May 5, 2015, respectively. The revised TMDL became effective on October 26, 2015 upon approval of U.S. EPA. The Ballona Creek Estuary Toxic Pollutants TMDL assigned concentration-based WLAs for sediments with respect to cadmium, copper, lead, silver, zinc, chlordane, DDTs, and total PCBs to the minor NPDES permits that regulate discharges to Ballona Creek or its tributaries. A WLA for total PAHs is not included in the revised TMDL because recent data indicate that PAHs are not present at levels exceeding existing numeric targets and are not considered stressors of the designated beneficial use. This permit implements the applicable WLAs as required in this TMDL.

3. Determining the Need for WQBELS

In accordance with Section 1.3 of the SIP, the Regional Water Board conducts a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzes effluent and receiving water data and identifies the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent. To determine reasonable potential, the MEC and the B are then compared with the applicable water quality objectives (C) outlined in the CTR, NTR, as well as the Basin Plan. For all pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELS are required.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

1. Trigger 1 – if $MEC \geq C$, a limit is needed.
2. Trigger 2 – If the background concentration $B > C$ and the pollutant is detected in the effluent, a limit is needed.
3. Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, or other applicable factors indicate that a WQBEL is required.

Sufficient effluent and receiving water data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification. The RPA was performed using available priority pollutant data collected by the Discharger at each Monitoring Location from March 2013 through August 2017. Receiving water data collected by the Discharger during the same period in Ballona Creek and Centinela Creek were also considered.

In addition to the RPA results, the Metals TMDL for Ballona Creek (Resolution No. R13-010) establishes both dry-weather and wet-weather WLAs for point source dischargers to Ballona Creek for copper, lead and zinc. The Regional Water Board developed WQBELs for wet-weather copper, lead, and zinc, and dry-weather copper, lead, and zinc based on the waste load allocations included in the Ballona Creek Metals TMDL. The dry-weather and wet-weather effluent limitations for these pollutants at Discharge Points 002, 004, 005 and 006 were established regardless of whether there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standards. The development of water quality-based effluent limitations for these pollutants are pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis for effluent limitations consistent with the assumption and requirements of a TMDL WLA. Similarly, the SIP at Section 1.3 recognizes that reasonable potential analysis is not appropriate if a TMDL has been developed. The numeric target portion of the Metals TMDL for Ballona Creek (Resolution No. R13-010) specifies when the wet-weather and dry-weather criteria are applicable. Wet-weather effluent limitations are applicable when the flow in Ballona Creek is 64 cubic feet per second (cfs) or greater. Dry-weather effluent limitations are applicable when the flow in Ballona Creek is less than 64 cfs.

The following table summarizes results from the RPA:

Table F-8. RPA Summary

Parameter	MEC ² (µg/L) (MEC)	CTR WQC ³ (µg/L) (C)	Receiving Water Conc. (µg/L) (B)	WLAs in Ballona Creek Metals TMDL ⁷	Reasonable Potential	Rational
<i>Discharge Point 001 (LAI Last Chance Basin)- Discharges to Centinela Creek</i>						
Antimony ¹	2.2	4,300	2.6	No	No	MEC<C & B<C ⁴
Arsenic ¹	26	150	1.4	No	No	MEC<C & B<C ⁴

Parameter	MEC ² (µg/L) (MEC)	CTR WQC ³ (µg/L) (C)	Receiving Water Conc. (µg/L) (B)	WLAs in Ballona Creek Metals TMDL ⁷	Reasonable Potential	Rational
Cadmium ¹	0.57	3.67	2ND (<0.25)	No	No	MEC<C & B<C ⁴
Chromium (III) ¹	2.5 ⁶	314	2.04	No	No	MEC<C & B<C ⁴
Chromium (VI)	0.42	11	0.46	No	No	MEC<C & B<C ⁴
Copper ¹ (All-weather)	58	14.42	27	No	Yes	MEC > C ⁵
Lead ¹ (All-weather)	43	6.09	16	No	Yes	MEC > C ⁵
Nickel ¹	28	80.29	3.7	No	No	MEC<C & B<C ⁴
Selenium ¹	3.8	5	<0.5	No	No	MEC<C & B<C ⁴
Zinc ¹ (All-weather)	200	185	130	No	Yes	MEC > C ⁵
Cyanide	10	5.2	ND (<3)	No	Yes	MEC > C ⁵
Bis (2-Ethylhexyl) Phthalate	24.2	5.9	5.5	No	Yes	MEC > C ⁵
Discharge Point 002 (Dabney Lloyd Basin)- Discharges to Ballona Creek Reach 2						
Antimony ¹	1.7	4,300	6	No	No	MEC<C & B<C ⁴
Arsenic ¹	19	150	3.3	No	No	MEC<C & B<C ⁴
Chromium (III) ¹	46 ⁶	314	5.75	No	No	MEC<C & B<C ⁴
Chromium (VI)	DNQ (0.44)	11	DNQ (1.25)	No	No	MEC<C & B<C ⁴
Copper ¹ (Dry-weather)	21.8	14.42	51	Yes	Yes	TMDL
Copper ¹ (Wet-weather)	57	14.42	51	Yes	Yes	TMDL
Lead ¹ (Dry-weather)	3.9	6.09	31.7	Yes	Yes	TMDL
Lead ¹ (Wet-weather)	43	6.09	31.7	Yes	Yes	TMDL
Nickel ¹	36	80.29	9.1	No	No	MEC<C & B<C ⁴
Selenium ¹ (All-weather)	5.2	5	ND (<0.5)	Yes	Yes	MEC > C ⁵
Zinc ¹ (Dry-weather)	308	185	230	Yes	Yes	TMDL
Zinc ¹ (Wet-weather)	190	185	230	Yes	Yes	TMDL
Pentachlorophenol	DNQ (1.7)	8.2	DNQ (1.6)	No	No	MEC<C & B<C ⁴
Discharge Point 003 (Stocker Basin)- Discharges to Centinela Creek						

Parameter	MEC ² (µg/L) (MEC)	CTR WQC ³ (µg/L) (C)	Receiving Water Conc. (µg/L) (B)	WLAs in Ballona Creek Metals TMDL ⁷	Reasonable Potential	Rational
Arsenic ¹	16	150	1.4	No	No	MEC<C & B<C ⁴
Chromium (III) ¹	27 ⁶	314	2.04	No	No	MEC<C & B<C ⁴
Chromium (VI)	0.36	11	0.46	No	No	MEC<C & B<C ⁴
Copper ¹ (All-weather)	48	14.42	27	No	Yes	MEC > C ⁵ ,
Lead ¹ (All-weather)	37	6.09	16	No	Yes	MEC > C ⁵
Nickel ¹	22	80.29	3.7	No	No	MEC<C & B<C ⁴
Zinc ¹ (All-weather)	190	185	130	No	Yes	MEC<C & B<C ⁴
Pentachlorophenol	DNQ (2.1)	8.2	DNQ (1.6)	No	No	MEC<C & B<C ⁴
Bis (2-Ethylhexyl) Phthalate	2.6	5.9	5.5	No	No	MEC<C & B<C ⁴
Discharge Point 004 (Vickers - I Basin)- Discharges to Ballona Creek Reach 2						
Antimony ¹	1.1	4,300	6	No	No	MEC<C & B<C ⁴
Arsenic ¹	12.2	150	3.3	No	No	MEC<C & B<C ⁴
Chromium (VI)	0.06	11	1.25	No	No	MEC<C & B<C ⁴
Copper ¹ (Dry-weather)	3.8	14.42	NR	Yes	Yes	TMDL
Copper ¹ (Wet-weather)	NR	14.42	51	Yes	Yes	TMDL
Lead ¹ (Dry-weather)	ND(<1)	6.09	NR	Yes	Yes	TMDL
Lead ¹ (Wet-weather)	NR	6.09	31.7	Yes	Yes	TMDL
Nickel ¹	3.4	80.29	9.1	No	No	MEC<C & B<C ⁴
Selenium ¹ (All-weather)	2	5	ND (<0.5)	No	No	MEC<C & B<C ⁴
Zinc ¹ (Dry-weather)	15.3	185	NR	Yes	Yes	TMDL
Zinc ¹ (Wet-weather)	NR	185	230	Yes	Yes	TMDL
Discharge Point 005 (Lower Vickers - II Basin)- Discharges to Ballona Creek Reach 2						
Antimony ¹	NR	4,300	6	No	No	MEC<C & B<C ⁴
Arsenic ¹	NR	150	3.3	No	No	MEC<C & B<C ⁴

Parameter	MEC ² (µg/L) (MEC)	CTR WQC ³ (µg/L) (C)	Receiving Water Conc. (µg/L) (B)	WLAs in Ballona Creek Metals TMDL ⁷	Reasonable Potential	Rational
Chromium (III) ¹	NR	314	5.75	No	No	MEC<C & B<C ⁴
Chromium (VI)	NR	11	1.25	No	No	MEC<C & B<C ⁴
Copper ¹ (Dry-weather)	NR	14.42	NR	Yes	Yes	TMDL
Copper ¹ (Wet-weather)	NR	14.42	51	Yes	Yes	TMDL
Lead ¹ (Dry-weather)	NR	6.09	NR	Yes	Yes	TMDL
Lead ¹ (Wet-weather)	NR	6.09	31.7	Yes	Yes	TMDL
Nickel ¹	NR	80.29	9.1	No	No	MEC<C & B<C ⁴
Selenium ¹ (All-weather)	NR	5	ND (<0.5)	No	No	MEC<C & B<C ⁴
Zinc ¹ (Dry-weather)	NR	185	NR	Yes	Yes	TMDL
Zinc ¹ (Wet-weather)	NR	185	230	Yes	Yes	TMDL
Discharge Point 006 (Upper Vickers - II Basin)- Discharges to Ballona Creek Reach 2						
Arsenic ¹	42	150	3.3	No	No	MEC<C & B<C ⁴
Cadmium ¹	1.4	3.67	0.45	No	No	MEC<C & B<C ⁴
Chromium (III) ¹	110 ⁶	314	5.75	No	No	MEC<C & B<C ⁴
Chromium (VI)	DNQ (0.94)	11	1.25	No	No	MEC<C & B<C ⁴
Copper ¹ (Dry-weather)	NR	14.42	NR	Yes	Yes	TMDL
Copper ¹ (Wet-weather)	110	14.42	51	Yes	Yes	TMDL
Lead ¹ (Dry-weather)	NR	6.09	NR	Yes	Yes	TMDL
Lead ¹ (Wet-weather)	94	6.09	31.7	Yes	Yes	TMDL
Mercury ¹	0.2	0.051	ND (<0.1)	Yes	Yes	MEC > C ⁵
Nickel ¹	73	80.29	9.1	No	No	MEC<C & B<C ⁴
Selenium ¹ (All-weather)	2.1	5	ND (<0.5)	No	No	MEC<C & B<C ⁴
Zinc ¹ (Dry-weather)	NR	185	NR	Yes	Yes	TMDL
Zinc ¹ (Wet-weather)	380	185	230	Yes	Yes	TMDL

NR = Not Reported; DNQ = Detected, but Not Quantified; ND = Not Detected.

- ¹ Concentration expressed as total recoverable.
- ² MEC is the maximum effluent concentration observed from March 2013 through August 2017.
- ³ CTR Water Quality Criteria (WQC) is the most stringent applicable WQC contained in the CTR based on a hardness value of 166.5 mg/L as CaCO₃ (see Table F-6).
- ⁴ Reasonable potential does not exist because both the MEC and receiving water concentration are less than the applicable water quality criteria.
- ⁵ Reasonable potential does exist because the MEC is greater than or equal to the applicable water quality criteria.
- ⁶ Concentration expressed in total chromium.
- ⁷ Dry-weather and wet-weather waste load allocations (WLA) assigned to the minor permits in the Ballona Creek Metals TMDL (Resolution No. R13-010) are used in this permit. The dry-weather and wet-weather effluent limitations for these pollutants at Discharge Points 002, 004, 005 and 006 were established regardless of whether or not there is reasonable potential for the pollutants to be present in the discharge at levels that would cause or contribute to a violation of water quality standards.

4. WQBEL Calculations

- a. If reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one or more of the three procedures contained in section 1.4 of the SIP. These procedures include:
 - i. If applicable and available, use the WLA established as part of a TMDL.
 - ii. Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).
 - iii. Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the Regional Water Board.
- b. WQBELs for copper, lead, and zinc for both dry weather and wet weather through Discharge Points 002, 004, 005 and 006 have been calculated using the WLAs provided in the Metals TMDL for Ballona Creek (Resolution No. R13-010) and the procedures specified in Section 1.4 of the SIP.
- c. The WQBELs for copper, lead and zinc at Discharge Point 001 and 003, bis(2-ethylhexyl) phthalate at Discharge Point 001, selenium at Discharge Point 002, and mercury at Discharge Point 006 are established based on CTR criteria and following the procedures based on the steady-state model in accordance to section 1.4 of the SIP.
- d. Since many of the streams in the Region have minimal upstream flows, mixing zones and dilution credits are usually not appropriate. No dilution credit is included in this Order. However, in accordance with the reopener provision in section VI.C.1.f of this Order, it may be reopened upon the submission by the Discharger of adequate information to establish appropriate dilution credits or a mixing zone, as determined by the Regional Water Board.
- e. WQBELs Calculation Example
Using total recoverable lead for Discharge Point 001 and total recoverable copper for Discharge Point 002 as examples, the following demonstrates how WQBELs were established for this Order. The example of copper indicates how WLAs in the Ballona Creek Metals TMDL are included in the development of WQBELs. The tables in Attachments J summarize the development and calculation of all WQBELs for this Order using the process described below. The process for developing these limits is in accordance with section 1.4 of the SIP.

Concentration-Based Effluent Limitations

Two sets of AMEL and MDEL values are calculated separately, one set for the protection of aquatic life and the other for the protection of human health. The AMEL and MDEL limitations for aquatic life and human health are compared, and the most restrictive AMEL and the most restrictive MDEL are selected as the WQBEL.

Lead WQBEL at Discharge Point 001 (Discharges to Centinela Creek)

Calculation of aquatic life AMEL and MDEL for lead

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion, determine the effluent concentration allowance (ECA) using the following steady state equation:

$$ECA = C + D(C-B) \quad \text{when } C > B, \text{ and}$$

$$ECA = C \quad \text{when } C \leq B$$

Where: C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH, and translators. In this Order, a hardness value of 150 mg/L (as CaCO₃) was used for development of hardness-dependent criteria for Discharge Point 001.

D = The dilution credit

B = The ambient background concentration

As discussed above, this Order does not allow dilution; therefore:

$$ECA = C$$

For total recoverable lead, the applicable water quality criteria are (reference Table F-6):

$$ECA_{\text{Acute (lead)}} = 156.24 \text{ } \mu\text{g/L}$$

$$ECA_{\text{Chronic (lead)}} = 6.09 \text{ } \mu\text{g/L}$$

Step 2: For each ECA based or aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA_{\text{acute}} = ECA_{\text{acute}} \times \text{Multiplier}_{\text{acute99}}$$

$$LTA_{\text{chronic}} = ECA_{\text{chronic}} \times \text{Multiplier}_{\text{chronic99}}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6. If the data set is greater than 10 samples, and at least 20% of the samples in the data set are reported as detected, the CV shall be equal to the standard deviation of the data set divided by the average of the data set.

For total recoverable lead, because the data set includes 10 samples, the calculated CV is equal to 1.874 (standard deviation divided by the average). The following calculated ECA multipliers using equations provided in Section 1.4, Step 3 of the SIP were used to develop the acute and chronic LTAs. Table 1 of the SIP also provides this data up to three decimals.

No. of Samples	CV	ECA Multiplier _{acute}	ECA Multiplier _{chronic}
10	1.874	0.1222	0.2162

$$LTA_{acute (lead)} = 156.24 \mu\text{g/L} \times 0.1222 = 19.09 \mu\text{g/L}$$

$$LTA_{chronic (lead)} = 6.09 \mu\text{g/L} \times 0.2162 = 1.317 \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

$$LTA = \text{most limiting of } LTA_{acute} \text{ or } LTA_{chronic}$$

For total recoverable lead, the $LTA_{chronic}$ is selected as it is the most limiting.

$$LTA = LTA_{chronic(lead)} = 1.317 \mu\text{g/L}$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier95}$$

$$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier99}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4) per month, the default number of samples to be used is four (4).

For total recoverable lead, the following data were used to develop the AMEL and MDEL for effluent limitations using equations provided in section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	CV	Multiplier _{MDEL99}	Multiplier _{AMEL95}
4	1.874	8.182	2.694

Total recoverable lead

$$AMEL_{(lead)} = 1.317 \mu\text{g/L} \times 2.694 = 3.547 \mu\text{g/L}$$

$$MDEL_{(lead)} = 1.317 \mu\text{g/L} \times 8.182 = 10.77 \mu\text{g/L}$$

Calculation of human health AMEL and MDEL for lead

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{Human\ Health}$.

$$AMEL_{\text{Human Health}} = ECA_{\text{Human Health}}$$

For total recover lead, there is no numeric human health criteria. Therefore, this procedure is not applicable.

Step 6: Calculate the MDEL for human health by multiplying the AMEL in Step 5 by the ratio of Multiplier_{MDEL} to the Multiplier_{AMEL}. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{\text{Human Health}} = AMEL_{\text{Human Health}} \times (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

This procedure is not applicable for lead.

Step 7: Select the lower set of the AMEL and MDEL based on aquatic life criteria or human health criteria as the WQBEL for the Order.

Final WQBELs for Lead:

AMEL _{aquatic life}	MDEL _{aquatic life}	AMEL _{human health}	MDEL _{human health}
3.547	10.77	N/A	N/A

The lowest (most restrictive) effluent limits are incorporated into the Order

$$AMEL_{\text{lead}} = 3.547 \text{ } \mu\text{g/L}$$

$$MDEL_{\text{lead}} = 10.77 \text{ } \mu\text{g/L}$$

Since the discharge from the Facility is not continuous, average monthly effluent limitations (AMELs) are not prescribed in the Order. The calculated MDEL for lead at Discharge Point 001 will apply to both wet and dry weather conditions.

Copper WQBELs at Discharge Point 002 (Discharges to Ballona Creek Reach 2)

Calculation of aquatic life AMEL and MDEL for copper

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion, determine the effluent concentration allowance (ECA) using the steady state equation as described in Step 1 for lead above.

When a WLA has been established through a TMDL for a parameter, the WLA is set equal to the ECA.

For total recoverable copper, the applicable water quality criterion is from the Ballona Creek Metals TMDL WLAs. The dry-weather WLAs are based on chronic CTR criteria. The wet-weather WLAs are based on acute CTR criteria. Thus, for total recoverable copper the applicable WLAs are (reference Table F-7):

$$WLA_{\text{wet-weather}} = 13.7 \text{ } \mu\text{g/L} = ECA_{\text{acute (copper)}}$$

$$WLA_{\text{dry-weather}} = 35.56 \text{ } \mu\text{g/L} = ECA_{\text{chronic (copper)}}$$

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP.

$$LTA_{\text{acute}} = ECA_{\text{acute}} \times \text{Multiplier}_{\text{acute}}$$

$$LTA_{\text{chronic}} = ECA_{\text{chronic}} \times \text{Multiplier}_{\text{chronic}}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6. Since the data set for copper is less than 10 samples, the CV is set equal to 0.6.

For wet-weather total recoverable copper, because the data set includes 10 samples (greater than 10 samples), the calculated CV is equal to 1.571 (standard deviation divided by the average). The corresponding multiplier is as follows:

No. of Samples	CV	ECA Multiplier _{acute 99}
10	1.571	0.139

$$LTA_{acute} = ECA_{acute} \times \text{Multiplier}_{acute 99}$$

$$LTA_{acute (wet-weather copper)} = 13.70 \mu\text{g/L} \times 0.139 = 1.904 \mu\text{g/L}$$

For dry-weather total recoverable copper, because only one sample result is available, the CV is set equal to 0.6. The corresponding multiplier is as follows:

No. of Samples	CV	ECA Multiplier _{chronic 99}
None	0.6 (default)	0.527

$$LTA_{chronic} = ECA_{chronic} \times \text{Multiplier}_{chronic 99}$$

$$LTA_{chronic (dry-weather copper)} = 35.56 \mu\text{g/L} \times 0.527 = 18.74 \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

Since acute criteria will be used to develop the wet-weather effluent limitations and chronic criteria will be used to develop the dry-weather effluent limitations we only have one criterion for each condition, thus both LTAs (wet and dry) will be used.

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples.

$$AMEL_{aquatic life} = LTA_{copper} \times \text{Multiplier}_{multiplier95}$$

$$MDEL_{aquatic life} = LTA_{copper} \times \text{Multiplier}_{multiplier99}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4) per month, the default number of samples to be used is four (4).

For total recoverable copper, the following data were used to develop the AMEL and MDEL for effluent limitations using equations provided in section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	Discharge Condition	CV	Multiplier _{MDEL99}	Multiplier _{AMEL95}
4 (default)	Wet weather	1.571	7.19	2.46

No. of Samples Per Month	Discharge Condition	CV	Multiplier _{MDEL99}	Multiplier _{AMEL95}
4 (default)	Dry weather	0.6	3.11	1.55

Total recoverable copper (wet-weather)

$$AMEL_{\text{wet-weather}} = 1.904 \mu\text{g/L} \times 2.46 = 4.68 \mu\text{g/L}$$

$$MDEL_{\text{wet-weather}} = 1.904 \mu\text{g/L} \times 7.19 = 13.69 \mu\text{g/L}$$

Total recoverable copper (dry-weather)

$$AMEL_{\text{dry-weather}} = 18.74 \mu\text{g/L} \times 1.55 = 29.05 \mu\text{g/L}$$

$$MDEL_{\text{dry-weather}} = 18.74 \mu\text{g/L} \times 3.11 = 58.28 \mu\text{g/L}$$

Calculation of human health AMEL and MDEL for Copper

Step 5: For the ECA based on human health, set the AMEL equal to the ECA_{Human Health}:

$$AMEL_{\text{Human Health}} = ECA_{\text{Human Health}}$$

This step is not applicable for the permit because none of the criteria for the provided WLAs are based on human health criteria.

$$AMEL_{\text{human health (copper)}} = ECA_{\text{human health (copper)}} = \text{Not Available}$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of Multiplier_{MDEL} to the Multiplier_{AMEL}. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

This step is not applicable for the permit because none of the criteria for the provided WLAs are based on human health criteria.

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the WQBELs for the Order.

For the parameters subject to the Metals TMDL, such as copper, a comparison is not necessary and the effluent limitations are applied directly:

Final WQBELs for copper

AMEL _{wet}	MDEL _{wet}	AMEL _{dry}	MDEL _{dry}
4.68 μg/L*	13.69 μg/L	29.05 μg/L*	58.28 μg/L

The wet-weather based effluent limitations are applicable when the maximum daily flow in Ballona Creek is 64 cfs or more. The dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cfs.

Since the discharge from the Facility is not continuous, average monthly effluent limitations (AMELs) are not prescribed in the Order.

Final WQBELs are summarized in Table F-9 of this Fact Sheet.

5. WQBELs Based on Basin Plan Objectives

The Basin Plan states that the discharge shall not cause the following in the receiving water:

- The normal ambient pH to fall below 6.5 nor exceed 8.5 units.

- Depress the concentration of dissolved oxygen below 5.0 mg/L anytime nor shall the mean annual concentration of dissolved oxygen fall below 7 mg/L.

To meet the water quality objectives in the Basin Plan and to protect the beneficial uses of the receiving water, the above requirements are included as effluent or receiving water limitations in the Order. The Basin Plan also contains water quality bacteria objectives for the protection of contact recreation beneficial use. This Order includes receiving water limitations for *E. coli* in order to protect the contact water recreation (REC-1) beneficial use of the receiving water.

Other constituents addressed in the Basin Plan were evaluated as follows:

- Ammonia.** The ammonia objectives in the Basin Plan were amended by Resolution Nos. 2002-011 and 2005-014 by the Regional Water Board. The ammonia objectives were determined based on pH and temperature in the receiving water. Because of insufficient data (less than 5 data points) for pH and temperature in the receiving water, the RPA for ammonia was not conducted. To obtain sufficient data, this Order increases the monitoring frequency for pH and temperature in the receiving from yearly to quarterly.
- Temperature.** The Basin Plan identifies numeric temperature objectives consistent with the Thermal Plan. A white paper was developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. This Order includes an instantaneous effluent temperature limitation of 86° F, which was based on the findings included in the white paper.
- Total Suspended Solids.** The Basin Plan requires that, "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." This narrative objective has been translated into a numeric effluent limit, based on U.S. EPA's Quality Criteria for Water (commonly known as the "Gold Book"). In the Gold Book, U.S. EPA notes that "In a study downstream from a discharge where inert suspended solids were increased to 80 mg/L, the density of macroinvertebrates decreased by 60 percent...". This indicates that suspended solids concentrations of 80 mg/L in the receiving water resulted in adverse effects to aquatic life. An effluent limitation of 75 mg/L (daily maximum) is included in this Order. This effluent limitation is protective of the narrative objective for TSS and is based on BPJ.
- Turbidity.** The Basin Plan requirements for turbidity are as follows:
 - where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%.
 - where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

This order applies the water quality objective for turbidity as a receiving water limitation in addition to a technology-based effluent limitation based on BPJ.

6. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative "no toxics in toxic amounts" criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is

conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses by aquatic organisms. Detrimental responses include, but are not limited to: decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. Order No. R4-2013-0021 contains acute toxicity limitations and monitoring requirements in accordance with the Basin Plan, in which the acute toxicity limitation dictates that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival. The effluent acute toxicity data reported by the Discharger from March 2013 through August 2017 showed only one noncompliance (67% survival) occurred on February 7, 2017 at Discharge Point 004. It indicates that toxicity may be present in the discharge.

Chronic toxicity is a more stringent requirement than acute toxicity. A chemical at a low concentration can have chronic effects but no acute effects. Because discharge from the Facility may include a number of pollutants, which individually may not be present in toxic concentrations while exhibiting aggregated toxic effects as a whole, this Order prescribes a chronic toxicity effluent limitation and requires chronic toxicity monitoring of the effluent at all Discharge Points. The whole effluent toxicity testing is evaluated using U.S. EPA's 2010 Test of Significant Toxicity (TST) statistical approach. In 2010, U.S. EPA endorsed the peer-reviewed TST statistical approach in the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010) as an improved statistical tool to evaluate data from U.S. EPA's toxicity test methods. The TST statistical approach is the superior statistical approach for addressing statistical uncertainty when used in combination with U.S. EPA's toxicity test methods and is implemented in federal permits issued by U.S. EPA Region 9.

The TST's null hypothesis for chronic toxicity is:

H_0 : Mean response (In-stream Waste Concentration (IWC) in % effluent) \leq (0.75 x mean response (Control)).

Results obtained from a chronic toxicity test are analyzed using the TST statistical approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P". Chronic toxicity results are expressed as "Pass" or "Fail" and "% Effect". The chronic toxicity IWC for all Discharge Points is 100 percent effluent. The MDEL for chronic toxicity is exceeded and a violation will be flagged when a chronic toxicity test, analyzed at the IWC using the TST statistical approach, results in "Fail" and the Percent Effect is \geq 50%.

Order No. R4-2013-0021 contained final effluent limitations and monitoring requirements for acute toxicity. This Order instead includes monitoring requirements and effluent limitations for chronic toxicity, consistent with the Basin Plan. Chronic toxicity is a more stringent requirement than acute toxicity, and it evaluates the mortality endpoint as does the acute toxicity testing as well as deleterious effects such as reductions in growth and reproduction which will likely occur prior to mortality.

7. Final WQBELs

Table F-9. Water Quality-based Effluent Limitations for Discharge Points 001 through 006

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Discharge Points 001, 002, 003, 004, 005 and 006					
Biochemical Oxygen Demand (BOD) (5-day @ 20°C)	mg/L	--	30	--	--
Oil and Grease	mg/L	--	15	--	--
pH	pH unit	--	--	6.5	8.5
Temperature	deg. F	--	--	--	86
Total Suspended Solids (TSS)	mg/L	--	75	--	--
Turbidity	NTU	--	75	--	--
Chronic Toxicity ¹	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--
Total Petroleum Hydrocarbons (TPH) ²	µg/L	--	100	--	--
Discharge Point 001 - Discharge to Centinela Creek					
Copper, Total Recoverable (All-weather)	µg/L	--	23	--	--
Lead, Total Recoverable (All-weather)	µg/L	--	10.8	--	--
Zinc, Total Recoverable (All-weather)	µg/L	--	185	--	--
Cyanide	µg/L	--	8.5	--	--
Bis(2-Ethylhexyl)Phthalate	µg/L	--	12	--	--
Discharge Point 003 - Discharge to Centinela Creek					
Copper, Total Recoverable (All-weather)	µg/L	--	23	--	--
Lead, Total Recoverable (All-weather)	µg/L	--	10	--	--
Zinc, Total Recoverable (All-weather)	µg/L	--	185	--	--
Discharge Points 002, 004, 005 and 006 - Discharges to Ballona Creek Reach 2					
Copper, Total Recoverable (Dry-weather) ³	µg/L	--	58	--	--
Lead, Total Recoverable (Dry-weather) ³	µg/L	--	32	--	--
Zinc, Total Recoverable (Dry-weather) ³	µg/L	--	733	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable (Wet-weather) ³	µg/L	--	14	--	--
Lead, Total Recoverable (Wet-weather) ³	µg/L	--	77	--	--
Zinc, Total Recoverable (Wet-weather) ³	µg/L	--	105	--	--
Discharge Point 002 - Discharge to Ballona Creek Reach 2					
Selenium, Total Recoverable (All-weather)	µg/L	--	8.7	--	--
Discharge Point 006 - Discharge to Ballona Creek Reach 2					
Mercury, Total Recoverable (All-weather)	µg/L	--	0.10	--	--

1. The maximum daily effluent limitation (MDEL) shall be reported "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
2. TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
3. Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is equal to or greater than 64 cfs.

D. Final Effluent Limitation Considerations

Technology-based effluent limitations for BOD, settleable solids, oil and grease, TPH, and turbidity are included in this Order, based on a review of Facility operations and BPJ. WQBELs for cyanide and bis(2-ethylhexyl)phthalate at Discharge Point 001, selenium at Discharge Point 002, copper, lead and zinc at Discharge Points 001 and 003 and mercury at discharge Point 006 are included in this permit based on the presence of reasonable potential for these constituents in the data set collected from March 2013 to August 2017; these effluent limitations are derived based on CTR criteria and SIP procedures. Effluent limitations for dry and wet weather copper, lead and zinc at Discharge Points 002, 004, 005 and 006 are developed in accordance with the Ballona Creek Metals TMDL. A chronic toxicity effluent limitation (evaluated using the TST statistical approach), which is a more stringent requirement than the acute toxicity limitation, is included in this Order in lieu of an acute toxicity effluent limitation. Effluent limitations for TSS, temperature and pH are included in this Order in accordance with the Basin Plan.

Refer to Attachment J for a summary of the RPA and associated effluent limitation calculations.

1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Certain effluent limitations established in this Order are at least as stringent as the requirements and limitations of Order No. R4-2013-0121. The exceptions include the removal of the acute toxicity and phenols effluent limitations at all discharge points, the removal of selenium effluent limitations at Discharge Points 001, 003 through 006, the removal of mercury effluent limitation at Discharge Points 001 and 002, modifications of the dry weather copper, lead

and zinc and wet weather lead effluent limitations at Discharge Points 002, 004, 005 and 006, and modifications of all weather lead effluent limitations at Discharge Points 001 and 003 and all weather zinc at Discharge Point 001.

As discussed in Section IV.C.6 of this Attachment, Order No. R4-2013-0021 contained acute toxicity limitations based on Basin Plan objectives. This Order includes a chronic toxicity effluent limitation evaluated using the TST statistical approach, and requires chronic toxicity monitoring for the effluent at Discharge Points 001 through 006. A chemical at a low concentration can have chronic effects but no acute effects; chronic toxicity is protective of both the numeric and the narrative acute toxicity Basin Plan water quality objectives. As chronic toxicity is a more stringent requirement than acute toxicity, the inclusion of a chronic toxicity limit replacing the acute toxicity effluent limitation is consistent with the anti-backsliding requirements of the CWA and federal regulations. Hence, the removal of the acute toxicity effluent limitation does not constitute backsliding.

The effluent limitations for phenols were included in historical Orders for the discharge and are no longer applicable. Order No. R4-2013-0021 retained the limitations from prior permits based on the presence of phenols in historical discharges from the Facility during prior permit term. During the term of Order No. R4-2013-0021, the Discharger installed storm water treatment systems at each discharge point. Also, all effluent monitoring results (16 data points) from all discharge points collected during the term of Order No. R4-2013-0021 are all non-detects, and the method detection limits for phenols were all lower than the effluent limitations for phenols. CWA section 402(o)(2) allows backsliding where material and substantial alterations or additions to the permitted facility occurred after permit issuance, or new information (other than revised regulations, guidance, or test methods) becomes available that was not available at the time of permit issuance and that would have justified a less stringent effluent limitation. The removal of the effluent limitations for phenols complies with the exception to the anti-backsliding requirements because of Facility modifications during the term of Order No. R4-2013-0021 and the availability of new information (monitoring data) that was not available at the time when Order No. R4-2013-0021 was adopted, which demonstrates that there is no reasonable potential for the applicable water quality criteria to be exceeded. Therefore, removing the effluent limitations for phenols is appropriate and complies with the exception to the anti-backsliding requirements. The Discharger is required to monitor phenols in future discharges as per the MRP.

The removal of selenium effluent limitations at Discharge Points 001, 003 through 006, and the removal of mercury effluent limitations at Discharge Points 001 and 002 are based on the results of reasonable potential analyses using the monitoring data from March 2013 to August 2017, all of which were not available at the time of the prior permit issuance. These pollutants do not have a reasonable potential to cause or contribute to an excursion above a state water quality standard. Therefore, removing the effluent limitations for selenium and mercury at the specified discharge points is appropriate and complies with the exception to the anti-backsliding requirements. Dry and wet weather selenium effluent limitations in Order No. R4-2013-0021 for Discharge Points 002, 004, 005 and 006 were based on the WLAs for selenium in the previous version of Ballona Creek Metals TMDLs. Since the selenium WLAs were removed in the amended Ballona Creek Metals TMDL (Resolution No. R13-010) indicating that the water body is no longer impaired for selenium, selenium effluent limitations for Discharge Points 002, 004, 005 and 006 based on WLAs are no longer applicable. However, based on the presence of reasonable potential for selenium at Discharge Point 002, an all weather effluent limitation for selenium at Discharge Point 002 was established using CTR criteria and the SIP procedures. The relaxation in the selenium effluent limitation at Discharge Point 002 reflected "new

information” that was not available during the prior permit issuance and it complies with the exception to the anti-backsliding requirements.

Effluent limitations for dry weather and wet weather copper, lead and zinc at Discharge Points 002, 004, 005 and 006 are modified in this Order and are consistent with modifications of requirements included in the Ballona Creek Metals TMDL in Resolution No. R13-010 which became effective on October 26, 2015. These requirements were developed subsequent to the adoption of Order No. R4-2013-0021. The information on which the effluent limitations included in this Order were based is new information that was not available at the time of the prior permit issuance and would have justified the application of less stringent effluent limitations for dry weather copper, lead and zinc and for wet weather lead at Discharge Points 002, 004, 005 and 006. Moreover, the cumulative effect of the WLAs will result in attaining the beneficial uses of the receiving water. As such, the relaxation is consistent with both Section 402 of the CWA and CWA section 303(d)(4)(A). Section 303(d)(4)(A) allows for the establishment of a less stringent effluent limitation based on a TMDL WLA when the receiving water has been identified as not meeting applicable water quality standards (i.e., a nonattainment water) and the TMDL WLA is part of an overall strategy for achieving attainment. Pursuant to Section 402(o)(2) of the CWA, the relaxation in effluent limitations for lead and zinc at Discharge Point 001 and for lead at Discharge Point 003 are consistent with anti-backsliding requirements because they reflect “new information” (the receiving water hardness and the new CVs based on reported data) that was not available during the prior permit issuance.

2. Antidegradation Policies

40 C.F.R. section 131.12 requires that the state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board’s Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge and ensures that any discharges permitted herein will not violate the antidegradation policies.

The relaxation of effluent limitations for copper (dry weather), lead (dry and wet weather) and zinc (dry weather) at Discharge Points 002, 004, 005 and 006 in this Order will not result in the degradation of high quality waters because these limitations are developed based on the Ballona Creek Metals TMDL WLAs and the cumulative effect of the WLAs are expected to result in attaining the beneficial uses of the receiving water.

The selenium limitations at Discharge Point 002 in the 2013 Order were more stringent because they were developed based on the WLA for selenium in the 2007 Ballona Creek Metals TMDL. Recent data indicate that selenium is not impairing the beneficial uses and a WLA for selenium is not included in the amended Ballona Creek Metals TMDL (Resolution No. R13-010). The effluent limitations for selenium at Discharge Point 002 in this Order are developed based on CTR criteria and take into consideration the new monitoring data for selenium at Discharge Point 002. Although these new limitations for selenium are less stringent, compliance with these effluent limitations will ensure selenium concentrations in the discharge meet CTR water quality based effluent limitations and protect the beneficial uses of the receiving water.

The effluent limitations for copper, lead and zinc at Discharge Points 001 and 003 in this Order are developed based on CTR criteria with the application of a new receiving water

hardness of 166.5 mg/L. This hardness value was determined using monitoring data reported by the Discharger during the last permit term and by the City of Los Angeles from November 2015 to December 2016. The hardness value used was based on new information. Compliance with these effluent limitations will ensure concentrations of these pollutant in the receiving water meet CTR criteria and protect the beneficial uses of the receiving water. Therefore, the effluent limitations for copper, lead and zinc at Discharge Points 001 and 003 are consistent with the state's antidegradation policy.

The effluent monitoring conducted during the term of Order No. R4-2013-0021 resulted in non-detected values for phenols with method detection limits below the effluent limitation for phenols contained in Order No. R4-2013-0021. Hence, there is no reasonable potential for the concentration of phenols in the discharge to cause or contribute to an exceedance of the water quality objective. The removal of selenium effluent limitations at Discharge Points 001, 003 through 006, and the removal of mercury effluent limitations at Discharge Points 001 and 002 will not result in the degradation of the receiving water because the removal of the effluent limitations are based on no reasonable potential for these pollutants to cause or contribute to an excursion above a state water quality standard.

In summary, the permitted discharge is not a new discharge. This Order does not provide for an increase in the permitted design flow at any discharge point, nor does it allow for a reduction in the level of treatment. The final limitations in this Order, which include concentration based and mass based limitations, hold the Discharger to performance levels that will not adversely impact the beneficial uses or degrade the water quality of the receiving waters, and they are developed consistent with federal guidelines and state regulations. The effluent limitations, receiving water limitations, and effluent and receiving water monitoring requirements ensure that excursions above water quality objectives of the receiving waters will be apparent and can be addressed immediately. Further, compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

Finally, the State Water Board issued Administrative Procedures Update 90-004 (APU 90-004), which provides guidance for the Regional Boards for implementing State Board Resolution No. 68-16, State Antidegradation Policy. Regarding circumstances when antidegradation analyses are required, APU 90-004 states that a complete antidegradation analysis is not required when reduction of water quality is temporally limited and will not result in any long-term deleterious effects on water quality. Since the impact on the receiving water caused by the storm water discharges from the Facility is short-term and will cease after a storm event is over, it will not result in any long-term deleterious effects on receiving water quality. Based on the above analysis, the storm water discharges are consistent with federal and state antidegradation policies.

3. Mass-based Effluent Limitations

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. 40 C.F.R. 122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitation on a case-by-case basis, limitation based on mass are infeasible because the mass or pollutant cannot be related to a measure of production.

Mass-based effluent limitations are established using the following formula:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} \times 8.34 \times \text{effluent limitation (mg/L)}$$

where: Mass = mass limitation for a pollutant (lbs/day)

Effluent limitation = concentration limit for a pollutant (mg/L)

Flow rate = discharge flow rate (MGD)

The mass-based effluent limitations are calculated based on the permitted discharge flow from the respective discharge point.

4. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions for BOD, settleable solids, oil and grease, TPH, and turbidity. Restrictions on these pollutants are discussed in section IV.B of the Fact Sheet. This Order’s technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to May 30, 2000. The remaining water quality objectives and beneficial uses implemented by this Order were approved by U.S. EPA and are applicable water quality standards pursuant to section 131.21(c)(2). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

5. Summary of Final Effluent Limitations

Table F-10a. Summary of Final Effluent Limitations for Discharge Point 001

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--	E, BPJ
	lbs/day ²	--	167	--	--	
Oil and Grease	mg/L	--	15	--	--	E, BPJ
	lbs/day ²	--	83	--	--	
pH	s.u.	--	--	6.5	8.5	E, BP
Total Suspended Solids (TSS)	mg/L	--	75	--	--	BPJ
	lbs/day ²	--	417	--	--	
Non-Conventional Pollutants						
Chronic Toxicity ³	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--	BP
Settleable Solids	ml/L	--	0.3	--	--	BPJ
Temperature	deg. F	--	--	--	86	E, BP, WP, TP

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Turbidity	NTU		75	--	--	BPJ
Total Petroleum Hydrocarbons (TPH) ⁴	µg/L	--	100	--	--	BPJ
	lbs/day ²	--	0.56	--	--	
Priority Pollutants						
Copper, Total Recoverable (All-weather)	µg/L	--	23	--	--	CTR, SIP
	lbs/day ²	--	0.13	--	--	
Lead, Total Recoverable (All-weather)	µg/L	--	10.8	--	--	CTR, SIP
	lbs/day ²	--	0.060	--	--	
Zinc, Total Recoverable (All-weather)	µg/L	--	185	--	--	CTR, SIP
	lbs/day ²	--	1.03	--	--	
Cyanide, Total (as CN)	µg/L	--	8.5	--	--	CTR, SIP
	lbs/day ²	--	0.047	--	--	
Bis (2-Ethylhexyl) Phthalate	µg/L	--	12	--	--	CTR, SIP
	lbs/day ²	--	0.067	--	--	

- 1 E= Order No. R4-2013-0021; BPJ = Best Professional Judgment; BP = Basin Plan; CTR = California Toxics Rule; SIP = State Implementation Policy; WP = White Paper; and TP= Thermal Plan.
- 2 Mass loading limitations are based on the permitted flow at Discharge Point 001 (0.666 million gallons per day (MGD)) and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$
- 3 The maximum daily effluent limitation (MDEL) shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
- 4 TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).

Table F-10b. Summary of Final Effluent Limitations for Discharge Point 002

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--	E, BPJ
	lbs/day ²	--	766	--	--	
Oil and Grease	mg/L	--	15	--	--	E, BPJ
	lbs/day ²	--	383	--	--	
pH	s.u.	--	--	6.5	8.5	E, BP
Total Suspended Solids (TSS)	mg/L	--	75	--	--	BPJ
	lbs/day ²	--	1910	--	--	
Non-Conventional Pollutants						
Chronic Toxicity ³	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--	BP
Settleable Solids	ml/L	--	0.3	--	--	BPJ
Temperature	deg. F	--	--	--	86	E, BP, WP, TP

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Turbidity	NTU		75	--	--	BPJ
Total Petroleum Hydrocarbons (TPH) ⁴	µg/L	--	100	--	--	BPJ
	lbs/day ²	--	2.55	--	--	
Priority Pollutants						
Copper , Total Recoverable (Dry-weather) ⁵	µg/L	--	58	--	--	TMDL
	lbs/day ¹	--	1.48	--	--	
Copper , Total Recoverable (Wet-weather) ⁵	µg/L	--	14	--	--	TMDL
	lbs/day ¹	--	0.36	--	--	
Lead, Total Recoverable (Dry-weather) ⁵	µg/L	--	32	--	--	TMDL
	lbs/day ¹	--	0.82	--	--	
Lead, Total Recoverable (Wet-weather) ⁵	µg/L	--	77	--	--	TMDL
	lbs/day ¹	--	1.97	--	--	
Selenium , Total Recoverable (All-weather)	µg/L	--	8.7	--	--	CTR, SIP
	lbs/day ¹	--	0.22	--	--	
Zinc, Total Recoverable (Dry-weather) ⁵	µg/L	--	733	--	--	TMDL
	lbs/day ¹	--	18.7	--	--	
Zinc, Total Recoverable (Wet-weather) ⁵	µg/L	--	105	--	--	TMDL
	lbs/day ¹	--	2.68	--	--	

¹ E= Order No. R4-2013-0021; BPJ = Best Professional Judgment; BP = Basin Plan; CTR = California Toxics Rule; SIP = State Implementation Policy; TMDL = Total Maximum Daily Loads (Resolution No. R13-010); WP = White Paper; and TP= Thermal Plan.

² Mass loading limitations are based on the permitted flow at Discharge Point 002 (3.06 million gallons per day (MGD)) and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$

³ The maximum daily effluent limitation (MDEL) shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).

⁴ TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).

⁵ Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is equal to or greater than 64 cfs.

Table F-10c. Summary of Final Effluent Limitations for Discharge Point 003

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--	E, BPJ
	lbs/day ²	--	159	--	--	

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Oil and Grease	mg/L	--	15	--	--	E, BPJ
	lbs/day ²	--	79	--	--	
pH	s.u.	--	--	6.5	8.5	E, BP
Total Suspended Solids (TSS)	mg/L	--	75	--	--	BPJ
	lbs/day ²	--	397	--	--	
Non-Conventional Pollutants						
Chronic Toxicity ³	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--	BP
Settleable Solids	ml/L	--	0.3	--	--	BPJ
Temperature	deg. F	--	--	--	86	E, BP, WP, TP
Turbidity	NTU	--	75	--	--	BPJ
Total Petroleum Hydrocarbons (TPH) ⁴	µg/L	--	100	--	--	BPJ
	lbs/day ²	--	0.53	--	--	
Priority Pollutants						
Copper, Total Recoverable (All-weather)	µg/L	--	23	--	--	CTR, SIP
	lbs/day ²	--	0.12	--	--	
Lead, Total Recoverable (All-weather)	µg/L	--	10	--	--	CTR, SIP
	lbs/day ²	--	0.053	--	--	
Zinc, Total Recoverable (All-weather)	µg/L	--	185	--	--	CTR, SIP
	lbs/day ²	--	0.98	--	--	

- ¹ E= Order No. R4-2013-0021; BPJ = Best Professional Judgment; BP = Basin Plan; CTR = California Toxics Rule; SIP = State Implementation Policy; WP = White Paper; and TP= Thermal Plan.
- ² Mass loading limitations are based on the permitted flow at Discharge Point 003 (0.634 million gallons per day (MGD)) and are calculated as follows:
 $\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$
- ³ The maximum daily effluent limitation (MDEL) shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).
- ⁴ TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).

Table F-10d. Summary of Final Effluent Limitations for Discharge Point 004

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--	E, BPJ
	lbs/day ²	--	395	--	--	
Oil and Grease	mg/L	--	15	--	--	E, BPJ
	lbs/day ²	--	198	--	--	
pH	s.u.	--	--	6.5	8.5	E, BP

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Total Suspended Solids (TSS)	mg/L	--	75	--	--	BPJ
	lbs/day ²	--	988	--	--	
Non-Conventional Pollutants						
Chronic Toxicity ³	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--	BP
Settleable Solids	ml/L	--	0.3	--	--	BPJ
Temperature	deg. F	--	--	--	86	E, BP, WP, TP
Turbidity	NTU	--	75	--	--	BPJ
Total Petroleum Hydrocarbons (TPH) ⁴	µg/L	--	100	--	--	BPJ
	lbs/day ²	--	0.56	--	--	
Priority Pollutants						
Copper , Total Recoverable (Dry-weather) ⁵	µg/L	--	58	--	--	TMDL
	lbs/day ¹	--	0.76	--	--	
Copper , Total Recoverable (Wet-weather) ⁵	µg/L	--	14	--	--	TMDL
	lbs/day ¹	--	0.18	--	--	
Lead, Total Recoverable (Dry-weather) ⁵	µg/L	--	32	--	--	TMDL
	lbs/day ¹	--	0.42	--	--	
Lead, Total Recoverable (Wet-weather) ⁵	µg/L	--	77	--	--	TMDL
	lbs/day ¹	--	1.01	--	--	
Zinc, Total Recoverable (Dry-weather) ⁵	µg/L	--	733	--	--	TMDL
	lbs/day ¹	--	9.66	--	--	
Zinc, Total Recoverable (Wet-weather) ⁵	µg/L	--	105	--	--	TMDL
	lbs/day ¹	--	1.38	--	--	

¹ E= Order No. R4-2013-0021; BPJ = Best Professional Judgment; BP = Basin Plan; CTR = California Toxics Rule; SIP = State Implementation Policy; TMDL = Total Maximum Daily Loads (Resolution No. R13-010); WP = White Paper; and TP= Thermal Plan.

² Mass loading limitations are based on the permitted flow at Discharge Point 004 (1.58 million gallons per day (MGD)) and are calculated as follows:
 Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.

³ The maximum daily effluent limitation (MDEL) shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).

⁴ TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).

⁵ Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is equal to or greater than 64 cfs.

Table F-10e. Summary of Final Effluent Limitations for Discharge Point 005

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--	E, BPJ
	lbs/day ²	--	253	--	--	
Oil and Grease	mg/L	--	15	--	--	E, BPJ
	lbs/day ²	--	126	--	--	
pH	s.u.	--	--	6.5	8.5	E, BP
Total Suspended Solids (TSS)	mg/L	--	75	--	--	BPJ
	lbs/day ²	--	632	--	--	
Non-Conventional Pollutants						
Chronic Toxicity ³	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--	BP
Settleable Solids	ml/L	--	0.3	--	--	BPJ
Temperature	deg. F	--	--	--	86	E, BP, WP, TP
Turbidity	NTU	--	75	--	--	BPJ
Total Petroleum Hydrocarbons (TPH) ⁴	µg/L	--	100	--	--	BPJ
	lbs/day ²	--	0.84	--	--	
Priority Pollutants						
Copper , Total Recoverable (Dry-weather) ⁵	µg/L	--	58	--	--	TMDL
	lbs/day ¹	--	0.49	--	--	
Copper , Total Recoverable (Wet-weather) ⁵	µg/L	--	14	--	--	TMDL
	lbs/day ¹	--	0.12	--	--	
Lead, Total Recoverable (Dry-weather) ⁵	µg/L	--	32	--	--	TMDL
	lbs/day ¹	--	0.27	--	--	
Lead, Total Recoverable (Wet-weather) ⁵	µg/L	--	77	--	--	TMDL
	lbs/day ¹	--	0.65	--	--	
Zinc, Total Recoverable (Dry-weather) ⁵	µg/L	--	733	--	--	TMDL
	lbs/day ¹	--	6.17	--	--	
Zinc, Total Recoverable (Wet-weather) ⁵	µg/L	--	105	--	--	TMDL
	lbs/day ¹	--	0.88	--	--	

¹ E= Order No. R4-2013-0021; BPJ = Best Professional Judgment; BP = Basin Plan; CTR = California Toxics Rule; SIP = State Implementation Policy; TMDL = Total Maximum Daily Loads (Resolution No. R13-010); WP = White Paper; and TP= Thermal Plan.

² Mass loading limitations are based on the permitted flow at Discharge Point 005 (1.01 million gallons per day (MGD)) and are calculated as follows:

$$\text{Flow (MGD)} \times \text{Concentration (mg/L)} \times 8.34 \text{ (conversion factor)} = \text{lbs/day.}$$

³ The maximum daily effluent limitation (MDEL) shall be reported as "Pass" or "Fail" and "% Effect". The MDEL is exceeded when a toxicity test results in a "Fail," and the percent effect is greater than or equal to 0.50. Report "Pass" or "Fail" and "% Effect" for Maximum Daily Effluent Limitation (MDEL).

- ⁴ TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
⁵ Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is equal to or greater than 64 cfs.

Table F-10f. Summary of Final Effluent Limitations for Discharge Point 006

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Conventional Pollutants						
Biochemical Oxygen Demand (BOD) (5-day @ 20 deg. C)	mg/L	--	30	--	--	E, BPJ
	lbs/day ²	--	150	--	--	
Oil and Grease	mg/L	--	15	--	--	E, BPJ
	lbs/day ²	--	75	--	--	
pH	s.u.	--	--	6.5	8.5	E, BP
Total Suspended Solids (TSS)	mg/L	--	75	--	--	BPJ
	lbs/day ²	--	375	--	--	
Non-Conventional Pollutants						
Chronic Toxicity ³	Pass or Fail, % Effect	--	Pass or % Effect < 50	--	--	BP
Settleable Solids	ml/L	--	0.3	--	--	BPJ
Temperature	deg. F	--	--	--	86	E, BP, WP, TP
Turbidity	NTU	--	75	--	--	BPJ
Total Petroleum Hydrocarbons (TPH) ⁴	µg/L	--	100	--	--	BPJ
	lbs/day ²	--	0.50	--	--	
Priority Pollutants						
Copper , Total Recoverable (Dry-weather) ⁵	µg/L	--	58	--	--	TMDL
	lbs/day ¹	--	0.29	--	--	
Copper , Total Recoverable (Wet-weather) ⁵	µg/L	--	14	--	--	TMDL
	lbs/day ¹	--	0.070	--	--	
Lead, Total Recoverable (Dry-weather) ⁵	µg/L	--	32	--	--	TMDL
	lbs/day ¹	--	0.16	--	--	
Lead, Total Recoverable (Wet-weather) ⁵	µg/L	--	77	--	--	TMDL
	lbs/day ¹	--	0.39	--	--	
Mercury , Total Recoverable (All-weather)	µg/L	--	0.10	--	--	CTR, SIP
	lbs/day ¹	--	0.00050	--	--	
Zinc, Total Recoverable (Dry-weather) ⁵	µg/L	--	733	--	--	TMDL
	lbs/day ¹	--	3.67	--	--	
Zinc, Total Recoverable (Wet-weather) ⁵	µg/L	--	105	--	--	TMDL
	lbs/day ¹	--	0.53	--	--	

- ¹ E= Order No. R4-2013-0021; BPJ = Best Professional Judgment; BP = Basin Plan; CTR = California Toxics Rule; SIP = State Implementation Policy; TMDL = Total Maximum Daily Loads (Resolution No. R13-010); WP = White Paper; and TP= Thermal Plan.
- ² Mass loading limitations are based on the permitted flow at Discharge Point 006 (0.6 million gallons per day (MGD)) and are calculated as follows:
Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day.
- ³ The maximum daily effluent limitation (MDEL) shall be reported as “Pass” or “Fail” and “% Effect”. The MDEL is exceeded when a toxicity test results in a “Fail,” and the percent effect is greater than or equal to 0.50. Report “Pass” or “Fail” and “% Effect” for Maximum Daily Effluent Limitation (MDEL).
- ⁴ TPH equals the sum of TPH gasoline (C₄-C₁₂), TPH diesel (C₁₃-C₂₂), and TPH waste oil (C₂₃₊).
- ⁵ Dry-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is less than 64 cubic feet per second (cfs). Wet-weather effluent limitations are applicable when the maximum daily flow in Ballona Creek is equal to or greater than 64 cfs.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (40 C.F.R. section 131.12) and State Water Board Resolution No. 68-16 (the anti-degradation policies). Receiving water limitations in this Order are included to ensure protection of the beneficial uses of the receiving water. If there is reasonable potential or a U.S. EPA-approved TMDL WLA, then WQBELs are included in this Order to ensure protection of those water quality standards.

B. Groundwater – Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 C.F.R. section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

These provisions are based on 40 C.F.R part 123 and Order No. R4-2013-0021. The Regional Water Board may reopen the permit to modify permit conditions and

requirements. Causes for modifications include the promulgation of new federal regulations, modification in toxicity requirements, or adoption of new regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan or adoption of applicable TMDLs associated with the receiving water.

2. Special Studies and Additional Monitoring Requirements

- a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** This provision is based on section 4 of the SIP, Toxicity Control Provisions, which establishes minimum toxicity control requirements for implementing the narrative toxicity objective for aquatic life protection established in the basin plans of the State of California.
- b. **Effluent Sediment Monitoring.** The Discharger shall monitor the effluent sediments to demonstrate compliance with the sediment limitations as listed in Table 5 of the Order as per the Ballona Creek Estuary Toxic Pollutants TMDL. Since the TSS concentration in the final discharge may be less than the TSS effluent limitation of 75 mg/L, a large volume of effluent sample may be required to gather enough sediments for the required analyses (metals and organics). Therefore, high resolution analytical methods (EPA approved) may be used to analyze specific constituents in the sediments. The Discharger may submit a work plan for Executive Officer's approval if high resolution analytical methods will be used for sediment analyses.

3. Best Management Practices and Storm Water Pollution Prevention

- a. **Storm Water Pollution Prevention Plan (SWPPP).** This Order requires the Discharger to update, as necessary, and continue to implement a SWPPP. The SWPPP will outline site-specific management processes for minimizing storm water runoff contamination and for preventing trash and contaminated storm water runoff from being discharged directly into the receiving water. At a minimum, the management practices should ensure that raw materials and chemicals do not come into contact with storm water, and to prevent the entrainment of trash in storm water that is discharged through Discharge Points. SWPPP requirements are included as Attachment G, based on 40 C.F.R. section 122.44(k).
- b. **Best Management Practices Plan (BMPP).** This Order requires the Discharger to develop and implement a BMPP. The BMPP may be included as a component of the SWPPP. 40 C.F.R. section 122.44(k) requires that permits include best management practices when reasonably necessary to achieve the effluent limitations and standards or to carry out the purpose and intent of the CWA. Consistent with 40 C.F.R. section 122.44(k), this Order requires the Discharger to update and implement a BMPP. The purpose of the BMPP is to establish site-specific procedures that minimize the potential of hazardous waste/materials and other contaminants to discharge to surface waters. The BMPP shall incorporate the requirements contained in Attachment G. Attachment G requires a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges. The BMPP may be included in the SWPPP.
- c. **Spill Contingency Plan (SCP).** This Order requires the Discharger to develop and implement a SCP to control the discharge of pollutants. The SCP shall include a technical report on the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events at the site. This provision is included in this Order to minimize and control the amount of pollutants discharged in case of a spill. The SCP shall be site specific and shall cover all areas of the Facility. A Spill Prevention, Control, and Countermeasure (SPCC) Plan may satisfy this requirement.

4. Construction, Operation, and Maintenance Specifications

This provision is based on the requirements of 40 C.F.R section 122.41(e).

5. Other Special Provisions – Not Applicable

6. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

Effluent monitoring for pollutants expected to be present in the discharge will be required at Monitoring Locations EFF-001 through EFF-006 as prescribed in the MRP (Attachment E). To demonstrate compliance with established effluent limitations, monitoring frequency for those pollutants with effluent limitations is once per discharge event, but no more than once per week or any 7-day period. These parameters include total flow, pH, temperature, BOD, oil and grease, settleable solids, TSS, turbidity, TPH, mercury, copper, lead, selenium, zinc, bis(2-ethylhexyl)phthalate and cyanide. Chronic toxicity monitoring is required once per year at each discharge point if a discharge occurs at that location. Monitoring for additional pollutants including ammonia, nitrite, nitrate, E coli, methyl tertiary butyl ether (MTBE) and phenols is also required once per year based on considerations of pollutants commonly associated with similar operations.

The SIP states that the Regional Water Board will require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires the Discharger to conduct annual monitoring for the remaining CTR priority pollutants, including TCDD equivalents, at each discharge point, if a discharge occurs at that location during the year. The Regional Water Board will use the additional data to conduct an RPA and determine if additional WQBELs are required. The Regional Water Board may reopen the permit to incorporate additional effluent limitations and requirements, if necessary.

To implement the requirements in the Toxic Pollutants TMDL for Ballona Creek Estuary, this Order requires annual sediment monitoring at each discharge point if any storm water runoff is discharged during that year.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. A chronic toxicity test measures mortality, reproduction, and growth. A chemical at a low concentration can have chronic effects but no acute effects. Chronic toxicity is a more stringent requirement than acute toxicity. For this Order, chronic toxicity monitoring in the discharge is required. The chronic toxicity testing results are analyzed using U.S. EPA's 2010 TST statistical approach.

D. Receiving Water Monitoring

1. Surface Water Monitoring

The SIP requires monitoring of the receiving water for the CTR priority pollutants, including TCDD equivalents, to determine reasonable potential. This Order requires the Discharger to monitor the receiving water for pH, temperature, hardness, turbidity, dissolved oxygen, ammonia, and priority pollutants (including TCDD equivalents) of the receiving water at upstream Monitoring Stations (RSW-001 and RSW-003) once per year. Additionally, the Discharger must analyze pH, temperature, hardness, turbidity, dissolved oxygen, ammonia and E coli at the downstream Monitoring Stations (RSW-002 and RSW-004) to determine compliance with the receiving water limitations. Semiannual monitoring for pH, temperature and ammonia in the downstream monitoring stations is required for the determination of compliance with the ammonia water quality objective in the receiving water. The pH and temperature data in the receiving waters are required in the establishment of ammonia effluent limitations if the effluent ammonia concentration demonstrates the presence of a reasonable potential in the future.

The Discharger must provide maximum daily flow data in the Ballona Creek with the quarterly monitoring reports for the days when discharges occur at the Facility. Flow data for the Ballona Creek is currently monitored between Sawtelle Boulevard and Sepulveda Boulevard by the Los Angeles County Department of Public Works at Stream Gage No. F38C-R. This station is designated as RSW-005 in this Order. This information is necessary to determine the wet-weather and dry-weather conditions as defined in the Ballona Creek Metals TMDL.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. Storm Water Monitoring

The discharge is comprised of storm water runoff. As such, the Discharger is required to measure and record the rainfall each day of the month. The Discharger is also required to conduct visual observations of all storm water discharges to observe the presence of floating and suspended materials, trash, oil and grease, discoloration, turbidity, and odor.

VIII. PUBLIC PARTICIPATION

The Regional Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Lubricating Specialties Company, Pico Rivera Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following: email and local newspaper; and documents relevant to the tentative permit were also available on the Regional Water Board website. Similarly, the public had access to the agenda and any changes in dates and locations through the Regional Water Board's website at:

<http://www.waterboards.ca.gov/losangeles>.

B. Written Comments

Interested persons were invited to submit written comments concerning the tentative WDRs as provided through the notification process. Comments were required to be submitted either in

person or by mail to the Executive Officer at the Regional Water Board at 320 West 4th Street, Suite 200, Los Angeles, CA 90013, or by email to losangeles@waterboards.ca.gov with a copy to jauren.chen@waterboards.ca.gov.

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. January 5, 2018.

C. Public Hearing

The Regional Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: February 8, 2018
Time: 9:00 a.m.
Location: Metropolitan Water District, Board Room
700 North Alameda Street,
Los Angeles, California

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100
Sacramento, CA 95812-0100

Or by email to: waterqualitypetitions@waterboards.ca.gov

For instructions on how to file a petition for review, see

http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml.

E. Information and Copying

The Report of Waste Discharge (ROWD), tentative WDRs, comments received, and other supporting documents are on file and the electronic copies may be assessed in the CIWQS database or on the Los Angeles Regional Water Quality Control Board website at www.waterboards.ca.gov/losangeles. Hard copies may be inspected at the Regional Water Board's office at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Viewing and copying of documents may be arranged through the Regional Water Board by calling (213) 576 – 6600.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this Facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Jau Ren Chen at jauren.chen@waterboards.ca.gov or at (213)576-6656.

ATTACHMENT G – STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

I. IMPLEMENTATION SCHEDULE

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or no later than 90 days from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

II. OBJECTIVES

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, overhead coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

III. PLANNING AND ORGANIZATION

A. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify Permit-related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

B. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, state, and federal requirements that impact, complement, or are consistent with the requirements of this permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators

whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

IV. SITE MAP

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

**TABLE A
FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL
STORM WATER POLLUTION PREVENTION PLANS**

PLANNING AND ORGANIZATION Form Pollution Prevention Team Review other plans
ASSESSMENT PHASE Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant risks
BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE Non-structural BMPs Structural BMPs Select activity and site-specific BMPs
IMPLEMENTATION PHASE Train employees Implement BMPs Conduct recordkeeping and reporting
EVALUATION / MONITORING Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP

The following information shall be included on the site map:

- A. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.
- B. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.
- C. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.
- D. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in section VI.A.4 below have occurred.
- E. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

V. LIST OF SIGNIFICANT MATERIALS

The SWPPP shall include a list of significant materials¹ handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

VI. DESCRIPTION OF POTENTIAL POLLUTANT SOURCES

- A. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in section IV.E above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:
 - 1. **Industrial Processes.** Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.
 - 2. **Material Handling and Storage Areas.** Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response

¹ "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3. **Dust and Particulate Generating Activities.** Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.
4. **Significant Spills and Leaks.** Describe materials that have spilled or leaked in significant quantities in storm water discharges or authorized non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 Code of Federal Regulations (C.F.R.) part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 C.F.R., parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this Permit.

5. **Non-Storm Water Discharges.** Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the authorized non-storm water discharges and associated drainage area.

Non-storm water discharges that are not authorized by this Permit, other waste discharge requirements, or other NPDES permits are prohibited. The SWPPP must include BMPs to prevent or reduce contact of authorized non-storm water discharges with significant materials (as defined in Footnote 1 of section V above) or equipment.

6. **Soil Erosion.** Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.
7. **Trash.** Describe the facility locations where trash may be generated as a result of facility operations and on-site activities.

- B. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with section VIII. below.

VII. ASSESSMENT OF POTENTIAL POLLUTANT SOURCES

- A. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in section VI above to determine:
 1. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

2. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.
- B.** Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in section VIII below.

VIII. STORM WATER BEST MANAGEMENT PRACTICES

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (sections VI and VII above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B
EXAMPLE
ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND
CORRESPONDING BEST MANAGEMENT PRACTICES
SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area.	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

A. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs (see section VIII.B. below). Below is a list of non-structural BMPs that should be considered:

1. **Good Housekeeping.** Good housekeeping generally consists of practical procedures to maintain a clean and orderly facility.
2. **Preventive Maintenance.** Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.
3. **Spill Response.** This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.
4. **Material Handling and Storage.** This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.
5. **Employee Training.** This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.
6. **Waste Handling/Recycling.** This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.
7. **Recordkeeping and Internal Reporting.** This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.
8. **Erosion Control and Site Stabilization.** This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.
9. **Inspections.** This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10. **Quality Assurance.** This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs.

Where non-structural BMPs as identified in section VIII.A above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1. **Overhead Coverage.** This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.
2. **Retention Ponds.** This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.
3. **Control Devices.** This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.
4. **Secondary Containment Structures.** This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.
5. **Treatment.** This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

IX. ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 10 days of the approval by the Executive Officer or no later than 90 days after submission to the Regional Water Board, whichever comes first. . Evaluations shall include the following:

- A. A review of all visual observation records, inspection records, and sampling and analysis results.
- B. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.
- C. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.
- D. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in section X.E., for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions V.B.5 of Attachment D.

X. SWPPP GENERAL REQUIREMENTS

- A. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

- B.** The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.
- C.** The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.
- D.** The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Permit.
- E.** When any part of the SWPPP is infeasible to implement due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.
- F.** The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under section 308(b) of the Clean Water Act.

ATTACHMENT H – STATE WATER BOARD MINIMUM LEVELS (MICROGRAMS/LITER (µG/L))

The Minimum Levels (MLs) in this Attachment are for use in reporting and compliance determination purposes in accordance with section 2.4 of the State Implementation Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the State Water Board and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides and PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethylene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Methyl Bromide	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethylene	0.5	2
Toluene	0.5	2
Trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Benzo (a) Anthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
1,3 Dichlorobenzene (semivolatile)	2	1		
1,4 Dichlorobenzene (semivolatile)	2	1		
2- Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3' Dichlorobenzidine		5		
Benzo (b) Fluoranthene		10	10	
3-Methyl-Chlorophenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1,000; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1,000.

** Phenol by colorimetric technique has a factor of 1.

Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1,000
Arsenic		2	10	2	2	1		20	1,000
Beryllium	20	0.5	2	0.5	1				1,000
Cadmium	10	0.5	10	0.25	0.5				1,000
Chromium (total)	50	2	10	0.5	1				1,000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1,000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1,000
Selenium		5	10	2	5	1			1,000
Silver	10	1	10	0.25	2				1,000
Thallium	10	2	10	1	5				1,000
Zinc	20		20	1	10				1,000

* The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d – PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
alpha-BHC	0.01
Aldrin	0.005
b-Endosulfan	0.01
Beta-BHC	0.005
Chlordane	0.1
Delta-BHC	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Gamma-BHC (Lindane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5

Table 2d – PESTICIDES – PCBs*	GC
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

Techniques:

GC - Gas Chromatography

GCMS - Gas Chromatography/Mass Spectrometry

HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)

LC - High Pressure Liquid Chromatography

FAA - Flame Atomic Absorption

GFAA - Graphite Furnace Atomic Absorption

HYDRIDE - Gaseous Hydride Atomic Absorption

CVAA - Cold Vapor Atomic Absorption

ICP - Inductively Coupled Plasma

ICPMS - Inductively Coupled Plasma/Mass Spectrometry

SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)

DCP - Direct Current Plasma

COLOR – Colorimetric

ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

CTR Number	Parameter	CAS Number	Analytical Methods
1	Antimony	7440360	1
2	Arsenic	7440382	1
3	Beryllium	7440417	1
4	Cadmium	7440439	1
5a	Chromium (III)	16065831	1
5a	Chromium (VI)	18540299	1
6	Copper	7440508	1
7	Lead	7439921	1
8	Mercury	7439976	1
9	Nickel	7440020	1
11	Selenium	7782492	1
11	Silver	7440224	1
12	Thallium	7440280	1
13	Zinc	7440666	1
14	Cyanide	57125	1
15	Asbestos	1332214	1
16	2,3,7,8-TCDD	1746016	1
17	Acrolein	117028	1
18	Acrylonitrile	117131	1
19	Benzene	71432	1
20	Bromoform	75252	1
21	Carbon Tetrachloride	56235	1
22	Chlorobenzene	118907	1
23	Chlorodibromomethane	124481	1
24	Chloroethane	75003	1
25	2-Chloroethylvinyl Ether	111758	1
26	Chloroform	67663	1
27	Dichlorobromomethane	75274	1
28	1,1-Dichloroethane	75343	1
29	1,2-Dichloroethane	117062	1
30	1,1-Dichloroethylene	75354	1
31	1,2-Dichloropropane	78875	1
32	1,3-Dichloropropylene	542756	1
33	Ethylbenzene	110414	1
34	Methyl Bromide	74839	1
35	Methyl Chloride	74873	1
36	Methylene Chloride	75092	1
37	1,1,2,2-Tetrachloroethane	79345	1
38	Tetrachloroethylene	127184	1
39	Toluene	118883	1
40	1,2-Trans-Dichloroethylene	156605	1
41	1,1,1-Trichloroethane	71556	1
42	1,1,2-Trichloroethane	79005	1
43	Trichloroethylene	79016	1
44	Vinyl Chloride	75014	1
45	2-Chlorophenol	95578	1
46	2,4-Dichlorophenol	120832	1
47	2,4-Dimethylphenol	115679	1

CTR Number	Parameter	CAS Number	Analytical Methods
48	2-Methyl-4,6-Dinitrophenol	534521	1
49	2,4-Dinitrophenol	51285	1
50	2-Nitrophenol	88755	1
51	4-Nitrophenol	110027	1
52	3-Methyl-4-Chlorophenol	59507	1
53	Pentachlorophenol	87865	1
54	Phenol	118952	1
55	2,4,6-Trichlorophenol	88062	1
56	Acenaphthene	83329	1
57	Acenaphthylene	208968	1
58	Anthracene	120127	1
59	Benzidine	92875	1
60	Benzo(a)Anthracene	56553	1
61	Benzo(a)Pyrene	50328	1
62	Benzo(b)Fluoranthene	205992	1
63	Benzo(ghi)Perylene	191242	1
64	Benzo(k)Fluoranthene	207089	1
65	Bis(2-Chloroethoxy)Methane	111911	1
66	Bis(2-Chloroethyl)Ether	111444	1
67	Bis(2-Chloroisopropyl)Ether	118601	1
68	Bis(2-Ethylhexyl)Phthalate	117817	1
69	4-Bromophenyl Phenyl Ether	111553	1
70	Butylbenzyl Phthalate	85687	1
71	2-Chloronaphthalene	91587	1
72	4-Chlorophenyl Phenyl Ether	7005723	1
73	Chrysene	218019	1
74	Dibenzo(a,h)Anthracene	53703	1
75	1,2-Dichlorobenzene	95501	1
76	1,3-Dichlorobenzene	541731	1
77	1,4-Dichlorobenzene	116467	1
78	3,3'-Dichlorobenzidine	91941	1
79	Diethyl Phthalate	84662	1
80	Dimethyl Phthalate	131113	1
81	Di-n-Butyl Phthalate	84742	1
82	2,4-Dinitrotoluene	121142	1
83	2,6-Dinitrotoluene	606202	1
84	Di-n-Octyl Phthalate	117840	1
85	1,2-Diphenylhydrazine	122667	1
86	Fluoranthene	206440	1
87	Fluorene	86737	1
88	Hexachlorobenzene	118741	1
89	Hexachlorobutadiene	87863	1
90	Hexachlorocyclopentadiene	77474	1
91	Hexachloroethane	67721	1
92	Indeno(1,2,3-cd)Pyrene	193395	1
93	Isophorone	78591	1
94	Naphthalene	91203	1
95	Nitrobenzene	98953	1
96	N-Nitrosodimethylamine	62759	1
97	N-Nitrosodi-n-Propylamine	621647	1
98	N-Nitrosodiphenylamine	86306	1
99	Phenanthrene	85018	1

CTR Number	Parameter	CAS Number	Analytical Methods
100	Pyrene	129000	1
101	1,2,4-Trichlorobenzene	120821	1
102	Aldrin	309002	1
103	Alpha-BHC	319846	1
104	Beta-BHC	319857	1
105	Gamma-BHCc	58899	1
106	Delta-BHC	319868	1
107	Chlordane	57749	1
108	4,4'-DDT	50293	1
109	4,4'-DDE	72559	1
110	4,4'-DDD	72548	1
111	Dieldrin	60571	1
112	Alpha-Endosulfan	959988	1
113	Beta-Endosulfan	33213659	1
114	Endosulfan Sulfate	1131178	1
115	Endrin	72208	1
116	Endrin Aldehyde	7421934	1
117	Heptachlor	76448	1
118	Heptachlor Epoxide	1124573	1
119	PCB-1016	12674112	1
120	PCB-1221	11104282	1
121	PCB-1232	11141165	1
122	PCB-1242	53469219	1
123	PCB-1248	12672296	1
124	PCB-1254	11097691	1
125	PCB-1260	11096825	1
126	Toxaphene	8001352	1

¹ Pollutants shall be analyzed using the methods described in 40 C.F.R. part 136.

ATTACHMENT J – SUMMARY OF EFFLUENT LIMITATION CALCULATIONS

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 001

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				Human Health for consumption of:		Ballona Creek Metals TMDL* (Not Applicable)		Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)
					Freshwater		Saltwater		Water & organisms	Organisms only	Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)						
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot										
1	Antimony	ug/L		2.2					4300.00			4300.00	No	No	Y	N		
2	Arsenic	ug/L		26	340.00	150.00						150.00	No	No	Y	N		
3	Beryllium	ug/L		No Criteria					Narrative			No Criteria	No Criteria	No Criteria	Y	Y	0.25	
4	Cadmium	ug/L		0.57	8.03	3.67			Narrative			3.67	No	No	Y	Y	0.25	
5a	Chromium (III)			2.5	2636.43	314.25			Narrative			314.25	No	No	Y	N		
5b	Chromium (VI)	ug/L		0.42	16.00	11.00			Narrative			11.00	No	No	Y	N		
6	Copper, All Weather	ug/L	1.19	58	22.63	14.42						14.42	Yes	Yes	Y	N		
7	Lead, All Weather	ug/L	1.87	43	156.24	6.09			Narrative			6.09	Yes	Yes	Y	N		
8	Mercury	ug/L	0.6		Reserved	Reserved			0.05			0.05			Y	Y	0.1	
9	Nickel	ug/L		28	722.19	80.29			4600.00			80.29	No	No	Y	N		
10	Selenium	ug/L		3.8		5.00			Narrative			5.00	No	No	Y	Y	0.5	
11	Silver	ug/L		1	9.76							9.76	No	No	Y	Y	0.5	
12	Thallium	ug/L		1					6.30			6.30	No	No	Y	Y	0.5	
13	Zinc, All Weather	ug/L	1.25	200	184.55	184.55						184.55	Yes	Yes	Y	N		
14	Cyanide	ug/L	0.6	10	22.00	5.20			220000			5.20	Yes	Yes	Y	Y	3	
15	Asbestos	MFL		No Criteria								No Criteria	No Criteria	No Criteria	N			
16	2,3,7,8 TCDD	ug/L							1.40E-08			0.00			Y	Y	0.0000096	
17	Acrolein	ug/L		0.5					780.00			780.00	No	No	Y	Y	2.5	
18	Acrylonitrile	ug/L							0.66			0.66			Y	Y	1	
19	Benzene	ug/L		0.5					71.00			71.00	No	No	Y	Y	0.25	
20	Bromoform	ug/L		1					360.00			360.00	No	No	Y	Y	0.25	
21	Carbon Tetrachloride	ug/L		0.5					4.40			4.40	No	No	Y	Y	0.25	
22	Chlorobenzene	ug/L		0.5					21000.00			21000.00	No	No	Y	Y	0.25	
23	Chlorodibromomethane	ug/L		1					34.00			34.00	No	No	Y	Y	0.25	
24	Chloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
25	2-Chloroethylvinyl ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1	
26	Chloroform	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
27	Dichlorobromomethane	ug/L		0.5					46.00			46.00	No	No	Y	Y	0.25	
28	1,1-Dichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
29	1,2-Dichloroethane	ug/L		0.5					99.00			99.00	No	No	Y	Y	0.25	
30	1,1-Dichloroethylene	ug/L		0.5					3.20			3.20	No	No	Y	Y	0.25	
31	1,2-Dichloropropane	ug/L		0.5					39.00			39.00	No	No	Y	Y	0.25	
32	1,3-Dichloropropylene	ug/L		1					1700.00			1700.00	No	No	Y	Y	0.25	
33	Ethylbenzene	ug/L		0.5					29000.00			29000.00	No	No	Y	Y	0.25	
34	Methyl Bromide	ug/L		0.5					4000.00			4000.00	No	No	Y	Y	0.25	
35	Methyl Chloride	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
36	Methylene Chloride	ug/L		2					1600.00			1600.00	No	No	Y	Y	0.88	
37	1,1,2,2-Tetrachloroethane	ug/L		0.5					11.00			11.00	No	No	Y	Y	0.25	
38	Tetrachloroethylene	ug/L		1					8.85			8.85	No	No	Y	Y	0.25	
39	Toluene	ug/L		0.5					200000.00			200000.00	No	No	Y	Y	0.25	
40	1,2-Trans-Dichloroethylene	ug/L							140000.00			140000.00			Y	Y	0.25	
41	1,1,1-Trichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
42	1,1,2-Trichloroethane	ug/L		0.5					42.00			42.00	No	No	Y	Y	0.25	
43	Trichloroethylene	ug/L		1					81.00			81.00	No	No	Y	Y	0.25	
44	Vinyl Chloride	ug/L		0.5					525.00			525.00	No	No	Y	Y	0.25	
45	2-Chlorophenol	ug/L		1					400.00			400.00	No	No	Y	Y	0.48	
46	2,4-Dichlorophenol	ug/L		2					790.00			790.00	No	No	Y	Y	0.95	
47	2,4-Dimethylphenol	ug/L		2					2300.00			2300.00	No	No	Y	Y	0.95	
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)	ug/L							765.00			765.00			Y	Y	1.9	
49	2,4-Dinitrophenol	ug/L		5					14000.00			14000.00	No	No	Y	Y	1.9	
50	2-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.95	
51	4-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
53	Pentachlorophenol	ug/L		1	11.79	9.05			8.20			8.20	No	No	Y	N		
54	Phenol	ug/L		0.05					4600000.00			4600000.00	No	No	Y	Y	0.48	
55	2,4,6-Trichlorophenol	ug/L		1					6.50			6.50	No	No	Y	Y	0.48	
56	Acenaphthene	ug/L		0.5					2700.00			2700.00	No	No	Y	Y	0.19	
57	Acenaphthylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
58	Anthracene	ug/L		0.5					110000.00			110000.00	No	No	Y	Y	0.1	
59	Benzidine	ug/L							0.00			0.00			Y	Y	4.8	
60	Benzo(a)Anthracene	ug/L							0.05			0.05			Y	Y	1.9	
61	Benzo(a)Pyrene	ug/L							0.05			0.05			Y	Y	0.48	
62	Benzo(b)Fluoranthene	ug/L							0.05			0.05			Y	Y	0.95	
63	Benzo(ghi)Perylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9	
64	Benzo(k)Fluoranthene	ug/L							0.05			0.05			Y	Y	0.24	
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
66	Bis(2-Chloroethyl)Ether	ug/L		0.5					1.40			1.40	No	No	Y	Y	0.19	

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 001

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)						HUMAN HEALTH CALCULATIONS						
		Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only				ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier
								AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	Sa			
1	Antimony	2.6		B<=C, Step 7		No	MEC<C & B<=C							
2	Arsenic	1.4		B<=C, Step 7		No	MEC<C & B<=C							
3	Beryllium		N	No Criteria	No Criteria	Uc	No Criteria							
4	Cadmium		N	No detected value of B, Step 7		No	MEC<C & B is ND							
5a	Chromium (III)	2.04		B<=C, Step 7		No	MEC<C & B<=C							
5b	Chromium (VI)	0.46		B<=C, Step 7		No	MEC<C & B<=C							
6	Copper, All Weather	20.3		Limit required, B>C & pollutant detected in effluent		Yes	MEC>=C	2.69			0.18	3.97	0.32	
7	Lead, All Weather	16		Limit required, B>C & pollutant detected in effluent		Yes	MEC>=C	3.04			0.12	19.10	0.22	
8	Mercury		Y	No detected value of B, Step 7		No	UD: effluent ND, MDL>C, and B is ND							
9	Nickel	3.7		B<=C, Step 7		No	MEC<C & B<=C							
10	Selenium		N	No detected value of B, Step 7		No	MEC<C & B is ND							
11	Silver		N	No detected value of B, Step 7		No	MEC<C & B is ND							
12	Thallium		N	No detected value of B, Step 7		No	MEC<C & B is ND							
13	Zinc, All Weather	130		B<=C, Step 7		Yes	MEC>=C	2.73			0.17	30.95	0.31	
14	Cyanide		N	No detected value of B, Step 7		Yes	MEC>=C	220000	2.01	441362	0.32	7.06	0.53	
15	Asbestos			No Criteria	No Criteria	Uc	No Criteria							
16	2,3,7,8 TCDD		Y	No detected value of B, Step 7		No	UD: effluent ND, MDL>C, and B is ND							
17	Acrolein		N	No detected value of B, Step 7		No	MEC<C & B is ND							
18	Acrylonitrile		Y	No detected value of B, Step 7		No	UD: effluent ND, MDL>C, and B is ND							
19	Benzene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
20	Bromoform		N	No detected value of B, Step 7		No	MEC<C & B is ND							
21	Carbon Tetrachloride		N	No detected value of B, Step 7		No	MEC<C & B is ND							
22	Chlorobenzene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
23	Chlorodibromomethane		N	No detected value of B, Step 7		No	MEC<C & B is ND							
24	Chloroethane		N	No Criteria	No Criteria	Uc	No Criteria							
25	2-Chloroethylvinyl ether		N	No Criteria	No Criteria	Uc	No Criteria							
26	Chloroform		N	No Criteria	No Criteria	Uc	No Criteria							
27	Dichlorobromomethane		N	No detected value of B, Step 7		No	MEC<C & B is ND							
28	1,1-Dichloroethane		N	No Criteria	No Criteria	Uc	No Criteria							
29	1,2-Dichloroethane		N	No detected value of B, Step 7		No	MEC<C & B is ND							
30	1,1-Dichloroethylene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
31	1,2-Dichloropropane		N	No detected value of B, Step 7		No	MEC<C & B is ND							
32	1,3-Dichloropropylene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
33	Ethylbenzene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
34	Methyl Bromide		N	No detected value of B, Step 7		No	MEC<C & B is ND							
35	Methyl Chloride		N	No Criteria	No Criteria	Uc	No Criteria							
36	Methylene Chloride		N	No detected value of B, Step 7		No	MEC<C & B is ND							
37	1,1,2,2-Tetrachloroethane		N	No detected value of B, Step 7		No	MEC<C & B is ND							
38	Tetrachloroethylene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
39	Toluene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
40	1,2-Trans-Dichloroethylene		N	No detected value of B, Step 7		ud	No effluent data & B is ND							
41	1,1,1-Trichloroethane		N	No Criteria	No Criteria	Uc	No Criteria							
42	1,1,2-Trichloroethane		N	No detected value of B, Step 7		No	MEC<C & B is ND							
43	Trichloroethylene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
44	Vinyl Chloride		N	No detected value of B, Step 7		No	MEC<C & B is ND							
45	2-Chlorophenol		N	No detected value of B, Step 7		No	MEC<C & B is ND							
46	2,4-Dichlorophenol		N	No detected value of B, Step 7		No	MEC<C & B is ND							
47	2,4-Dimethylphenol		N	No detected value of B, Step 7		No	MEC<C & B is ND							
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)		N	No detected value of B, Step 7		ud	No effluent data & B is ND							
49	2,4-Dinitrophenol		N	No detected value of B, Step 7		No	MEC<C & B is ND							
50	2-Nitrophenol		N	No Criteria	No Criteria	Uc	No Criteria							
51	4-Nitrophenol		N	No Criteria	No Criteria	Uc	No Criteria							
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)		N	No Criteria	No Criteria	Uc	No Criteria							
53	Pentachlorophenol	1.6		B<=C, Step 7		No	MEC<C & B<=C							
54	Phenol		N	No detected value of B, Step 7		No	MEC<C & B is ND							
55	2,4,6-Trichlorophenol		N	No detected value of B, Step 7		No	MEC<C & B is ND							
56	Acenaphthene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
57	Acenaphthylene		N	No Criteria	No Criteria	Uc	No Criteria							
58	Anthracene		N	No detected value of B, Step 7		No	MEC<C & B is ND							
59	Benzidine		Y	No detected value of B, Step 7		No	UD: effluent ND, MDL>C, and B is ND							
60	Benzo(a)Anthracene		Y	No detected value of B, Step 7		No	UD: effluent ND, MDL>C, and B is ND							
61	Benzo(a)Pyrene		Y	No detected value of B, Step 7		No	UD: effluent ND, MDL>C, and B is ND							
62	Benzo(b)Fluoranthene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND							
63	Benzo(ghi)Perylene		N	No Criteria	No Criteria	Uc	No Criteria							
64	Benzo(k)Fluoranthene		Y	No detected value of B, Step 7		No	UD: effluent ND, MDL>C, and B is ND							
65	Bis(2-Chloroethoxy)Methane		N	No Criteria	No Criteria	Uc	No Criteria							
66	Bis(2-Chloroethyl)Ether		N	No detected value of B, Step 7		No	MEC<C & B is ND							

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 001

CTR#	Parameters	AQUATIC LIFE CALCULATIONS						LIMITS		Recommendation
		Iltwater / Freshwater / Basin Plan								
		LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL	
1	Antimony									No Limit
2	Arsenic									No Limit
3	Beryllium									No Limit
4	Cadmium									No Limit
5a	Chromium (III)									No Limit
5b	Chromium (VI)									No Limit
6	Copper, All Weather	4.67	3.97	2.12	8.42	5.71	22.63	8.42	22.63	Limit Needed
7	Lead, All Weather	1.32	1.32	2.69	3.55	8.18	10.77	3.55	10.77	Limit Needed
8	Mercury									No Limit
9	Nickel									No Limit
10	Selenium									No Limit
11	Silver									No Limit
12	Thallium									No Limit
13	Zinc, All Weather	57.25	30.95	2.18	67.49	5.96	184.55	67.49	184.55	Limit Needed
14	Cyanide	2.74	2.74	1.55	4.26	3.11	8.54	4.26	8.54	Limit Needed
15	Asbestos									No Limit
16	2,3,7,8 TCDD									No Limit
17	Acrolein									No Limit
18	Acrylonitrile									No Limit
19	Benzene									No Limit
20	Bromoform									No Limit
21	Carbon Tetrachloride									No Limit
22	Chlorobenzene									No Limit
23	Chlorodibromomethane									No Limit
24	Chloroethane									No Limit
25	2-Chloroethylvinyl ether									No Limit
26	Chloroform									No Limit
27	Dichlorobromomethane									No Limit
28	1,1-Dichloroethane									No Limit
29	1,2-Dichloroethane									No Limit
30	1,1-Dichloroethylene									No Limit
31	1,2-Dichloropropane									No Limit
32	1,3-Dichloropropylene									No Limit
33	Ethylbenzene									No Limit
34	Methyl Bromide									No Limit
35	Methyl Chloride									No Limit
36	Methylene Chloride									No Limit
37	1,1,2,2-Tetrachloroethane									No Limit
38	Tetrachloroethylene									No Limit
39	Toluene									No Limit
40	1,2-Trans-Dichloroethylene									No Limit
41	1,1,1-Trichloroethane									No Limit
42	1,1,2-Trichloroethane									No Limit
43	Trichloroethylene									No Limit
44	Vinyl Chloride									No Limit
45	2-Chlorophenol									No Limit
46	2,4-Dichlorophenol									No Limit
47	2,4-Dimethylphenol									No Limit
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)									No Limit
49	2,4-Dinitrophenol									No Limit
50	2-Nitrophenol									No Limit
51	4-Nitrophenol									No Limit
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)									No Limit
53	Pentachlorophenol									No Limit
54	Phenol									No Limit
55	2,4,6-Trichlorophenol									No Limit
56	Acenaphthene									No Limit
57	Acenaphthylene									No Limit
58	Anthracene									No Limit
59	Benzidine									No Limit
60	Benzo(a)Anthracene									No Limit
61	Benzo(a)Pyrene									No Limit
62	Benzo(b)Fluoranthene									No Limit
63	Benzo(ghi)Perylene									No Limit
64	Benzo(k)Fluoranthene									No Limit
65	Bis(2-Chloroethoxy)Methane									No Limit
66	Bis(2-Chloroethyl)Ether									No Limit

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Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 001

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				Human Health for consumption of:		Ballona Creek Metals TMDL* (Not Applicable)		Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)
					Freshwater		Saltwater		Water & organisms	Organisms only	Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)						
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot										
67	Bis(2-Chloroisopropyl)Ether	ug/L		5						170000.00		170000.00	No	No	Y	Y	0.19	
68	Bis(2-Ethylhexyl)Phthalate	ug/L	0.6	24.2						5.90		5.90	Yes	Yes	Y	N		
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.48	
70	Butylbenzyl Phthalate	ug/L								5200.00		5200.00	No	No	Y	Y	1.9	
71	2-Chloronaphthalene	ug/L		0.5						4300.00		4300.00	No	No	Y	Y	0.19	
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
73	Chrysene	ug/L								0.05		0.05			Y	Y	0.19	
74	Dibenzo(a,h)Anthracene	ug/L								0.05		0.05			Y	Y	0.24	
75	1,2-Dichlorobenzene	ug/L		0.5						17000.00		17000.00	No	No	Y	Y	0.19	
76	1,3-Dichlorobenzene	ug/L		0.5						2600.00		2600.00	No	No	Y	Y	0.19	
77	1,4-Dichlorobenzene	ug/L		0.5						2600.00		2600.00	No	No	Y	Y	0.19	
78	3,3 Dichlorobenzidine	ug/L								0.08		0.08			Y	Y	1.9	
79	Diethyl Phthalate	ug/L		1						120000.00		120000.00	No	No	Y	N		
80	Dimethyl Phthalate	ug/L		0.5						2900000.00		2900000.00	No	No	Y	Y	0.24	
81	Di-n-Butyl Phthalate	ug/L		2						12000.00		12000.00	No	No	Y	Y	0.95	
82	2,4-Dinitrotoluene	ug/L		5						9.10		9.10	No	No	Y	Y	1.9	
83	2,6-Dinitrotoluene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9	
84	Di-n-Octyl Phthalate	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	N		
85	1,2-Diphenylhydrazine	ug/L								0.54		0.54			Y	Y	0.48	
86	Fluoranthene	ug/L		5						370.00		370.00	No	No	Y	Y	0.19	
87	Fluorene	ug/L		5						14000.00		14000.00	No	No	Y	Y	0.19	
88	Hexachlorobenzene	ug/L								0.00		0.00			Y	Y	0.48	
89	Hexachlorobutadiene	ug/L		1						50.00		50.00	No	No	Y	Y	0.48	
90	Hexachlorocyclopentadiene	ug/L		5						17000.00		17000.00	No	No	Y	Y	1.9	
91	Hexachloroethane	ug/L		1						8.90		8.90	No	No	Y	Y	0.48	
92	Indeno(1,2,3-cd)Pyrene	ug/L								0.05		0.05			Y	Y	0.95	
93	Isophorone	ug/L		1						600.00		600.00	No	No	Y	Y	0.48	
94	Naphthalene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.48	
95	Nitrobenzene	ug/L		1						1900.00		1900.00	No	No	Y	Y	0.48	
96	N-Nitrosodimethylamine	ug/L		2						8.10		8.10	No	No	Y	Y	0.95	
97	N-Nitrosodi-n-Propylamine	ug/L								1.40		1.40			Y	Y	0.95	
98	N-Nitrosodiphenylamine	ug/L		1						16.00		16.00	No	No	Y	Y	0.48	
99	Phenanthrene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
100	Pyrene	ug/L		0.5						11000.00		11000.00	No	No	Y	Y	0.19	
101	1,2,4-Trichlorobenzene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.48	
102	Aldrin	ug/L			3.00					0.00		0.00			Y	Y	0.0014	
103	alpha-BHC	ug/L		0.005						0.01		0.01	No	No	Y	Y	0.0024	
104	beta-BHC	ug/L		0.01						0.05		0.05	No	No	Y	Y	0.0038	
105	gamma-BHC	ug/L		0.01	0.95					0.06		0.06	No	No	Y	Y	0.0029	
106	delta-BHC	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.0033	
107	Chlordane	ug/L			2.40	0.00				0.00		0.00			Y	Y	0.076	
108	4,4'-DDT	ug/L			1.10	0.00				0.00		0.00			Y	Y	0.0038	
109	4,4'-DDE (linked to DDT)	ug/L								0.00		0.00			Y	Y	0.0029	
110	4,4'-DDD	ug/L								0.00		0.00			Y	Y	0.0038	
111	Dieldrin	ug/L			0.24	0.06				0.00		0.00			Y	Y	0.0019	
112	alpha-Endosulfan	ug/L	0.6	0.005	0.22	0.06				240.00		0.06	No	No	Y	Y	0.0029	
113	beta-Endosulfan	ug/L		0.005	0.22	0.06				240.00		0.06	No	No	Y	Y	0.0019	
114	Endosulfan Sulfate	ug/L		0.01						240.00		240.00	No	No	Y	Y	0.0029	
115	Endrin	ug/L		0.005	0.09	0.04				0.81		0.04	No	No	Y	Y	0.0019	
116	Endrin Aldehyde	ug/L		0.01						0.81		0.81	No	No	Y	Y	0.0019	
117	Heptachlor	ug/L			0.52	0.00				0.00		0.00			Y	Y	0.0029	
118	Heptachlor Epoxide	ug/L			0.52	0.00				0.00		0.00			Y	Y	0.0024	
119-125	PCBs sum (2)	ug/L				0.01				0.00		0.00			Y	Y	0.25	
126	Toxaphene	ug/L			0.73	0.00				0.00		0.00			Y	Y	0.25	

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 001

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)					HUMAN HEALTH CALCULATIONS						
		Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier
								AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh			
67	Bis(2-Chloroisopropyl)Ether	N		No detected value of B, Step 7		No	MEC<C & B is ND						
68	Bis(2-Ethylhexyl)Phthalate	5.5		B<=C, Step 7		Yes	MEC>=C	5.9	2.01	11.83652			
69	4-Bromophenyl Phenyl Ether	N		No Criteria	No Criteria	Uc	No Criteria						
70	Butylbenzyl Phthalate	N		No detected value of B, Step 7		ud	No effluent data & B is ND						
71	2-Chloronaphthalene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
72	4-Chlorophenyl Phenyl Ether	N		No Criteria	No Criteria	Uc	No Criteria						
73	Chrysene	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
74	Dibenzo(a,h)Anthracene	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
75	1,2-Dichlorobenzene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
76	1,3-Dichlorobenzene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
77	1,4-Dichlorobenzene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
78	3,3 Dichlorobenzidine	Y		No detected value of B, Step 7		ud	No effluent data & B is ND						
79	Diethyl Phthalate	0.53		B<=C, Step 7		No	MEC<C & B<=C						
80	Dimethyl Phthalate	N		No detected value of B, Step 7		No	MEC<C & B is ND						
81	Di-n-Butyl Phthalate	N		No detected value of B, Step 7		No	MEC<C & B is ND						
82	2,4-Dinitrotoluene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
83	2,6-Dinitrotoluene	N		No Criteria	No Criteria	Uc	No Criteria						
84	Di-n-Octyl Phthalate	4		No Criteria	No Criteria	Uc	No Criteria						
85	1,2-Diphenylhydrazine	N		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
86	Fluoranthene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
87	Fluorene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
88	Hexachlorobenzene	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
89	Hexachlorobutadiene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
90	Hexachlorocyclopentadiene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
91	Hexachloroethane	N		No detected value of B, Step 7		No	MEC<C & B is ND						
92	Indeno(1,2,3-cd)Pyrene	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
93	Isophorone	N		No detected value of B, Step 7		No	MEC<C & B is ND						
94	Naphthalene	N		No Criteria	No Criteria	Uc	No Criteria						
95	Nitrobenzene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
96	N-Nitrosodimethylamine	N		No detected value of B, Step 7		No	MEC<C & B is ND						
97	N-Nitrosodi-n-Propylamine	N		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
98	N-Nitrosodiphenylamine	N		No detected value of B, Step 7		No	MEC<C & B is ND						
99	Phenanthrene	N		No Criteria	No Criteria	Uc	No Criteria						
100	Pyrene	N		No detected value of B, Step 7		No	MEC<C & B is ND						
101	1,2,4-Trichlorobenzene	N		No Criteria	No Criteria	Uc	No Criteria						
102	Aldrin	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
103	alpha-BHC	N		No detected value of B, Step 7		No	MEC<C & B is ND						
104	beta-BHC	N		No detected value of B, Step 7		No	MEC<C & B is ND						
105	gamma-BHC	N		No detected value of B, Step 7		No	MEC<C & B is ND						
106	delta-BHC	N		No Criteria	No Criteria	Uc	No Criteria						
107	Chlordane	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
108	4,4'-DDT	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
109	4,4'-DDE (linked to DDT)	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
110	4,4'-DDD	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
111	Dieldrin	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
112	alpha-Endosulfan	N		No detected value of B, Step 7		No	MEC<C & B is ND						
113	beta-Endosulfan	N		No detected value of B, Step 7		No	MEC<C & B is ND						
114	Endosulfan Sulfate	N		No detected value of B, Step 7		No	MEC<C & B is ND						
115	Endrin	N		No detected value of B, Step 7		No	MEC<C & B is ND						
116	Endrin Aldehyde	N		No detected value of B, Step 7		No	MEC<C & B is ND						
117	Heptachlor	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
118	Heptachlor Epoxide	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
119-125	PCBs sum (2)	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
126	Toxaphene	Y		No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 001

CTR#	Parameters	AQUATIC LIFE CALCULATIONS						LIMITS		Recommendation
		Iltwater / Freshwater / Basin Plan								
		LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL	
67	Bis(2-Chloroisopropyl)Ether									No Limit
68	Bis(2-Ethylhexyl)Phthalate			1.55		3.11		5.90	11.84	Limit Needed
69	4-Bromophenyl Phenyl Ether									No Limit
70	Butylbenzyl Phthalate									No Limit
71	2-Chloronaphthalene									No Limit
72	4-Chlorophenyl Phenyl Ether									No Limit
73	Chrysene									No Limit
74	Dibenzo(a,h)Anthracene									No Limit
75	1,2-Dichlorobenzene									No Limit
76	1,3-Dichlorobenzene									No Limit
77	1,4-Dichlorobenzene									No Limit
78	3,3 Dichlorobenzidine									No Limit
79	Diethyl Phthalate									No Limit
80	Dimethyl Phthalate									No Limit
81	Di-n-Butyl Phthalate									No Limit
82	2,4-Dinitrotoluene									No Limit
83	2,6-Dinitrotoluene									No Limit
84	Di-n-Octyl Phthalate									No Limit
85	1,2-Diphenylhydrazine									No Limit
86	Fluoranthene									No Limit
87	Fluorene									No Limit
88	Hexachlorobenzene									No Limit
89	Hexachlorobutadiene									No Limit
90	Hexachlorocyclopentadiene									No Limit
91	Hexachloroethane									No Limit
92	Indeno(1,2,3-cd)Pyrene									No Limit
93	Isophorone									No Limit
94	Naphthalene									No Limit
95	Nitrobenzene									No Limit
96	N-Nitrosodimethylamine									No Limit
97	N-Nitrosodi-n-Propylamine									No Limit
98	N-Nitrosodiphenylamine									No Limit
99	Phenanthrene									No Limit
100	Pyrene									No Limit
101	1,2,4-Trichlorobenzene									No Limit
102	Aldrin									No Limit
103	alpha-BHC									No Limit
104	beta-BHC									No Limit
105	gamma-BHC									No Limit
106	delta-BHC									No Limit
107	Chlordane									No Limit
108	4,4'-DDT									No Limit
109	4,4'-DDE (linked to DDT)									No Limit
110	4,4'-DDD									No Limit
111	Dieldrin									No Limit
112	alpha-Endosulfan									No Limit
113	beta-Endosulfan									No Limit
114	Endosulfan Sulfate									No Limit
115	Endrin									No Limit
116	Endrin Aldehyde									No Limit
117	Heptachlor									No Limit
118	Heptachlor Epoxide									No Limit
119-125	PCBs sum (2)									No Limit
126	Toxaphene									No Limit

Notes:
 Ud = Undetermined due to lack of data
 Uc = Undetermined due to lack of CTR Water Quality Criteria
 C = Water Quality Criteria
 B = Background receiving water data

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 002

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Ballona Creek Metals TMDL*			MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)
					Freshwater		Saltwater		Human Health for consumption of:		Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)	Lowest C or WLAs						
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only									
1	Antimony	ug/L		1.7						4300.00			No	No	Y	N		6	
2	Arsenic	ug/L		19	340.00	150.00				150.00			No	No	Y	N		3.3	
3	Beryllium	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.25		
4	Cadmium	ug/L		1	8.03	3.67				3.67			No	No	Y	N		0.45	
5a	Chromium (III)	ug/L		46	2636.43	314.25				314.25			No	No	Y	N		5.75	
5b	Chromium (VI)	ug/L		0.44	16.00	11.00				11.00			No	No	Y	N		1.25	
6	Copper, Dry Weather	ug/L	0.6	21.8	22.63	14.42				35.56			No	No	Y	N		51	
6	Copper, Wet Weather	ug/L	1.57072	57	22.63	14.42				13.70			Yes	Yes	Y	N		51	
7	Lead, Dry Weather	ug/L	0.6	3.9	156.24	6.09				19.65			No	No	Y	N		31.7	
7	Lead, Wet Weather	ug/L	1.93122	43	156.24	6.09				76.75			No	No	Y	N		31.7	
8	Mercury	ug/L			Reserved	Reserved				0.05			No	No	Y	Y	0.1		
9	Nickel	ug/L		36	722.19	80.29				4600.00			No	No	Y	N		9.1	
10	Selenium	ug/L	0.76607	5.2		5.00				5.00			Yes	Yes	Y	Y	0.5		
11	Silver	ug/L		1	9.76					9.76			No	No	Y	Y	0.5		
12	Thallium	ug/L		1						6.30			No	No	Y	Y	0.5		
13	Zinc, Dry Weather	ug/L	0.6	308	184.55	184.55				446.55			No	No	Y	N		230	
13	Zinc, Wet Weather	ug/L	1.26812	190	184.55	184.55				104.77			Yes	Yes	Y	N		230	
14	Cyanide	ug/L		3	22.00	5.20				220000			No	No	Y	Y	3		
15	Asbestos	MFL		No Criteria						No Criteria			No Criteria	No Criteria	N				
16	2,3,7,8 TCDD	ug/L								1.40E-08			No	No	Y	Y	0.0000016		
17	Acrolein	ug/L		5						780.00			No	No	Y	Y	2.5		
18	Acrylonitrile	ug/L								0.66			No	No	Y	Y	1		
19	Benzene	ug/L		0.5						71.00			No	No	Y	Y	0.25		
20	Bromoform	ug/L		1						360.00			No	No	Y	Y	0.25		
21	Carbon Tetrachloride	ug/L		0.5						4.40			No	No	Y	Y	0.25		
22	Chlorobenzene	ug/L		0.5						21000.00			No	No	Y	Y	0.25		
23	Chlorodibromomethane	ug/L		0.5						34.00			No	No	Y	Y	0.25		
24	Chloroethane	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.25		
25	2-Chloroethylvinyl ether	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	1		
26	Chloroform	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.25		
27	Dichlorobromomethane	ug/L		0.5						46.00			No	No	Y	Y	0.25		
28	1,1-Dichloroethane	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.25		
29	1,2-Dichloroethane	ug/L		0.5						99.00			No	No	Y	Y	0.25		
30	1,1-Dichloroethylene	ug/L		0.5						3.20			No	No	Y	Y	0.25		
31	1,2-Dichloropropane	ug/L		0.5						39.00			No	No	Y	Y	0.25		
32	1,3-Dichloropropylene	ug/L		0.5						1700.00			No	No	Y	Y	0.25		
33	Ethylbenzene	ug/L		0.5						29000.00			No	No	Y	Y	0.25		
34	Methyl Bromide	ug/L		0.5						4000.00			No	No	Y	Y	0.25		
35	Methyl Chloride	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.25		
36	Methylene Chloride	ug/L		2.5						1600.00			No	No	Y	Y	0.88		
37	1,1,2,2-Tetrachloroethane	ug/L		0.6						11.00			No	No	Y	Y	0.25		
38	Tetrachloroethylene	ug/L		1						8.85			No	No	Y	Y	0.25		
39	Toluene	ug/L		1						200000.00			No	No	Y	Y	0.25		
40	1,2-Trans-Dichloroethylene	ug/L		0.5						140000.00			No	No	Y	Y	0.25		
41	1,1,1-Trichloroethane	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.25		
42	1,1,2-Trichloroethane	ug/L		0.25						42.00			No	No	Y	Y	0.25		
43	Trichloroethylene	ug/L		1						81.00			No	No	Y	Y	0.25		
44	Vinyl Chloride	ug/L		0.5						525.00			No	No	Y	Y	0.25		
45	2-Chlorophenol	ug/L		1						400.00			No	No	Y	Y	0.47		
46	2,4-Dichlorophenol	ug/L		2.1						790.00			No	No	Y	Y	0.95		
47	2,4-Dimethylphenol	ug/L		2.1						2300.00			No	No	Y	Y	0.95		
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L								765.00			No	No	Y	Y	1.9		
49	2,4-Dinitrophenol	ug/L		5						14000.00			No	No	Y	Y	1.9		
50	2-Nitrophenol	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.95		
51	4-Nitrophenol	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	1.9		
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.19		
53	Pentachlorophenol	ug/L		1.7	11.79	9.05				8.20			No	No	Y	N		1.6	
54	Phenol	ug/L		5						4600000.00			No	No	Y	Y	0.025		
55	2,4,6-Trichlorophenol	ug/L		1						6.50			No	No	Y	Y	0.47		
56	Acenaphthene	ug/L		0.5						2700.00			No	No	Y	Y	0.19		
57	Acenaphthylene	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	0.19		
58	Anthracene	ug/L		5						110000.00			No	No	Y	Y	0.19		
59	Benzidine	ug/L								0.00			No	No	Y	Y	4.7		
60	Benzo(a)Anthracene	ug/L								0.05			No	No	Y	Y	1.9		
61	Benzo(a)Pyrene	ug/L								0.05			No	No	Y	Y	0.47		
62	Benzo(b)Fluoranthene	ug/L								0.05			No	No	Y	Y	0.95		
63	Benzo(ghi)Perylene	ug/L		No Criteria						No Criteria			No Criteria	No Criteria	Y	Y	1.9		

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 002

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)					HUMAN HEALTH CALCULATIONS			AQUATIC L			
		If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			Saltwater / Fr			
							AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic
1	Antimony		B<=C, Step 7		No	MEC<C & B<=C							
2	Arsenic		B<=C, Step 7		No	MEC<C & B<=C							
3	Beryllium	N	No Criteria	No Criteria	Uc	No Criteria							
4	Cadmium		B<=C, Step 7	No Criteria	No	MEC<C & B<=C							
5a	Chromium (III)		B<=C, Step 7		No	MEC<C & B<=C							
5b	Chromium (VI)		B<=C, Step 7		No	MEC<C & B<=C							
6	Copper, Dry Weather		Limit required, B>C & pollutant detected in effluent		Yes	B>C & pollutant detected in effluent	2.01		0.32		0.53	18.76	
6	Copper, Wet Weather		Limit required, B>C & pollutant detected in effluent		Yes	MEC>=C	2.92		0.14	1.91	0.25		
7	Lead, Dry Weather		Limit required, B>C & pollutant detected in effluent		Yes	B>C & pollutant detected in effluent	2.01		0.32		0.53	10.36	
7	Lead, Wet Weather		B<=C, Step 7		No	MEC<C & B<=C	3.05		0.12	9.19	0.21		
8	Mercury	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
9	Nickel		B<=C, Step 7		No	MEC<C & B<=C							
10	Selenium	N	No detected value of B, Step 7		Yes	MEC>=C	2.25		0.26		0.45	2.26	
11	Silver	N	No detected value of B, Step 7		No	MEC<C & B is ND							
12	Thallium	N	No detected value of B, Step 7		No	MEC<C & B is ND							
13	Zinc, Dry Weather		B<=C, Step 7		No	MEC<C & B<=C	2.01		0.32		0.53	235.53	
13	Zinc, Wet Weather		Limit required, B>C & pollutant detected in effluent		Yes	MEC>=C	2.75		0.17	17.35	0.31	32.09	
14	Cyanide	N	No detected value of B, Step 7		No	MEC<C & B is ND							
15	Asbestos		No Criteria	No Criteria	Uc	No Criteria							
16	2,3,7,8 TCDD	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
17	Acrolein	N	No detected value of B, Step 7		No	MEC<C & B is ND							
18	Acrylonitrile	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
19	Benzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
20	Bromoform	N	No detected value of B, Step 7		No	MEC<C & B is ND							
21	Carbon Tetrachloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
22	Chlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
23	Chlorodibromomethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
24	Chloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
25	2-Chloroethylvinyl ether	N	No Criteria	No Criteria	Uc	No Criteria							
26	Chloroform	N	No Criteria	No Criteria	Uc	No Criteria							
27	Dichlorobromomethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
28	1,1-Dichloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
29	1,2-Dichloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
30	1,1-Dichloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
31	1,2-Dichloropropane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
32	1,3-Dichloropropylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
33	Ethylbenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
34	Methyl Bromide	N	No detected value of B, Step 7		No	MEC<C & B is ND							
35	Methyl Chloride	N	No Criteria	No Criteria	Uc	No Criteria							
36	Methylene Chloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
37	1,1,2,2-Tetrachloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
38	Tetrachloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
39	Toluene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
40	1,2-Trans-Dichloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
41	1,1,1-Trichloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
42	1,1,2-Trichloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
43	Trichloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
44	Vinyl Chloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
45	2-Chlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
46	2,4-Dichlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
47	2,4-Dimethylphenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	N	No detected value of B, Step 7		ud	No effluent data & B is ND							
49	2,4-Dinitrophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
50	2-Nitrophenol	N	No Criteria	No Criteria	Uc	No Criteria							
51	4-Nitrophenol	N	No Criteria	No Criteria	Uc	No Criteria							
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	N	No Criteria	No Criteria	Uc	No Criteria							
53	Pentachlorophenol		B<=C, Step 7		No	MEC<C & B<=C							
54	Phenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
55	2,4,6-Trichlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
56	Acenaphthene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
57	Acenaphthylene	N	No Criteria	No Criteria	Uc	No Criteria							
58	Anthracene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
59	Benzidine	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
60	Benzo(a)Anthracene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
61	Benzo(a)Pyrene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
62	Benzo(b)Fluoranthene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
63	Benzo(ghi)Perylene	N	No Criteria	No Criteria	Uc	No Criteria							

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 002

CTR#	Parameters	IFE CALCULATIONS					LIMITS		Recommendation
		eshwater / Basin Plan					Lowest AMEL	Lowest MDEL	
		Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life			
1	Antimony							No Limit	
2	Arsenic							No Limit	
3	Beryllium							No Limit	
4	Cadmium							No Limit	
5a	Chromium (III)							No Limit	
5b	Chromium (VI)							No Limit	
6	Copper, Dry Weather	18.76	1.55	29.12	3.11	58.41331	29.12	58.41 Limit Needed	
6	Copper, Wet Weather	1.91	2.46	4.69	7.18	13.7	4.69	13.70 Limit Needed	
7	Lead, Dry Weather	10.36	1.55	16.09	3.11	32.27845	16.09	32.28 Limit Needed	
7	Lead, Wet Weather	9.19	2.73	25.12	8.35	76.75	25.12	76.75 Limit Needed	
8	Mercury							No Limit	
9	Nickel							No Limit	
10	Selenium	2.26	1.72	3.89	3.86	8.731753	3.89	8.73 Limit Needed	
11	Silver							No Limit	
12	Thallium							No Limit	
13	Zinc, Dry Weather	235.53	1.55	365.64	3.11	733.5338	365.64	733.53 Limit Needed	
13	Zinc, Wet Weather	17.35	2.20	38.13	6.04	104.77	38.13	104.77 Limit Needed	
14	Cyanide							No Limit	
15	Asbestos							No Limit	
16	2,3,7,8 TCDD							No Limit	
17	Acrolein							No Limit	
18	Acrylonitrile							No Limit	
19	Benzene							No Limit	
20	Bromoform							No Limit	
21	Carbon Tetrachloride							No Limit	
22	Chlorobenzene							No Limit	
23	Chlorodibromomethane							No Limit	
24	Chloroethane							No Limit	
25	2-Chloroethylvinyl ether							No Limit	
26	Chloroform							No Limit	
27	Dichlorobromomethane							No Limit	
28	1,1-Dichloroethane							No Limit	
29	1,2-Dichloroethane							No Limit	
30	1,1-Dichloroethylene							No Limit	
31	1,2-Dichloropropane							No Limit	
32	1,3-Dichloropropylene							No Limit	
33	Ethylbenzene							No Limit	
34	Methyl Bromide							No Limit	
35	Methyl Chloride							No Limit	
36	Methylene Chloride							No Limit	
37	1,1,2,2-Tetrachloroethane							No Limit	
38	Tetrachloroethylene							No Limit	
39	Toluene							No Limit	
40	1,2-Trans-Dichloroethylene							No Limit	
41	1,1,1-Trichloroethane							No Limit	
42	1,1,2-Trichloroethane							No Limit	
43	Trichloroethylene							No Limit	
44	Vinyl Chloride							No Limit	
45	2-Chlorophenol							No Limit	
46	2,4-Dichlorophenol							No Limit	
47	2,4-Dimethylphenol							No Limit	
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)							No Limit	
49	2,4-Dinitrophenol							No Limit	
50	2-Nitrophenol							No Limit	
51	4-Nitrophenol							No Limit	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)							No Limit	
53	Pentachlorophenol							No Limit	
54	Phenol							No Limit	
55	2,4,6-Trichlorophenol							No Limit	
56	Acenaphthene							No Limit	
57	Acenaphthylene							No Limit	
58	Anthracene							No Limit	
59	Benzidine							No Limit	
60	Benzo(a)Anthracene							No Limit	
61	Benzo(a)Pyrene							No Limit	
62	Benzo(b)Fluoranthene							No Limit	
63	Benzo(ghi)Perylene							No Limit	

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 002

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Ballona Creek Metals TMDL*		Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)
					Freshwater		Saltwater		Human Health for consumption of:		Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)							
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only									
64	Benzo(k)Fluoranthene	ug/L							0.05			0.05						0.24	
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria								No Criteria	No Criteria	Y	Y			0.19	
66	Bis(2-Chloroethyl)Ether	ug/L							1.40			1.40		Y	Y			0.19	
67	Bis(2-Chloroisopropyl)Ether	ug/L		5					170000.00			170000.00	No	No	Y	Y		0.19	
68	Bis(2-Ethylhexyl)Phthalate	ug/L		5					5.90			5.90	No	No	Y	N		3.7	
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	Y	Y			0.47	
70	Butylbenzyl Phthalate	ug/L		0.5					5200.00			5200.00	No	No	Y	Y		1.9	
71	2-Chloronaphthalene	ug/L		1					4300.00			4300.00	No	No	Y	Y		0.19	
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	Y	Y			0.19	
73	Chrysene	ug/L							0.05			0.05		Y	Y			0.19	
74	Dibenzo(a,h)Anthracene	ug/L							0.05			0.05		Y	Y			0.24	
75	1,2-Dichlorobenzene	ug/L		0.5					17000.00			17000.00	No	No	Y	Y		0.19	
76	1,3-Dichlorobenzene	ug/L		1					2600.00			2600.00	No	No	Y	Y		0.19	
77	1,4-Dichlorobenzene	ug/L		0.5					2600.00			2600.00	No	No	Y	Y		0.19	
78	3,3 Dichlorobenzidine	ug/L							0.08			0.08		Y	Y			1.9	
79	Diethyl Phthalate	ug/L		5					120000.00			120000.00	No	No	Y	Y		0.47	
80	Dimethyl Phthalate	ug/L		5					2900000.00			2900000.00	No	No	Y	Y		0.24	
81	Di-n-Butyl Phthalate	ug/L		5					12000.00			12000.00	No	No	Y	Y		0.95	
82	2,4-Dinitrotoluene	ug/L		5					9.10			9.10	No	No	Y	Y		1.9	
83	2,6-Dinitrotoluene	ug/L		No Criteria								No Criteria	No Criteria	Y	Y			1.9	
84	Di-n-Octyl Phthalate	ug/L		No Criteria								No Criteria	No Criteria	Y	N			3	
85	1,2-Diphenylhydrazine	ug/L							0.54			0.54		Y	Y			0.47	
86	Fluoranthene	ug/L		5					370.00			370.00	No	No	Y	N		0.2	
87	Fluorene	ug/L		5					14000.00			14000.00	No	No	Y	Y		0.19	
88	Hexachlorobenzene	ug/L							0.00			0.00		Y	Y			0.47	
89	Hexachlorobutadiene	ug/L		1					50.00			50.00	No	No	Y	Y		0.47	
90	Hexachlorocyclopentadiene	ug/L		5					17000.00			17000.00	No	No	Y	Y		1.9	
91	Hexachloroethane	ug/L		1					8.90			8.90	No	No	Y	Y		0.47	
92	Indeno(1,2,3-cd)Pyrene	ug/L							0.05			0.05		Y	Y			0.95	
93	Isophorone	ug/L		1					600.00			600.00	No	No	Y	Y		0.47	
94	Naphthalene	ug/L		No Criteria								No Criteria	No Criteria	Y	Y			0.47	
95	Nitrobenzene	ug/L		5					1900.00			1900.00	No	No	Y	Y		0.47	
96	N-Nitrosodimethylamine	ug/L		5					8.10			8.10	No	No	Y	Y		0.95	
97	N-Nitrosodi-n-Propylamine	ug/L							1.40			1.40		Y	Y			0.95	
98	N-Nitrosodiphenylamine	ug/L		5					16.00			16.00	No	No	Y	Y		0.47	
99	Phenanthrene	ug/L		No Criteria								No Criteria	No Criteria	Y	Y			0.19	
100	Pyrene	ug/L		5					11000.00			11000.00	No	No	Y	N		0.21	
101	1,2,4-Trichlorobenzene	ug/L		No Criteria								No Criteria	No Criteria	Y	Y			0.47	
102	Aldrin	ug/L							3.00			0.00		Y	Y			0.0014	
103	alpha-BHC	ug/L		0.0053					0.01			0.01	No	No	Y	Y		0.0024	
104	beta-BHC	ug/L		0.011					0.05			0.05	No	No	Y	Y		0.0038	
105	gamma-BHC	ug/L		0.011					0.06			0.06	No	No	Y	Y		0.0028	
106	delta-BHC	ug/L		No Criteria								No Criteria	No Criteria	Y	Y			0.0033	
107	Chlordane	ug/L							2.40	0.00		0.00		Y	Y			0.076	
108	4,4'-DDT	ug/L							1.10	0.00		0.00		Y	N			0.0074	
109	4,4'-DDE (linked to DDT)	ug/L										0.00		Y	Y			0.0067	
110	4,4'-DDD	ug/L										0.00		Y	Y			0.0038	
111	Dieldrin	ug/L							0.24	0.06		0.00		Y	Y			0.0019	
112	alpha-Endosulfan	ug/L	0.6	0.0032					240.00			0.06	No	No	Y	N		0.0028	
113	beta-Endosulfan	ug/L		0.0021					240.00			0.06	No	No	Y	Y		0.0019	
114	Endosulfan Sulfate	ug/L		0.011					240.00			240.00	No	No	Y	Y		0.0028	
115	Endrin	ug/L		0.0053					0.09	0.04		0.81	No	No	Y	Y		0.0019	
116	Endrin Aldehyde	ug/L		0.011					0.81			0.81	No	No	Y	Y		0.0019	
117	Heptachlor	ug/L							0.52	0.00		0.00		Y	Y			0.0028	
118	Heptachlor Epoxide	ug/L							0.52	0.00		0.00		Y	Y			0.0024	
119-125	PCBs sum	ug/L								0.01		0.00		Y	Y			0.25	
126	Toxaphene	ug/L							0.73	0.00		0.00		Y	Y			0.25	

* Ballona Creek Metals TMDL (Resolution No. R13-010)

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 002

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)					HUMAN HEALTH CALCULATIONS			AQUATIC L		
		If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			Saltwater / Fr		
							AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier
64	Benzo(k)Fluoranthene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
65	Bis(2-Chloroethoxy)Methane	N	No Criteria	No Criteria	Uc	No Criteria						
66	Bis(2-Chloroethyl)Ether	N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
67	Bis(2-Chloroisopropyl)Ether	N	No detected value of B, Step 7		No	MEC<C & B is ND						
68	Bis(2-Ethylhexyl)Phthalate	N	B<=C, Step 7		No	MEC<C & B<=C						
69	4-Bromophenyl Phenyl Ether	N	No Criteria	No Criteria	Uc	No Criteria						
70	Butylbenzyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND						
71	2-Chloronaphthalene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
72	4-Chlorophenyl Phenyl Ether	N	No Criteria	No Criteria	Uc	No Criteria						
73	Chrysene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
74	Dibenzo(a,h)Anthracene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
75	1,2-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
76	1,3-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
77	1,4-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
78	3,3-Dichlorobenzidine	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
79	Diethyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND						
80	Dimethyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND						
81	Di-n-Butyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND						
82	2,4-Dinitrotoluene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
83	2,6-Dinitrotoluene	N	No Criteria	No Criteria	Uc	No Criteria						
84	Di-n-Octyl Phthalate	N	No Criteria	No Criteria	Uc	No Criteria						
85	1,2-Diphenylhydrazine	N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
86	Fluoranthene	N	B<=C, Step 7		No	MEC<C & B<=C						
87	Fluorene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
88	Hexachlorobenzene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
89	Hexachlorobutadiene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
90	Hexachlorocyclopentadiene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
91	Hexachloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND						
92	Indeno(1,2,3-cd)Pyrene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
93	Isophorone	N	No detected value of B, Step 7		No	MEC<C & B is ND						
94	Naphthalene	N	No Criteria	No Criteria	Uc	No Criteria						
95	Nitrobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND						
96	N-Nitrosodimethylamine	N	No detected value of B, Step 7		No	MEC<C & B is ND						
97	N-Nitrosodi-n-Propylamine	N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
98	N-Nitrosodiphenylamine	N	No detected value of B, Step 7		No	MEC<C & B is ND						
99	Phenanthrene	N	No Criteria	No Criteria	Uc	No Criteria						
100	Pyrene	N	B<=C, Step 7		No	MEC<C & B<=C						
101	1,2,4-Trichlorobenzene	N	No Criteria	No Criteria	Uc	No Criteria						
102	Aldrin	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
103	alpha-BHC	N	No detected value of B, Step 7		No	MEC<C & B is ND						
104	beta-BHC	N	No detected value of B, Step 7		No	MEC<C & B is ND						
105	gamma-BHC	N	No detected value of B, Step 7		No	MEC<C & B is ND						
106	delta-BHC	N	No Criteria	No Criteria	Uc	No Criteria						
107	Chlordane	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
108	4,4'-DDT	N	B>C & eff ND, Step 7		no	ud; effluent ND, MDL>C & B>C						
109	4,4'-DDE (linked to DDT)	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
110	4,4'-DDD	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
111	Dieldrin	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
112	alpha-Endosulfan	N	B<=C, Step 7		No	MEC<C & B<=C						
113	beta-Endosulfan	N	No detected value of B, Step 7		No	MEC<C & B is ND						
114	Endosulfan Sulfate	N	No detected value of B, Step 7		No	MEC<C & B is ND						
115	Endrin	N	No detected value of B, Step 7		No	MEC<C & B is ND						
116	Endrin Aldehyde	N	No detected value of B, Step 7		No	MEC<C & B is ND						
117	Heptachlor	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
118	Heptachlor Epoxide	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
119-125	PCBs sum	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
126	Toxaphene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						

Notes:
Ud = Undetermined dt
Uc = Undetermined dt
C = Water Quality Crit
B = Background receiv

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 002

CTR#	Parameters	IFE CALCULATIONS					LIMITS		Recommendation
		eshwater / Basin Plan					Lowest AMEL	Lowest MDEL	
		Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life			
64	Benzo(k)Fluoranthene							No Limit	
65	Bis(2-Chloroethoxy)Methane							No Limit	
66	Bis(2-Chloroethyl)Ether							No Limit	
67	Bis(2-Chloroisopropyl)Ether							No Limit	
68	Bis(2-Ethylhexyl)Phthalate							No Limit	
69	4-Bromophenyl Phenyl Ether							No Limit	
70	Butylbenzyl Phthalate							No Limit	
71	2-Chloronaphthalene							No Limit	
72	4-Chlorophenyl Phenyl Ether							No Limit	
73	Chrysene							No Limit	
74	Dibenzo(a,h)Anthracene							No Limit	
75	1,2-Dichlorobenzene							No Limit	
76	1,3-Dichlorobenzene							No Limit	
77	1,4-Dichlorobenzene							No Limit	
78	3,3-Dichlorobenzidine							No Limit	
79	Diethyl Phthalate							No Limit	
80	Dimethyl Phthalate							No Limit	
81	Di-n-Butyl Phthalate							No Limit	
82	2,4-Dinitrotoluene							No Limit	
83	2,6-Dinitrotoluene							No Limit	
84	Di-n-Octyl Phthalate							No Limit	
85	1,2-Diphenylhydrazine							No Limit	
86	Fluoranthene							No Limit	
87	Fluorene							No Limit	
88	Hexachlorobenzene							No Limit	
89	Hexachlorobutadiene							No Limit	
90	Hexachlorocyclopentadiene							No Limit	
91	Hexachloroethane							No Limit	
92	Indeno(1,2,3-cd)Pyrene							No Limit	
93	Isophorone							No Limit	
94	Naphthalene							No Limit	
95	Nitrobenzene							No Limit	
96	N-Nitrosodimethylamine							No Limit	
97	N-Nitrosodi-n-Propylamine							No Limit	
98	N-Nitrosodiphenylamine							No Limit	
99	Phenanthrene							No Limit	
100	Pyrene							No Limit	
101	1,2,4-Trichlorobenzene							No Limit	
102	Aldrin							No Limit	
103	alpha-BHC							No Limit	
104	beta-BHC							No Limit	
105	gamma-BHC							No Limit	
106	delta-BHC							No Limit	
107	Chlordane							No Limit	
108	4,4'-DDT							No Limit	
109	4,4'-DDE (linked to DDT)							No Limit	
110	4,4'-DDD							No Limit	
111	Dieldrin							No Limit	
112	alpha-Endosulfan							No Limit	
113	beta-Endosulfan							No Limit	
114	Endosulfan Sulfate							No Limit	
115	Endrin							No Limit	
116	Endrin Aldehyde							No Limit	
117	Heptachlor							No Limit	
118	Heptachlor Epoxide							No Limit	
119-125	PCBs sum							No Limit	
126	Toxaphene							No Limit	

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Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 003

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				Human Health for consumption of:		Ballona Creek Metals TMDL* (Not Applicable)		Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)
					Freshwater		Saltwater		Water & organisms	Organisms only	Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)						
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot										
1	Antimony	ug/L		1					4300.00			4300.00	No	No	Y	N		
2	Arsenic	ug/L		16	340.00	150.00						150.00	No	No	Y	N		
3	Beryllium	ug/L		No Criteria					Narrative			No Criteria	No Criteria	No Criteria	Y	Y	0.25	
4	Cadmium	ug/L		1	8.03	3.67			Narrative			3.67	No	No	Y	Y	0.25	
5a	Chromium (III)			27	2636.43	314.25			Narrative			314.25	No	No	Y	N		
5b	Chromium (VI)	ug/L		0.36	16.00	11.00			Narrative			11.00	No	No	Y	N		
6	Copper, All Weather	ug/L	0.60	48	22.63	14.42						14.42	Yes	Yes	Y	N		
7	Lead, All Weather	ug/L	0.60	37	156.24	6.09			Narrative			6.09	Yes	Yes	Y	N		
8	Mercury	ug/L	0.6		Reserved	Reserved			0.05			0.05			Y	Y	0.1	
9	Nickel	ug/L		22	722.19	80.29			4600.00			80.29	No	No	Y	N		
10	Selenium	ug/L		2		5.00			Narrative			5.00	No	No	Y	Y	0.5	
11	Silver	ug/L		1	9.76							9.76	No	No	Y	Y	0.5	
12	Thallium	ug/L		1					6.30			6.30	No	No	Y	Y	0.5	
13	Zinc, All Weather	ug/L	0.60	190	184.55	184.55						184.55	Yes	Yes	Y	N		
14	Cyanide	ug/L		3	22.00	5.20			220000			5.20	No	No	Y	Y	3	
15	Asbestos	MFL		No Criteria								No Criteria	No Criteria	No Criteria	N			
16	2,3,7,8 TCDD	ug/L							1.40E-08			0.00	No	No	Y	Y	0.0000096	
17	Acrolein	ug/L		2.5					780.00			780.00	No	No	Y	Y	2.5	
18	Acrylonitrile	ug/L							0.66			0.66			Y	Y	1	
19	Benzene	ug/L		0.25					71.00			71.00	No	No	Y	Y	0.25	
20	Bromoform	ug/L		0.25					360.00			360.00	No	No	Y	Y	0.25	
21	Carbon Tetrachloride	ug/L		0.25					4.40			4.40	No	No	Y	Y	0.25	
22	Chlorobenzene	ug/L		0.25					21000.00			21000.00	No	No	Y	Y	0.25	
23	Chlorodibromomethane	ug/L		1					34.00			34.00	No	No	Y	Y	0.25	
24	Chloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
25	2-Chloroethylvinyl ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1	
26	Chloroform	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
27	Dichlorobromomethane	ug/L		0.25					46.00			46.00	No	No	Y	Y	0.25	
28	1,1-Dichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
29	1,2-Dichloroethane	ug/L		0.25					99.00			99.00	No	No	Y	Y	0.25	
30	1,1-Dichloroethylene	ug/L		1					3.20			3.20	No	No	Y	Y	0.25	
31	1,2-Dichloropropane	ug/L		0.25					39.00			39.00	No	No	Y	Y	0.25	
32	1,3-Dichloropropylene	ug/L		1					1700.00			1700.00	No	No	Y	Y	0.25	
33	Ethylbenzene	ug/L		0.25					29000.00			29000.00	No	No	Y	Y	0.25	
34	Methyl Bromide	ug/L		0.5					4000.00			4000.00	No	No	Y	Y	0.25	
35	Methyl Chloride	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
36	Methylene Chloride	ug/L		0.88					1600.00			1600.00	No	No	Y	Y	0.88	
37	1,1,2,2-Tetrachloroethane	ug/L		0.25					11.00			11.00	No	No	Y	Y	0.25	
38	Tetrachloroethylene	ug/L		0.41					8.85			8.85	No	No	Y	Y	0.25	
39	Toluene	ug/L		1					200000.00			200000.00	No	No	Y	Y	0.25	
40	1,2-Trans-Dichloroethylene	ug/L		0.5					140000.00			140000.00	No	No	Y	Y	0.25	
41	1,1,1-Trichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25	
42	1,1,2-Trichloroethane	ug/L		0.25					42.00			42.00	No	No	Y	Y	0.25	
43	Trichloroethylene	ug/L		1					81.00			81.00	No	No	Y	Y	0.25	
44	Vinyl Chloride	ug/L		0.25					525.00			525.00	No	No	Y	Y	0.25	
45	2-Chlorophenol	ug/L		0.51					400.00			400.00	No	No	Y	Y	0.48	
46	2,4-Dichlorophenol	ug/L		1					790.00			790.00	No	No	Y	Y	0.95	
47	2,4-Dimethylphenol	ug/L		1					2300.00			2300.00	No	No	Y	Y	0.95	
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)	ug/L							765.00			765.00			Y	Y	1.9	
49	2,4-Dinitrophenol	ug/L		2					14000.00			14000.00	No	No	Y	Y	1.9	
50	2-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.95	
51	4-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
53	Pentachlorophenol	ug/L		2.1	11.79	9.05			8.20			8.20	No	No	Y	N		
54	Phenol	ug/L		0.51					4600000.00			4600000.00	No	No	Y	Y	0.48	
55	2,4,6-Trichlorophenol	ug/L		0.51					6.50			6.50	No	No	Y	Y	0.48	
56	Acenaphthene	ug/L		0.2					2700.00			2700.00	No	No	Y	Y	0.19	
57	Acenaphthylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
58	Anthracene	ug/L		0.2					110000.00			110000.00	No	No	Y	Y	0.1	
59	Benzidine	ug/L							0.00			0.00			Y	Y	4.8	
60	Benzo(a)Anthracene	ug/L							0.05			0.05			Y	Y	1.9	
61	Benzo(a)Pyrene	ug/L							0.05			0.05			Y	Y	0.48	
62	Benzo(b)Fluoranthene	ug/L							0.05			0.05			Y	Y	0.95	
63	Benzo(ghi)Perylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9	
64	Benzo(k)Fluoranthene	ug/L							0.05			0.05			Y	Y	0.24	
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 003

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)						HUMAN HEALTH CALCULATIONS					AC
		Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			Salt		
								AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier
1	Antimony	2.6		B<=C, Step 7		No	MEC<C & B<=C						
2	Arsenic	1.4		B<=C, Step 7		No	MEC<C & B<=C						
3	Beryllium		N	No Criteria	No Criteria	Uc	No Criteria						
4	Cadmium		N	No detected value of B, Step 7		No	MEC<C & B is ND						
5a	Chromium (III)	2.04		B<=C, Step 7		No	MEC<C & B<=C						
5b	Chromium (VI)	0.46		B<=C, Step 7		No	MEC<C & B<=C						
6	Copper, All Weather	20.3		Limit required, B>C & pollutant detected in effluent		Yes	MEC>=C	2.01		0.32	7.27	0.53	
7	Lead, All Weather	16		Limit required, B>C & pollutant detected in effluent		Yes	MEC>=C	2.01		0.32	50.17	0.53	
8	Mercury		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
9	Nickel	3.7		B<=C, Step 7		No	MEC<C & B<=C						
10	Selenium		N	No detected value of B, Step 7		No	MEC<C & B is ND						
11	Silver		N	No detected value of B, Step 7		No	MEC<C & B is ND						
12	Thallium		N	No detected value of B, Step 7		No	MEC<C & B is ND						
13	Zinc, All Weather	130		B<=C, Step 7		Yes	MEC>=C	2.01		0.32	59.26	0.53	
14	Cyanide		N	No detected value of B, Step 7		No	MEC<C & B is ND						
15	Asbestos			No Criteria	No Criteria	Uc	No Criteria						
16	2,3,7,8 TCDD		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
17	Acrolein		N	No detected value of B, Step 7		No	MEC<C & B is ND						
18	Acrylonitrile		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
19	Benzene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
20	Bromoform		N	No detected value of B, Step 7		No	MEC<C & B is ND						
21	Carbon Tetrachloride		N	No detected value of B, Step 7		No	MEC<C & B is ND						
22	Chlorobenzene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
23	Chlorodibromomethane		N	No detected value of B, Step 7		No	MEC<C & B is ND						
24	Chloroethane		N	No Criteria	No Criteria	Uc	No Criteria						
25	2-Chloroethylvinyl ether		N	No Criteria	No Criteria	Uc	No Criteria						
26	Chloroform		N	No Criteria	No Criteria	Uc	No Criteria						
27	Dichlorobromomethane		N	No detected value of B, Step 7		No	MEC<C & B is ND						
28	1,1-Dichloroethane		N	No Criteria	No Criteria	Uc	No Criteria						
29	1,2-Dichloroethane		N	No detected value of B, Step 7		No	MEC<C & B is ND						
30	1,1-Dichloroethylene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
31	1,2-Dichloropropane		N	No detected value of B, Step 7		No	MEC<C & B is ND						
32	1,3-Dichloropropylene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
33	Ethylbenzene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
34	Methyl Bromide		N	No detected value of B, Step 7		No	MEC<C & B is ND						
35	Methyl Chloride		N	No Criteria	No Criteria	Uc	No Criteria						
36	Methylene Chloride		N	No detected value of B, Step 7		No	MEC<C & B is ND						
37	1,1,2,2-Tetrachloroethane		N	No detected value of B, Step 7		No	MEC<C & B is ND						
38	Tetrachloroethylene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
39	Toluene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
40	1,2-Trans-Dichloroethylene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
41	1,1,1-Trichloroethane		N	No Criteria	No Criteria	Uc	No Criteria						
42	1,1,2-Trichloroethane		N	No detected value of B, Step 7		No	MEC<C & B is ND						
43	Trichloroethylene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
44	Vinyl Chloride		N	No detected value of B, Step 7		No	MEC<C & B is ND						
45	2-Chlorophenol		N	No detected value of B, Step 7		No	MEC<C & B is ND						
46	2,4-Dichlorophenol		N	No detected value of B, Step 7		No	MEC<C & B is ND						
47	2,4-Dimethylphenol		N	No detected value of B, Step 7		No	MEC<C & B is ND						
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)		N	No detected value of B, Step 7		ud	No effluent data & B is ND						
49	2,4-Dinitrophenol		N	No detected value of B, Step 7		No	MEC<C & B is ND						
50	2-Nitrophenol		N	No Criteria	No Criteria	Uc	No Criteria						
51	4-Nitrophenol		N	No Criteria	No Criteria	Uc	No Criteria						
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)		N	No Criteria	No Criteria	Uc	No Criteria						
53	Pentachlorophenol	1.6		B<=C, Step 7		No	MEC<C & B<=C						
54	Phenol		N	No detected value of B, Step 7		No	MEC<C & B is ND						
55	2,4,6-Trichlorophenol		N	No detected value of B, Step 7		No	MEC<C & B is ND						
56	Acenaphthene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
57	Acenaphthylene		N	No Criteria	No Criteria	Uc	No Criteria						
58	Anthracene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
59	Benzidine		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
60	Benzo(a)Anthracene		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
61	Benzo(a)Pyrene		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
62	Benzo(b)Fluoranthene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND						
63	Benzo(ghi)Perylene		N	No Criteria	No Criteria	Uc	No Criteria						
64	Benzo(k)Fluoranthene		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
65	Bis(2-Chloroethoxy)Methane		N	No Criteria	No Criteria	Uc	No Criteria						

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 003

CTR#	Parameters	QUATIC LIFE CALCULATIONS						LIMITS		Recommendation
		water / Freshwater / Basin Plan								
		LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL	
1	Antimony									No Limit
2	Arsenic									No Limit
3	Beryllium									No Limit
4	Cadmium									No Limit
5a	Chromium (III)									No Limit
5b	Chromium (VI)									No Limit
6	Copper, All Weather	7.61	7.27	1.55	11.28	3.11	22.63	11.28	22.63	Limit Needed
7	Lead, All Weather	3.21	3.21	1.55	4.99	3.11	10.00	4.99	10.00	Limit Needed
8	Mercury									No Limit
9	Nickel									No Limit
10	Selenium									No Limit
11	Silver									No Limit
12	Thallium									No Limit
13	Zinc, All Weather	97.34	59.26	1.55	91.99	3.11	184.55	91.99	184.55	Limit Needed
14	Cyanide									No Limit
15	Asbestos									No Limit
16	2,3,7,8 TCDD									No Limit
17	Acrolein									No Limit
18	Acrylonitrile									No Limit
19	Benzene									No Limit
20	Bromoform									No Limit
21	Carbon Tetrachloride									No Limit
22	Chlorobenzene									No Limit
23	Chlorodibromomethane									No Limit
24	Chloroethane									No Limit
25	2-Chloroethylvinyl ether									No Limit
26	Chloroform									No Limit
27	Dichlorobromomethane									No Limit
28	1,1-Dichloroethane									No Limit
29	1,2-Dichloroethane									No Limit
30	1,1-Dichloroethylene									No Limit
31	1,2-Dichloropropane									No Limit
32	1,3-Dichloropropylene									No Limit
33	Ethylbenzene									No Limit
34	Methyl Bromide									No Limit
35	Methyl Chloride									No Limit
36	Methylene Chloride									No Limit
37	1,1,1,2-Tetrachloroethane									No Limit
38	Tetrachloroethylene									No Limit
39	Toluene									No Limit
40	1,2-Trans-Dichloroethylene									No Limit
41	1,1,1-Trichloroethane									No Limit
42	1,1,2-Trichloroethane									No Limit
43	Trichloroethylene									No Limit
44	Vinyl Chloride									No Limit
45	2-Chlorophenol									No Limit
46	2,4-Dichlorophenol									No Limit
47	2,4-Dimethylphenol									No Limit
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)									No Limit
49	2,4-Dinitrophenol									No Limit
50	2-Nitrophenol									No Limit
51	4-Nitrophenol									No Limit
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)									No Limit
53	Pentachlorophenol									No Limit
54	Phenol									No Limit
55	2,4,6-Trichlorophenol									No Limit
56	Acenaphthene									No Limit
57	Acenaphthylene									No Limit
58	Anthracene									No Limit
59	Benzidine									No Limit
60	Benzo(a)Anthracene									No Limit
61	Benzo(a)Pyrene									No Limit
62	Benzo(b)Fluoranthene									No Limit
63	Benzo(ghi)Perylene									No Limit
64	Benzo(k)Fluoranthene									No Limit
65	Bis(2-Chloroethoxy)Methane									No Limit

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 003

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				Human Health for consumption of:		Ballona Creek Metals TMDL* (Not Applicable)		Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)
					Freshwater		Saltwater		Water & organisms	Organisms only	Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)						
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot										
66	Bis(2-Chloroethyl)Ether	ug/L		0.2					1.40			1.40	No	No	Y	Y	0.19	
67	Bis(2-Chloroisopropyl)Ether	ug/L		0.2					170000.00			170000.00	No	No	Y	Y	0.19	
68	Bis(2-Ethylhexyl)Phthalate	ug/L	0.6	2.6					5.90			5.90	No	No	Y	N		
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.48	
70	Butylbenzyl Phthalate	ug/L							5200.00			5200.00			Y	Y	1.9	
71	2-Chloronaphthalene	ug/L		0.2					4300.00			4300.00	No	No	Y	Y	0.19	
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
73	Chrysene	ug/L							0.05			0.05			Y	Y	0.19	
74	Dibenzo(a,h)Anthracene	ug/L							0.05			0.05			Y	Y	0.24	
75	1,2-Dichlorobenzene	ug/L		0.2					17000.00			17000.00	No	No	Y	Y	0.19	
76	1,3-Dichlorobenzene	ug/L		0.2					2600.00			2600.00	No	No	Y	Y	0.19	
77	1,4-Dichlorobenzene	ug/L		0.2					2600.00			2600.00	No	No	Y	Y	0.19	
78	3,3 Dichlorobenzidine	ug/L							0.08			0.08			Y	Y	1.9	
79	Diethyl Phthalate	ug/L		0.51					120000.00			120000.00	No	No	Y	N		
80	Dimethyl Phthalate	ug/L		0.26					2900000.00			2900000.00	No	No	Y	Y	0.24	
81	Di-n-Butyl Phthalate	ug/L		1					12000.00			12000.00	No	No	Y	Y	0.95	
82	2,4-Dinitrotoluene	ug/L		2					9.10			9.10	No	No	Y	Y	1.9	
83	2,6-Dinitrotoluene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9	
84	Di-n-Octyl Phthalate	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	N		
85	1,2-Diphenylhydrazine	ug/L							0.54			0.54			Y	Y	0.48	
86	Fluoranthene	ug/L		0.2					370.00			370.00	No	No	Y	Y	0.19	
87	Fluorene	ug/L		0.2					14000.00			14000.00	No	No	Y	Y	0.19	
88	Hexachlorobenzene	ug/L							0.00			0.00			Y	Y	0.48	
89	Hexachlorobutadiene	ug/L		0.51					50.00			50.00	No	No	Y	Y	0.48	
90	Hexachlorocyclopentadiene	ug/L		2					17000.00			17000.00	No	No	Y	Y	1.9	
91	Hexachloroethane	ug/L		0.51					8.90			8.90	No	No	Y	Y	0.48	
92	Indeno(1,2,3-cd)Pyrene	ug/L							0.05			0.05			Y	Y	0.95	
93	Isophorone	ug/L		0.51					600.00			600.00	No	No	Y	Y	0.48	
94	Naphthalene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.48	
95	Nitrobenzene	ug/L		0.51					1900.00			1900.00	No	No	Y	Y	0.48	
96	N-Nitrosodimethylamine	ug/L		1					8.10			8.10	No	No	Y	Y	0.95	
97	N-Nitrosodi-n-Propylamine	ug/L							1.40			1.40			Y	Y	0.95	
98	N-Nitrosodiphenylamine	ug/L		0.51					16.00			16.00	No	No	Y	Y	0.48	
99	Phenanthrene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
100	Pyrene	ug/L		0.2					11000.00			11000.00	No	No	Y	Y	0.19	
101	1,2,4-Trichlorobenzene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.48	
102	Aldrin	ug/L			3.00				0.00			0.00			Y	Y	0.0014	
103	alpha-BHC	ug/L		0.0024					0.01			0.01	No	No	Y	Y	0.0024	
104	beta-BHC	ug/L		0.0038					0.05			0.05	No	No	Y	Y	0.0038	
105	gamma-BHC	ug/L		0.0029	0.95				0.06			0.06	No	No	Y	Y	0.0029	
106	delta-BHC	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.0033	
107	Chlordane	ug/L			2.40	0.00			0.00			0.00			Y	Y	0.076	
108	4,4'-DDT	ug/L			1.10	0.00			0.00			0.00			Y	Y	0.0038	
109	4,4'-DDE (linked to DDT)	ug/L							0.00			0.00			Y	Y	0.0029	
110	4,4'-DDD	ug/L							0.00			0.00			Y	Y	0.0038	
111	Dieldrin	ug/L				0.24	0.06		0.00			0.00			Y	Y	0.0019	
112	alpha-Endosulfan	ug/L	0.6	0.0029	0.22	0.06			240.00			0.06	No	No	Y	Y	0.0029	
113	beta-Endosulfan	ug/L		0.0019	0.22	0.06			240.00			0.06	No	No	Y	Y	0.0019	
114	Endosulfan Sulfate	ug/L		0.0095					240.00			240.00	No	No	Y	Y	0.0029	
115	Endrin	ug/L		0.0019	0.09	0.04			0.81			0.04	No	No	Y	Y	0.0019	
116	Endrin Aldehyde	ug/L		0.0019					0.81			0.81	No	No	Y	Y	0.0019	
117	Heptachlor	ug/L			0.52	0.00			0.00			0.00			Y	Y	0.0029	
118	Heptachlor Epoxide	ug/L			0.52	0.00			0.00			0.00			Y	Y	0.0024	
119-125	PCBs sum (2)	ug/L				0.01			0.00			0.00			Y	Y	0.25	
126	Toxaphene	ug/L			0.73	0.00			0.00			0.00			Y	Y	0.25	

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 003

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)						HUMAN HEALTH CALCULATIONS					Salt
		Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			ECA acute		
								AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	multiplier (p.7)	LTA acute	
66	Bis(2-Chloroethyl)Ether		N	No detected value of B, Step 7		No	MEC<C & B is ND						
67	Bis(2-Chloroisopropyl)Ether		N	No detected value of B, Step 7		No	MEC<C & B is ND						
68	Bis(2-Ethylhexyl)Phthalate	5.5		B<=C, Step 7		No	MEC<C & B<=C						
69	4-Bromophenyl Phenyl Ether		N	No Criteria	No Criteria	Uc	No Criteria						
70	Butylbenzyl Phthalate		N	No detected value of B, Step 7		ud	No effluent data & B is ND						
71	2-Chloronaphthalene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
72	4-Chlorophenyl Phenyl Ether		N	No Criteria	No Criteria	Uc	No Criteria						
73	Chrysene		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
74	Dibenzo(a,h)Anthracene		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
75	1,2-Dichlorobenzene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
76	1,3-Dichlorobenzene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
77	1,4-Dichlorobenzene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
78	3,3 Dichlorobenzidine		Y	No detected value of B, Step 7		ud	No effluent data & B is ND						
79	Diethyl Phthalate	0.53		B<=C, Step 7		No	MEC<C & B<=C						
80	Dimethyl Phthalate		N	No detected value of B, Step 7		No	MEC<C & B is ND						
81	Di-n-Butyl Phthalate		N	No detected value of B, Step 7		No	MEC<C & B is ND						
82	2,4-Dinitrotoluene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
83	2,6-Dinitrotoluene		N	No Criteria	No Criteria	Uc	No Criteria						
84	Di-n-Octyl Phthalate	4		No Criteria	No Criteria	Uc	No Criteria						
85	1,2-Diphenylhydrazine		N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
86	Fluoranthene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
87	Fluorene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
88	Hexachlorobenzene		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
89	Hexachlorobutadiene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
90	Hexachlorocyclopentadiene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
91	Hexachloroethane		N	No detected value of B, Step 7		No	MEC<C & B is ND						
92	Indeno(1,2,3-cd)Pyrene		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
93	Isophorone		N	No detected value of B, Step 7		No	MEC<C & B is ND						
94	Naphthalene		N	No Criteria	No Criteria	Uc	No Criteria						
95	Nitrobenzene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
96	N-Nitrosodimethylamine		N	No detected value of B, Step 7		No	MEC<C & B is ND						
97	N-Nitrosodi-n-Propylamine		N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
98	N-Nitrosodiphenylamine		N	No detected value of B, Step 7		No	MEC<C & B is ND						
99	Phenanthrene		N	No Criteria	No Criteria	Uc	No Criteria						
100	Pyrene		N	No detected value of B, Step 7		No	MEC<C & B is ND						
101	1,2,4-Trichlorobenzene		N	No Criteria	No Criteria	Uc	No Criteria						
102	Aldrin		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
103	alpha-BHC		N	No detected value of B, Step 7		No	MEC<C & B is ND						
104	beta-BHC		N	No detected value of B, Step 7		No	MEC<C & B is ND						
105	gamma-BHC		N	No detected value of B, Step 7		No	MEC<C & B is ND						
106	delta-BHC		N	No Criteria	No Criteria	Uc	No Criteria						
107	Chlordane		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
108	4,4'-DDT		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
109	4,4'-DDE (linked to DDT)		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
110	4,4'-DDD		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
111	Dieldrin		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
112	alpha-Endosulfan		N	No detected value of B, Step 7		No	MEC<C & B is ND						
113	beta-Endosulfan		N	No detected value of B, Step 7		No	MEC<C & B is ND						
114	Endosulfan Sulfate		N	No detected value of B, Step 7		No	MEC<C & B is ND						
115	Endrin		N	No detected value of B, Step 7		No	MEC<C & B is ND						
116	Endrin Aldehyde		N	No detected value of B, Step 7		No	MEC<C & B is ND						
117	Heptachlor		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
118	Heptachlor Epoxide		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
119-125	PCBs sum (2)		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						
126	Toxaphene		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND						

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 003

CTR#	Parameters	AQUATIC LIFE CALCULATIONS						LIMITS		Recommendation
		water / Freshwater / Basin Plan								
		LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL	Lowest MDEL	
66	Bis(2-Chloroethyl)Ether									No Limit
67	Bis(2-Chloroisopropyl)Ether									No Limit
68	Bis(2-Ethylhexyl)Phthalate									No Limit
69	4-Bromophenyl Phenyl Ether									No Limit
70	Butylbenzyl Phthalate									No Limit
71	2-Chloronaphthalene									No Limit
72	4-Chlorophenyl Phenyl Ether									No Limit
73	Chrysene									No Limit
74	Dibenzo(a,h)Anthracene									No Limit
75	1,2-Dichlorobenzene									No Limit
76	1,3-Dichlorobenzene									No Limit
77	1,4-Dichlorobenzene									No Limit
78	3,3 Dichlorobenzidine									No Limit
79	Diethyl Phthalate									No Limit
80	Dimethyl Phthalate									No Limit
81	Di-n-Butyl Phthalate									No Limit
82	2,4-Dinitrotoluene									No Limit
83	2,6-Dinitrotoluene									No Limit
84	Di-n-Octyl Phthalate									No Limit
85	1,2-Diphenylhydrazine									No Limit
86	Fluoranthene									No Limit
87	Fluorene									No Limit
88	Hexachlorobenzene									No Limit
89	Hexachlorobutadiene									No Limit
90	Hexachlorocyclopentadiene									No Limit
91	Hexachloroethane									No Limit
92	Indeno(1,2,3-cd)Pyrene									No Limit
93	Isophorone									No Limit
94	Naphthalene									No Limit
95	Nitrobenzene									No Limit
96	N-Nitrosodimethylamine									No Limit
97	N-Nitrosodi-n-Propylamine									No Limit
98	N-Nitrosodiphenylamine									No Limit
99	Phenanthrene									No Limit
100	Pyrene									No Limit
101	1,2,4-Trichlorobenzene									No Limit
102	Aldrin									No Limit
103	alpha-BHC									No Limit
104	beta-BHC									No Limit
105	gamma-BHC									No Limit
106	delta-BHC									No Limit
107	Chlordane									No Limit
108	4,4'-DDT									No Limit
109	4,4'-DDE (linked to DDT)									No Limit
110	4,4'-DDD									No Limit
111	Dieldrin									No Limit
112	alpha-Endosulfan									No Limit
113	beta-Endosulfan									No Limit
114	Endosulfan Sulfate									No Limit
115	Endrin									No Limit
116	Endrin Aldehyde									No Limit
117	Heptachlor									No Limit
118	Heptachlor Epoxide									No Limit
119-125	PCBs sum (2)									No Limit
126	Toxaphene									No Limit

Notes:
 Ud = Undetermined due to lack of data
 Uc = Undetermined due to lack of CTR Water Quality Criteria
 C = Water Quality Criteria
 B = Background receiving water data

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 004

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Human Health for consumption of:	Ballona Creek Metals TMDL*		Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?
					Freshwater		Saltwater		Water & organisms	Organisms only		Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)				
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot									
1	Antimony	ug/L		1.1								4300.00	No	No	Y		
2	Arsenic	ug/L		12.2	340.00	150.00						150.00	No	No	Y		
3	Beryllium	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
4	Cadmium	ug/L		1	8.03	3.67						3.67	No	No	Y		
5a	Chromium (III)	ug/L		2	2636.43	314.25						314.25	No	No	Y		
5b	Chromium (VI)	ug/L		0.06	16.00	11.00						11.00	No	No	Y		
6	Copper, Dry Weather	ug/L	0.6	3.8	22.63	14.42					35.56	35.56	No	No	Y		
6	Copper, Wet Weather	ug/L	0.6		22.63	14.42						13.70			Y		
7	Lead, Dry Weather	ug/L	0.6	1	156.24	6.09						19.65	19.65	No	No	Y	
7	Lead, Wet Weather	ug/L	0.6		156.24	6.09						76.75	76.75			Y	
8	Mercury	ug/L			Reserved	Reserved						0.05				Y	
9	Nickel	ug/L		1	722.19	80.29						80.29	No	No	Y		
10	Selenium	ug/L		2		5.00						5.00	No	No	Y		
11	Silver	ug/L		1	9.76							9.76	No	No	Y		
12	Thallium	ug/L		1							6.30		No	No	Y		
13	Zinc, Dry Weather	ug/L	0.6	15.3	184.55	184.55						446.55	446.55	No	No	Y	
13	Zinc, Wet Weather	ug/L	0.6		184.55	184.55						104.77	104.77			Y	
14	Cyanide	ug/L			22.00	5.20						5.20				Y	
15	Asbestos	MFL		No Criteria								No Criteria	No Criteria	No Criteria	N		
16	2,3,7,8 TCDD	ug/L									0.00					Y	
17	Acrolein	ug/L		10							780.00	780.00	No	No	Y		
18	Acrylonitrile	ug/L									0.66					Y	
19	Benzene	ug/L		1							71.00	71.00	No	No	Y		
20	Bromoform	ug/L		1							360.00	360.00	No	No	Y		
21	Carbon Tetrachloride	ug/L		0.5							4.40	4.40	No	No	Y		
22	Chlorobenzene	ug/L		1							21000.00	21000.00	No	No	Y		
23	Chlorodibromomethane	ug/L		1							34.00	34.00	No	No	Y		
24	Chloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
25	2-Chloroethylvinyl ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
26	Chloroform	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
27	Dichlorobromomethane	ug/L		0.5							46.00	46.00	No	No	Y		
28	1,1-Dichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
29	1,2-Dichloroethane	ug/L		0.5							99.00	99.00	No	No	Y		
30	1,1-Dichloroethylene	ug/L		1							3.20	3.20	No	No	Y		
31	1,2-Dichloropropane	ug/L		1							39.00	39.00	No	No	Y		
32	1,3-Dichloropropylene	ug/L									1700.00	1700.00			Y		
33	Ethylbenzene	ug/L		1							29000.00	29000.00	No	No	Y		
34	Methyl Bromide	ug/L		0.5							4000.00	4000.00	No	No	Y		
35	Methyl Chloride	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
36	Methylene Chloride	ug/L		2.5							1600.00	1600.00	No	No	Y		
37	1,1,2,2-Tetrachloroethane	ug/L		1							11.00	11.00	No	No	Y		
38	Tetrachloroethylene	ug/L		1							8.85	8.85	No	No	Y		
39	Toluene	ug/L		1							200000.00	200000.00	No	No	Y		
40	1,2-Trans-Dichloroethylene	ug/L		0.5							140000.00	140000.00	No	No	Y		
41	1,1,1-Trichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
42	1,1,2-Trichloroethane	ug/L		1							42.00	42.00	No	No	Y		
43	Trichloroethylene	ug/L		1							81.00	81.00	No	No	Y		
44	Vinyl Chloride	ug/L		0.5							525.00	525.00	No	No	Y		
45	2-Chlorophenol	ug/L		5							400.00	400.00	No	No	Y		
46	2,4-Dichlorophenol	ug/L		5							790.00	790.00	No	No	Y		
47	2,4-Dimethylphenol	ug/L		2							2300.00	2300.00	No	No	Y		
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L									765.00	765.00				Y	
49	2,4-Dinitrophenol	ug/L		5							14000.00	14000.00	No	No	Y		
50	2-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
51	4-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
52	3-Methyl-4-Chlorophenol (aka p-chloro-m-resol)	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
53	Pentachlorophenol	ug/L		1	11.79	9.05					8.20	8.20	No	No	Y		
54	Phenol	ug/L		5							4600000.00	4600000.00	No	No	Y		
55	2,4,6-Trichlorophenol	ug/L		5							6.50	6.50	No	No	Y		
56	Acenaphthene	ug/L		1							2700.00	2700.00	No	No	Y		
57	Acenaphthylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		
58	Anthracene	ug/L		5							110000.00	110000.00	No	No	Y		
59	Benzidine	ug/L									0.00	0.00				Y	
60	Benzo(a)Anthracene	ug/L									0.05	0.05				Y	
61	Benzo(a)Pyrene	ug/L									0.05	0.05				Y	
62	Benzo(b)Fluoranthene	ug/L									0.05	0.05				Y	
63	Benzo(ghi)Perylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y		

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 004

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)										HUMAN HEALTH CALCULATIONS		
		Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only				
										AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh		
1	Antimony	N		6		B<=C, Step 7	No	MEC<C & B<=C						
2	Arsenic	N		3.3		B<=C, Step 7	No	MEC<C & B<=C						
3	Beryllium	Y	0.25		N	No Criteria	No Criteria	No Criteria						
4	Cadmium	N		0.45		B<=C, Step 7	No Criteria	MEC<C & B<=C						
5a	Chromium (III)	N		5.75		B<=C, Step 7	No	MEC<C & B<=C						
5b	Chromium (VI)	N		1.25		B<=C, Step 7	No	MEC<C & B<=C						
6	Copper, Dry Weather	N		51		Limit required, B>C & pollutant detected in effluent	Yes	B>C & pollutant detected in effluent			2.01			
6	Copper, Wet Weather	N		51		B>C & no eff data	ud	No effluent data & B>C			2.01			
7	Lead, Dry Weather	N		31.7		B>C & eff ND, Step 7	No	ud; B>C & effluent ND			2.01			
7	Lead, Wet Weather	N		31.7		B<=C, Step 7	ud	No effluent data & B<=C			2.01			
8	Mercury	Y	0.1		Y	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND						
9	Nickel	N		9.1		B<=C, Step 7	No	MEC<C & B<=C						
10	Selenium	Y	0.5		N	No detected value of B, Step 7	No	MEC<C & B is ND						
11	Silver	Y	0.5		N	No detected value of B, Step 7	No	MEC<C & B is ND						
12	Thallium	Y	0.5		N	No detected value of B, Step 7	No	MEC<C & B is ND						
13	Zinc, Dry Weather	N		230		B<=C, Step 7	No	MEC<C & B<=C			2.01			
13	Zinc, Wet Weather	N		230		B>C & no eff data	ud	No effluent data & B>C			2.01			
14	Cyanide	Y	3		N	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND						
15	Asbestos					No Criteria	No Criteria	No Criteria						
16	2,3,7,8 TCDD	Y	0.0000016		Y	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND						
17	Acrolein	Y	2.5		N	No detected value of B, Step 7	No	MEC<C & B is ND						
18	Acrylonitrile	Y	1		Y	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND						
19	Benzene	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
20	Bromoform	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
21	Carbon Tetrachloride	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
22	Chlorobenzene	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
23	Chlorodibromomethane	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
24	Chloroethane	Y	0.25		N	No Criteria	No Criteria	No Criteria						
25	2-Chloroethylvinyl ether	Y	1		N	No Criteria	No Criteria	No Criteria						
26	Chloroform	Y	0.25		N	No Criteria	No Criteria	No Criteria						
27	Dichlorobromomethane	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
28	1,1-Dichloroethane	Y	0.25		N	No Criteria	No Criteria	No Criteria						
29	1,2-Dichloroethane	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
30	1,1-Dichloroethylene	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
31	1,2-Dichloropropane	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
32	1,3-Dichloropropane	Y	0.25		N	No detected value of B, Step 7	ud	No effluent data & B is ND						
33	Ethylbenzene	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
34	Methyl Bromide	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
35	Methyl Chloride	Y	0.25		N	No Criteria	No Criteria	No Criteria						
36	Methylene Chloride	Y	0.88		N	No detected value of B, Step 7	No	MEC<C & B is ND						
37	1,1,2,2-Tetrachloroethane	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
38	Tetrachloroethylene	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
39	Toluene	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
40	1,2-Trans-Dichloroethylene	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
41	1,1,1-Trichloroethane	Y	0.25		N	No Criteria	No Criteria	No Criteria						
42	1,1,2-Trichloroethane	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
43	Trichloroethylene	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
44	Vinyl Chloride	Y	0.25		N	No detected value of B, Step 7	No	MEC<C & B is ND						
45	2-Chlorophenol	Y	0.47		N	No detected value of B, Step 7	No	MEC<C & B is ND						
46	2,4-Dichlorophenol	Y	0.95		N	No detected value of B, Step 7	No	MEC<C & B is ND						
47	2,4-Dimethylphenol	Y	0.95		N	No detected value of B, Step 7	No	MEC<C & B is ND						
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	Y	1.9		N	No detected value of B, Step 7	ud	No effluent data & B is ND						
49	2,4-Dinitrophenol	Y	1.9		N	No detected value of B, Step 7	No	MEC<C & B is ND						
50	2-Nitrophenol	Y	0.95		N	No Criteria	No Criteria	No Criteria						
51	4-Nitrophenol	Y	1.9		N	No Criteria	No Criteria	No Criteria						
52	3-Methyl-4-Chlorophenol (aka p-chloro-m-resol)	Y	0.19		N	No Criteria	No Criteria	No Criteria						
53	Pentachlorophenol	N		1.6		B<=C, Step 7	No	MEC<C & B<=C						
54	Phenol	Y	0.025		N	No detected value of B, Step 7	No	MEC<C & B is ND						
55	2,4,6-Trichlorophenol	Y	0.47		N	No detected value of B, Step 7	No	MEC<C & B is ND						
56	Acenaphthene	Y	0.19		N	No detected value of B, Step 7	No	MEC<C & B is ND						
57	Acenaphthylene	Y	0.19		N	No Criteria	No Criteria	No Criteria						
58	Anthracene	Y	0.19		N	No detected value of B, Step 7	No	MEC<C & B is ND						
59	Benidine	Y	4.7		Y	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND						
60	Benzo(a)Anthracene	Y	1.9		Y	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND						
61	Benzo(a)Pyrene	Y	0.47		Y	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND						
62	Benzo(b)Fluoranthene	Y	0.95		Y	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND						
63	Benzo(ghi)Perylene	Y	1.9		N	No Criteria	No Criteria	No Criteria						

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 004

CTR#	Parameters	AQUATIC LIFE CALCULATIONS										LIMITS		Recommendation
		Saltwater / Freshwater / Basin Plan										Lowest AMEL	Lowest MDEL	
		ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life				
1	Antimony													No Limit
2	Arsenic													No Limit
3	Beryllium													No Limit
4	Cadmium													No Limit
5a	Chromium (III)													No Limit
5b	Chromium (VI)													No Limit
6	Copper, Dry Weather	0.32		0.53	18.76	18.76	1.55	29.12	3.11	58.41331	29.12	58.41	Limit Needed	
6	Copper, Wet Weather	0.32	4.40	0.53		4.40	1.55	6.83	3.11	13.7	6.83	13.70	Limit Needed	
7	Lead, Dry Weather	0.32		0.53	10.36	10.36	1.55	16.09	3.11	32.27845	16.09	32.28	Limit Needed	
7	Lead, Wet Weather	0.32	24.64	0.53		24.64	1.55	38.26	3.11	76.75	38.26	76.75	Limit Needed	
8	Mercury													No Limit
9	Nickel													No Limit
10	Selenium													No Limit
11	Silver													No Limit
12	Thallium													No Limit
13	Zinc, Dry Weather	0.32		0.53	235.53	235.53	1.55	365.64	3.11	733.5338	365.64	733.53	Limit Needed	
13	Zinc, Wet Weather	0.32	33.64	0.53	55.26	33.64	1.55	52.22	3.11	104.77	52.22	104.77	Limit Needed	
14	Cyanide													No Limit
15	Asbestos													No Limit
16	2,3,7,8 TCDD													No Limit
17	Acrolein													No Limit
18	Acrylonitrile													No Limit
19	Benzene													No Limit
20	Bromoform													No Limit
21	Carbon Tetrachloride													No Limit
22	Chlorobenzene													No Limit
23	Chlorodibromomethane													No Limit
24	Chloroethane													No Limit
25	2-Chloroethylvinyl ether													No Limit
26	Chloroform													No Limit
27	Dichlorobromomethane													No Limit
28	1,1-Dichloroethane													No Limit
29	1,2-Dichloroethane													No Limit
30	1,1-Dichloroethylene													No Limit
31	1,2-Dichloropropane													No Limit
32	1,3-Dichloropropylene													No Limit
33	Ethylbenzene													No Limit
34	Methyl Bromide													No Limit
35	Methyl Chloride													No Limit
36	Methylene Chloride													No Limit
37	1,1,2,2-Tetrachloroethane													No Limit
38	Tetrachloroethylene													No Limit
39	Toluene													No Limit
40	1,2-Trans-Dichloroethylene													No Limit
41	1,1,1-Trichloroethane													No Limit
42	1,1,2-Trichloroethane													No Limit
43	Trichloroethylene													No Limit
44	Vinyl Chloride													No Limit
45	2-Chlorophenol													No Limit
46	2,4-Dichlorophenol													No Limit
47	2,4-Dimethylphenol													No Limit
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)													No Limit
49	2,4-Dinitrophenol													No Limit
50	2-Nitrophenol													No Limit
51	4-Nitrophenol													No Limit
52	3-Methyl-4-Chlorophenol (aka p-chloro-m-resol)													No Limit
53	Pentachlorophenol													No Limit
54	Phenol													No Limit
55	2,4,6-Trichlorophenol													No Limit
56	Acenaphthene													No Limit
57	Acenaphthylene													No Limit
58	Anthracene													No Limit
59	Benzidine													No Limit
60	Benzo(a)Anthracene													No Limit
61	Benzo(a)Pyrene													No Limit
62	Benzo(b)Fluoranthene													No Limit
63	Benzo(ghi)Perylene													No Limit

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 004

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?		
					Freshwater		Saltwater		Human Health for consumption of:						Ballona Creek Metals TMDL*	
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only					Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)
64	Benzo(k)Fluoranthene	ug/L								0.05						
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
66	Bis(2-Chloroethyl)Ether	ug/L								1.40				Y		
67	Bis(2-Chloroisopropyl)Ether	ug/L		5						170000.00			No	Y		
68	Bis(2-Ethylhexyl)Phthalate	ug/L		5						5.90			No	Y		
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
70	Butylbenzyl Phthalate	ug/L		5						5200.00			No	Y		
71	2-Chloronaphthalene	ug/L		5						4300.00			No	Y		
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
73	Chrysene	ug/L								0.05				Y		
74	Dibenzo(a,h)Anthracene	ug/L								0.05				Y		
75	1,2-Dichlorobenzene	ug/L		1						17000.00			No	Y		
76	1,3-Dichlorobenzene	ug/L		1						2600.00			No	Y		
77	1,4-Dichlorobenzene	ug/L		1						2600.00			No	Y		
78	3,3 Dichlorobenzidine	ug/L								0.08				Y		
79	Diethyl Phthalate	ug/L		5						120000.00			No	Y		
80	Dimethyl Phthalate	ug/L		5						2900000.00			No	Y		
81	Di-n-Butyl Phthalate	ug/L		5						12000.00			No	Y		
82	2,4-Dinitrotoluene	ug/L		5						9.10			No	Y		
83	2,6-Dinitrotoluene	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
84	Di-n-Octyl Phthalate	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
85	1,2-Diphenylhydrazine	ug/L								0.54				Y		
86	Fluoranthene	ug/L		5						370.00			No	Y		
87	Fluorene	ug/L		5						14000.00			No	Y		
88	Hexachlorobenzene	ug/L								0.00				Y		
89	Hexachlorobutadiene	ug/L		1						50.00			No	Y		
90	Hexachlorocyclopentadiene	ug/L		5						17000.00			No	Y		
91	Hexachloroethane	ug/L		1						8.90			No	Y		
92	Indeno(1,2,3-cd)Pyrene	ug/L								0.05				Y		
93	Isophorone	ug/L		1						600.00			No	Y		
94	Naphthalene	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
95	Nitrobenzene	ug/L		5						1900.00			No	Y		
96	N-Nitrosodimethylamine	ug/L		5						8.10			No	Y		
97	N-Nitrosodi-n-Propylamine	ug/L								1.40				Y		
98	N-Nitrosodiphenylamine	ug/L		5						16.00			No	Y		
99	Phenanthrene	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
100	Pyrene	ug/L		5						11000.00			No	Y		
101	1,2,4-Trichlorobenzene	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
102	Aldrin	ug/L								0.00				Y		
103	alpha-BHC	ug/L								0.01				Y		
104	beta-BHC	ug/L		0.02						0.05			No	Y		
105	gamma-BHC	ug/L		0.02						0.06			No	Y		
106	delta-BHC	ug/L		No Criteria						No Criteria		No Criteria	No Criteria	Y		
107	Chlordane	ug/L								0.00				Y		
108	4,4'-DDT	ug/L								0.00				Y		
109	4,4'-DDE (linked to DDT)	ug/L								0.00				Y		
110	4,4'-DDD	ug/L								0.00				Y		
111	Dieldrin	ug/L								0.00				Y		
112	alpha-Endosulfan	ug/L		0.6						0.22				Y		
113	beta-Endosulfan	ug/L								0.06				Y		
114	Endosulfan Sulfate	ug/L		0.02						0.22				Y		
115	Endrin	ug/L		0.01						0.09			No	Y		
116	Endrin Aldehyde	ug/L		0.02						0.04			No	Y		
117	Heptachlor	ug/L								0.81			No	Y		
118	Heptachlor Epoxide	ug/L								0.00				Y		
119-125	PCBs sum	ug/L								0.52				Y		
126	Toxaphene	ug/L								0.00				Y		
										0.01				Y		
										0.00				Y		
										0.00				Y		
										0.73				Y		
										0.00				Y		

* Ballona Creek Metals TMDL (Resolution No. R13-010)

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 004

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)							HUMAN HEALTH CALCULATIONS			
		Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only		
										AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh
64	Benzo(k)Fluoranthene	Y	0.24		Y	No detected value of B, Step 7	No	UD; effluent ND, MDL>C, and B is ND				
65	Bis(2-Chloroethoxy)Methane	Y	0.19		N	No Criteria	No Criteria	Uc	No Criteria			
66	Bis(2-Chloroethyl)Ether	Y	0.19		N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
67	Bis(2-Chloroisopropyl)Ether	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
68	Bis(2-Ethylhexyl)Phthalate	N		3.7		B<=C, Step 7		No	MEC<C & B<=C			
69	4-Bromophenyl Phenyl Ether	Y	0.47		N	No Criteria	No Criteria	Uc	No Criteria			
70	Butylbenzyl Phthalate	Y	1.9		N	No detected value of B, Step 7		No	MEC<C & B is ND			
71	2-Chloronaphthalene	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
72	4-Chlorophenyl Phenyl Ether	Y	0.19		N	No Criteria	No Criteria	Uc	No Criteria			
73	Chrysene	Y	0.19		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
74	Dibenzo(a,h)Anthracene	Y	0.24		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
75	1,2-Dichlorobenzene	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
76	1,3-Dichlorobenzene	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
77	1,4-Dichlorobenzene	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
78	3,3 Dichlorobenzidine	Y	1.9		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
79	Diethyl Phthalate	Y	0.47		N	No detected value of B, Step 7		No	MEC<C & B is ND			
80	Dimethyl Phthalate	Y	0.24		N	No detected value of B, Step 7		No	MEC<C & B is ND			
81	Di-n-Butyl Phthalate	Y	0.95		N	No detected value of B, Step 7		No	MEC<C & B is ND			
82	2,4-Dinitrotoluene	Y	1.9		N	No detected value of B, Step 7		No	MEC<C & B is ND			
83	2,6-Dinitrotoluene	Y	1.9		N	No Criteria	No Criteria	Uc	No Criteria			
84	Di-n-Octyl Phthalate	N		3		No Criteria	No Criteria	Uc	No Criteria			
85	1,2-Diphenylhydrazine	Y	0.47		N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
86	Fluoranthene	N		0.2		B<=C, Step 7		No	MEC<C & B<=C			
87	Fluorene	Y	0.19		N	No detected value of B, Step 7		No	MEC<C & B is ND			
88	Hexachlorobenzene	Y	0.47		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
89	Hexachlorobutadiene	Y	0.47		N	No detected value of B, Step 7		No	MEC<C & B is ND			
90	Hexachlorocyclopentadiene	Y	1.9		N	No detected value of B, Step 7		No	MEC<C & B is ND			
91	Hexachloroethane	Y	0.47		N	No detected value of B, Step 7		No	MEC<C & B is ND			
92	Indeno(1,2,3-cd)Pyrene	Y	0.95		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
93	Isophorone	Y	0.47		N	No detected value of B, Step 7		No	MEC<C & B is ND			
94	Naphthalene	Y	0.47		N	No Criteria	No Criteria	Uc	No Criteria			
95	Nitrobenzene	Y	0.47		N	No detected value of B, Step 7		No	MEC<C & B is ND			
96	N-Nitrosodimethylamine	Y	0.95		N	No detected value of B, Step 7		No	MEC<C & B is ND			
97	N-Nitrosodi-n-Propylamine	Y	0.95		N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
98	N-Nitrosodiphenylamine	Y	0.47		N	No detected value of B, Step 7		No	MEC<C & B is ND			
99	Phenanthrene	Y	0.19		N	No Criteria	No Criteria	Uc	No Criteria			
100	Pyrene	N		0.21		B<=C, Step 7		No	MEC<C & B<=C			
101	1,2,4-Trichlorobenzene	Y	0.47		N	No Criteria	No Criteria	Uc	No Criteria			
102	Aldrin	Y	0.0014		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
103	alpha-BHC	Y	0.0024		N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
104	beta-BHC	Y	0.0038		N	No detected value of B, Step 7		No	MEC<C & B is ND			
105	gamma-BHC	Y	0.0028		N	No detected value of B, Step 7		No	MEC<C & B is ND			
106	delta-BHC	Y	0.0033		N	No Criteria	No Criteria	Uc	No Criteria			
107	Chlordane	Y	0.076		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
108	4,4'-DDT	N		0.0074		B>C & eff ND, Step 7		no	ud; effluent ND, MDL>C & B>C			
109	4,4'-DDE (linked to DDT)	Y	0.0067		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
110	4,4'-DDD	Y	0.0038		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
111	Dieldrin	Y	0.0019		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
112	alpha-Endosulfan	N	0.0028	0.0093	N	B<=C, Step 7		Ud	No effluent data & B<=C			
113	beta-Endosulfan	Y	0.0019		N	No detected value of B, Step 7		ud	No effluent data & B is ND			
114	Endosulfan Sulfate	Y	0.0028		N	No detected value of B, Step 7		No	MEC<C & B is ND			
115	Endrin	Y	0.0019		N	No detected value of B, Step 7		No	MEC<C & B is ND			
116	Endrin Aldehyde	Y	0.0019		N	No detected value of B, Step 7		No	MEC<C & B is ND			
117	Heptachlor	Y	0.0028		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
118	Heptachlor Epoxide	Y	0.0024		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
119-125	PCBs sum	Y	0.25		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			
126	Toxaphene	Y	0.25		Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND			

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 004

CTR#	Parameters	AQUATIC LIFE CALCULATIONS										LIMITS		Recommendation
		Saltwater / Freshwater / Basin Plan										Lowest AMEL	Lowest MDEL	
		ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life				
64	Benzo(k)Fluoranthene													No Limit
65	Bis(2-Chloroethoxy)Methane													No Limit
66	Bis(2-Chloroethyl)Ether													No Limit
67	Bis(2-Chloroisopropyl)Ether													No Limit
68	Bis(2-Ethylhexyl)Phthalate													No Limit
69	4-Bromophenyl Phenyl Ether													No Limit
70	Butylbenzyl Phthalate													No Limit
71	2-Chloronaphthalene													No Limit
72	4-Chlorophenyl Phenyl Ether													No Limit
73	Chrysene													No Limit
74	Dibenzo(a,h)Anthracene													No Limit
75	1,2-Dichlorobenzene													No Limit
76	1,3-Dichlorobenzene													No Limit
77	1,4-Dichlorobenzene													No Limit
78	3,3 Dichlorobenzidine													No Limit
79	Diethyl Phthalate													No Limit
80	Dimethyl Phthalate													No Limit
81	Di-n-Butyl Phthalate													No Limit
82	2,4-Dinitrotoluene													No Limit
83	2,6-Dinitrotoluene													No Limit
84	Di-n-Octyl Phthalate													No Limit
85	1,2-Diphenylhydrazine													No Limit
86	Fluoranthene													No Limit
87	Fluorene													No Limit
88	Hexachlorobenzene													No Limit
89	Hexachlorobutadiene													No Limit
90	Hexachlorocyclopentadiene													No Limit
91	Hexachloroethane													No Limit
92	Indeno(1,2,3-cd)Pyrene													No Limit
93	Isophorone													No Limit
94	Naphthalene													No Limit
95	Nitrobenzene													No Limit
96	N-Nitrosodimethylamine													No Limit
97	N-Nitrosodi-n-Propylamine													No Limit
98	N-Nitrosodiphenylamine													No Limit
99	Phenanthrene													No Limit
100	Pyrene													No Limit
101	1,2,4-Trichlorobenzene													No Limit
102	Aldrin													No Limit
103	alpha-BHC													No Limit
104	beta-BHC													No Limit
105	gamma-BHC													No Limit
106	delta-BHC													No Limit
107	Chlordane													No Limit
108	4,4'-DDT													No Limit
109	4,4'-DDE (linked to DDT)													No Limit
110	4,4'-DDD													No Limit
111	Dieldrin													No Limit
112	alpha-Endosulfan													No Limit
113	beta-Endosulfan													No Limit
114	Endosulfan Sulfate													No Limit
115	Endrin													No Limit
116	Endrin Aldehyde													No Limit
117	Heptachlor													No Limit
118	Heptachlor Epoxide													No Limit
119-125	PCBs sum													No Limit
126	Toxaphene													No Limit

Notes:
 Ud = Undetermined due to lack of data
 Uc = Undetermined due to lack of CTR Water Quality Criteria
 C = Water Quality Criteria
 B = Background receiving water data

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 005

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)						Human Health for consumption of:	Ballona Creek Metals TMDL*		Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)
					Freshwater		Saltwater		Water & organisms	Organisms only		Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)						
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot											
1	Antimony	ug/L								4300.00		4300.00				Y	N		
2	Arsenic	ug/L				340.00	150.00					150.00				Y	N		
3	Beryllium	ug/L		No Criteria						Narrative		No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.25	
4	Cadmium	ug/L				8.03	3.67			Narrative		3.67				Y	N		
5a	Chromium (III)					2636.43	314.25			Narrative		314.25				Y	N		
5b	Chromium (VI)	ug/L				16.00	11.00			Narrative		11.00				Y	N		
6	Copper, Dry Weather	ug/L	0.6			22.63	14.42					35.56				Y	N		
6	Copper, Wet Weather	ug/L	0.6			22.63	14.42					13.70				Y	N		
7	Lead, Dry Weather	ug/L	0.6			156.24	6.09			Narrative		19.65				Y	N		
7	Lead, Wet Weather	ug/L	0.6			156.24	6.09			Narrative		76.75				Y	N		
8	Mercury	ug/L				Reserved	Reserved			0.05		0.05				Y	Y	0.1	
9	Nickel	ug/L				722.19	80.29			4600.00		80.29				Y	N		
10	Selenium	ug/L					5.00			Narrative		5.00				Y	Y	0.5	
11	Silver	ug/L				9.76						9.76				Y	Y	0.5	
12	Thallium	ug/L								6.30		6.30				Y	Y	0.5	
13	Zinc, Dry Weather	ug/L	0.6			184.55	184.55					446.55				Y	N		
13	Zinc, Wet Weather	ug/L	0.6			184.55	184.55					104.77				Y	N		
14	Cyanide	ug/L				22.00	5.20			220000		5.20				Y	Y	3	
15	Asbestos	MFL		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	N	N		
16	2,3,7,8 TCDD	ug/L								1.40E-08		1.40E-08				Y	Y	0.0000016	
17	Acrolein	ug/L								780.00		780.00				Y	Y	2.5	
18	Acrylonitrile	ug/L								0.66		0.66				Y	Y	1	
19	Benzene	ug/L								71.00		71.00				Y	Y	0.25	
20	Bromoform	ug/L								360.00		360.00				Y	Y	0.25	
21	Carbon Tetrachloride	ug/L								4.40		4.40				Y	Y	0.25	
22	Chlorobenzene	ug/L								21000.00		21000.00				Y	Y	0.25	
23	Chlorodibromomethane	ug/L								34.00		34.00				Y	Y	0.25	
24	Chloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.25	
25	2-Chloroethylvinyl ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	1	
26	Chloroform	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.25	
27	Dichlorobromomethane	ug/L								46.00		46.00				Y	Y	0.25	
28	1,1-Dichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.25	
29	1,2-Dichloroethane	ug/L								99.00		99.00				Y	Y	0.25	
30	1,1-Dichloroethylene	ug/L								3.20		3.20				Y	Y	0.25	
31	1,2-Dichloropropane	ug/L								39.00		39.00				Y	Y	0.25	
32	1,3-Dichloropropylene	ug/L								1700.00		1700.00				Y	Y	0.25	
33	Ethylbenzene	ug/L								29000.00		29000.00				Y	Y	0.25	
34	Methyl Bromide	ug/L								4000.00		4000.00				Y	Y	0.25	
35	Methyl Chloride	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.25	
36	Methylene Chloride	ug/L								1600.00		1600.00				Y	Y	0.88	
37	1,1,2,2-Tetrachloroethane	ug/L								11.00		11.00				Y	Y	0.25	
38	Tetrachloroethylene	ug/L								8.85		8.85				Y	Y	0.25	
39	Toluene	ug/L								200000.00		200000.00				Y	Y	0.25	
40	1,2-Trans-Dichloroethylene	ug/L								140000.00		140000.00				Y	Y	0.25	
41	1,1,1-Trichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.25	
42	1,1,2-Trichloroethane	ug/L								42.00		42.00				Y	Y	0.25	
43	Trichloroethylene	ug/L								81.00		81.00				Y	Y	0.25	
44	Vinyl Chloride	ug/L								525.00		525.00				Y	Y	0.25	
45	2-Chlorophenol	ug/L								400.00		400.00				Y	Y	0.47	
46	2,4-Dichlorophenol	ug/L								790.00		790.00				Y	Y	0.95	
47	2,4-Dimethylphenol	ug/L								2300.00		2300.00				Y	Y	0.95	
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L								765.00		765.00				Y	Y	1.9	
49	2,4-Dinitrophenol	ug/L								14000.00		14000.00				Y	Y	1.9	
50	2-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.95	
51	4-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	1.9	
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.19	
53	Pentachlorophenol	ug/L				11.79	9.05			8.20		8.20				Y	N		
54	Phenol	ug/L								4600000.00		4600000.00				Y	Y	0.025	
55	2,4,6-Trichlorophenol	ug/L								6.50		6.50				Y	Y	0.47	
56	Acenaphthene	ug/L								2700.00		2700.00				Y	Y	0.19	
57	Acenaphthylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.19	
58	Anthracene	ug/L								110000.00		110000.00				Y	Y	0.19	
59	Benzidine	ug/L								0.00		0.00				Y	Y	4.7	
60	Benzo(a)Anthracene	ug/L								0.05		0.05				Y	Y	1.9	
61	Benzo(a)Pyrene	ug/L								0.05		0.05				Y	Y	0.47	
62	Benzo(b)Fluoranthene	ug/L								0.05		0.05				Y	Y	0.95	

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 005

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)						HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCUL				
		Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			Saltwater / Freshwater / B				
								AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
1	Antimony	6		B<=C, Step 7		Ud	No effluent data & B<=C								
2	Arsenic	3.3		B<=C, Step 7		Ud	No effluent data & B<=C								
3	Beryllium		N	No Criteria	No Criteria	Uc	No Criteria								
4	Cadmium	0.45		B<=C, Step 7		Ud	No effluent data & B<=C								
5a	Chromium (III)	5.75		B<=C, Step 7		Ud	No effluent data & B<=C								
5b	Chromium (VI)	1.25		B<=C, Step 7		Ud	No effluent data & B<=C								
6	Copper, Dry Weather	51		B>C & no eff data		ud	No effluent data & B>C	2.01			0.32		0.53	18.76	18.76
6	Copper, Wet Weather	51		B>C & no eff data		ud	No effluent data & B>C	2.01			0.32	4.40	0.53		4.40
7	Lead, Dry Weather	31.7		B>C & no eff data		ud	No effluent data & B>C	2.01			0.32		0.53	10.36	10.36
7	Lead, Wet Weather	31.7		B<=C, Step 7		Ud	No effluent data & B<=C	2.01			0.32	24.64	0.53		24.64
8	Mercury		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
9	Nickel	9.1		B<=C, Step 7		Ud	No effluent data & B<=C								
10	Selenium		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
11	Silver		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
12	Thallium		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
13	Zinc, Dry Weather	230		B<=C, Step 7		Ud	No effluent data & B<=C	2.01			0.32		0.53	235.53	235.53
13	Zinc, Wet Weather	230		B>C & no eff data		ud	No effluent data & B>C	2.01			0.32	33.64	0.53	55.26	33.64
14	Cyanide		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
15	Asbestos			No Criteria	No Criteria	Uc	No Criteria								
16	2,3,7,8 TCDD		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
17	Acrolein		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
18	Acrylonitrile		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
19	Benzene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
20	Bromoform		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
21	Carbon Tetrachloride		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
22	Chlorobenzene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
23	Chlorodibromomethane		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
24	Chloroethane		N	No Criteria	No Criteria	Uc	No Criteria								
25	2-Chloroethylvinyl ether		N	No Criteria	No Criteria	Uc	No Criteria								
26	Chloroform		N	No Criteria	No Criteria	Uc	No Criteria								
27	Dichlorobromomethane		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
28	1,1-Dichloroethane		N	No Criteria	No Criteria	Uc	No Criteria								
29	1,2-Dichloroethane		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
30	1,1-Dichloroethylene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
31	1,2-Dichloropropane		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
32	1,3-Dichloropropylene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
33	Ethylbenzene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
34	Methyl Bromide		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
35	Methyl Chloride		N	No Criteria	No Criteria	Uc	No Criteria								
36	Methylene Chloride		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
37	1,1,2,2-Tetrachloroethane		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
38	Tetrachloroethylene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
39	Toluene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
40	1,2-Trans-Dichloroethylene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
41	1,1,1-Trichloroethane		N	No Criteria	No Criteria	Uc	No Criteria								
42	1,1,2-Trichloroethane		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
43	Trichloroethylene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
44	Vinyl Chloride		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
45	2-Chlorophenol		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
46	2,4-Dichlorophenol		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
47	2,4-Dimethylphenol		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
49	2,4-Dinitrophenol		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
50	2-Nitrophenol		N	No Criteria	No Criteria	Uc	No Criteria								
51	4-Nitrophenol		N	No Criteria	No Criteria	Uc	No Criteria								
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)		N	No Criteria	No Criteria	Uc	No Criteria								
53	Pentachlorophenol	1.6		B<=C, Step 7		Ud	No effluent data & B<=C								
54	Phenol		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
55	2,4,6-Trichlorophenol		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
56	Acenaphthene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
57	Acenaphthylene		N	No Criteria	No Criteria	Uc	No Criteria								
58	Anthracene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
59	Benzidine		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
60	Benzo(a)Anthracene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
61	Benzo(a)Pyrene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
62	Benzo(b)Fluoranthene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 005

CTR#	Parameters	ACTIONS				LIMITS		Recommendation
		Basin Plan				Lowest AMEL	Lowest MDEL	
		AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life			
1	Antimony							No Limit
2	Arsenic							No Limit
3	Beryllium							No Limit
4	Cadmium							No Limit
5a	Chromium (III)							No Limit
5b	Chromium (VI)							No Limit
6	Copper, Dry Weather	1.55	29.12	3.11	58.41331	29.12	58.41	Limit Needed
6	Copper, Wet Weather	1.55	6.83	3.11	13.7	6.83	13.70	Limit Needed
7	Lead, Dry Weather	1.55	16.09	3.11	32.27845	16.09	32.28	Limit Needed
7	Lead, Wet Weather	1.55	38.26	3.11	76.75	38.26	76.75	Limit Needed
8	Mercury							No Limit
9	Nickel							No Limit
10	Selenium							No Limit
11	Silver							No Limit
12	Thallium							No Limit
13	Zinc, Dry Weather	1.55	365.64	3.11	733.5338	365.64	733.53	Limit Needed
13	Zinc, Wet Weather	1.55	52.22	3.11	104.77	52.22	104.77	Limit Needed
14	Cyanide							No Limit
15	Asbestos							No Limit
16	2,3,7,8 TCDD							No Limit
17	Acrolein							No Limit
18	Acrylonitrile							No Limit
19	Benzene							No Limit
20	Bromoform							No Limit
21	Carbon Tetrachloride							No Limit
22	Chlorobenzene							No Limit
23	Chlorodibromomethane							No Limit
24	Chloroethane							No Limit
25	2-Chloroethylvinyl ether							No Limit
26	Chloroform							No Limit
27	Dichlorobromomethane							No Limit
28	1,1-Dichloroethane							No Limit
29	1,2-Dichloroethane							No Limit
30	1,1-Dichloroethylene							No Limit
31	1,2-Dichloropropane							No Limit
32	1,3-Dichloropropylene							No Limit
33	Ethylbenzene							No Limit
34	Methyl Bromide							No Limit
35	Methyl Chloride							No Limit
36	Methylene Chloride							No Limit
37	1,1,2,2-Tetrachloroethane							No Limit
38	Tetrachloroethylene							No Limit
39	Toluene							No Limit
40	1,2-Trans-Dichloroethylene							No Limit
41	1,1,1-Trichloroethane							No Limit
42	1,1,2-Trichloroethane							No Limit
43	Trichloroethylene							No Limit
44	Vinyl Chloride							No Limit
45	2-Chlorophenol							No Limit
46	2,4-Dichlorophenol							No Limit
47	2,4-Dimethylphenol							No Limit
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)							No Limit
49	2,4-Dinitrophenol							No Limit
50	2-Nitrophenol							No Limit
51	4-Nitrophenol							No Limit
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)							No Limit
53	Pentachlorophenol							No Limit
54	Phenol							No Limit
55	2,4,6-Trichlorophenol							No Limit
56	Acenaphthene							No Limit
57	Acenaphthylene							No Limit
58	Anthracene							No Limit
59	Benzidine							No Limit
60	Benzo(a)Anthracene							No Limit
61	Benzo(a)Pyrene							No Limit
62	Benzo(b)Fluoranthene							No Limit

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 005

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				Human Health for consumption of:		Ballona Creek Metals TMDL*			MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)
					Freshwater		Saltwater		Water & organisms	Organisms only	Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)	Lowest C or WLAs					
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot										
63	Benzo(ghi)Perylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9	
64	Benzo(k)Fluoranthene	ug/L							0.05			0.05			Y	Y	0.24	
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
66	Bis(2-Chloroethyl)Ether	ug/L							1.40			1.40			Y	Y	0.19	
67	Bis(2-Chloroisopropyl)Ether	ug/L							170000.00			170000.00			Y	Y	0.19	
68	Bis(2-Ethylhexyl)Phthalate	ug/L							5.90			5.90			Y	N		
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.47	
70	Butylbenzyl Phthalate	ug/L							5200.00			5200.00			Y	Y	1.9	
71	2-Chloronaphthalene	ug/L							4300.00			4300.00			Y	Y	0.19	
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
73	Chrysene	ug/L							0.05			0.05			Y	Y	0.19	
74	Dibenzo(a,h)Anthracene	ug/L							0.05			0.05			Y	Y	0.24	
75	1,2-Dichlorobenzene	ug/L							17000.00			17000.00			Y	Y	0.19	
76	1,3-Dichlorobenzene	ug/L							2600.00			2600.00			Y	Y	0.19	
77	1,4-Dichlorobenzene	ug/L							2600.00			2600.00			Y	Y	0.19	
78	3,3 Dichlorobenzidine	ug/L							0.08			0.08			Y	Y	1.9	
79	Diethyl Phthalate	ug/L							120000.00			120000.00			Y	Y	0.47	
80	Dimethyl Phthalate	ug/L							2900000.00			2900000.00			Y	Y	0.24	
81	Di-n-Butyl Phthalate	ug/L							12000.00			12000.00			Y	Y	0.95	
82	2,4-Dinitrotoluene	ug/L							9.10			9.10			Y	Y	1.9	
83	2,6-Dinitrotoluene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9	
84	Di-n-Octyl Phthalate	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	N		
85	1,2-Diphenylhydrazine	ug/L							0.54			0.54			Y	Y	0.47	
86	Fluoranthene	ug/L							370.00			370.00			Y	N		
87	Fluorene	ug/L							14000.00			14000.00			Y	Y	0.19	
88	Hexachlorobenzene	ug/L							0.00			0.00			Y	Y	0.47	
89	Hexachlorobutadiene	ug/L							50.00			50.00			Y	Y	0.47	
90	Hexachlorocyclopentadiene	ug/L							17000.00			17000.00			Y	Y	1.9	
91	Hexachloroethane	ug/L							8.90			8.90			Y	Y	0.47	
92	Indeno(1,2,3-cd)Pyrene	ug/L							0.05			0.05			Y	Y	0.95	
93	Isophorone	ug/L							600.00			600.00			Y	Y	0.47	
94	Naphthalene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.47	
95	Nitrobenzene	ug/L							1900.00			1900.00			Y	Y	0.47	
96	N-Nitrosodimethylamine	ug/L							8.10			8.10			Y	Y	0.95	
97	N-Nitrosodi-n-Propylamine	ug/L							1.40			1.40			Y	Y	0.95	
98	N-Nitrosodiphenylamine	ug/L							16.00			16.00			Y	Y	0.47	
99	Phenanthrene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19	
100	Pyrene	ug/L							11000.00			11000.00			Y	N		
101	1,2,4-Trichlorobenzene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.47	
102	Aldrin	ug/L							3.00			0.00			Y	Y	0.0014	
103	alpha-BHC	ug/L										0.01			Y	Y	0.0024	
104	beta-BHC	ug/L										0.05			Y	Y	0.0038	
105	gamma-BHC	ug/L							0.95			0.06			Y	Y	0.0028	
106	delta-BHC	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.0033	
107	Chlordane	ug/L							2.40	0.00		0.00			Y	Y	0.076	
108	4,4'-DDT	ug/L							1.10	0.00		0.00			Y	N		
109	4,4'-DDE (linked to DDT)	ug/L							0.00	0.00		0.00			Y	Y	0.0067	
110	4,4'-DDD	ug/L							0.00	0.00		0.00			Y	Y	0.0038	
111	Dieldrin	ug/L							0.24	0.06		0.00			Y	Y	0.0019	
112	alpha-Endosulfan	ug/L	0.6						0.22	0.06		0.06			Y	N	0.0028	
113	beta-Endosulfan	ug/L							0.22	0.06		0.06			Y	Y	0.0019	
114	Endosulfan Sulfate	ug/L							240.00			240.00			Y	Y	0.0028	
115	Endrin	ug/L							0.09	0.04		0.81			Y	Y	0.0019	
116	Endrin Aldehyde	ug/L							0.81			0.81			Y	Y	0.0019	
117	Heptachlor	ug/L							0.52	0.00		0.00			Y	Y	0.0028	
118	Heptachlor Epoxide	ug/L							0.52	0.00		0.00			Y	Y	0.0024	
119-125	PCBs sum	ug/L										0.00			Y	Y	0.25	
126	Toxaphene	ug/L							0.73	0.00		0.00			Y	Y	0.25	

* Ballona Creek Metals TMDL (Resolution No. R13-010)

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 005

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)						HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS				
		Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			Saltwater / Freshwater / B				
								AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
63	Benzo(ghi)Perylene		N	No Criteria	No Criteria	Uc	No Criteria								
64	Benzo(k)Fluoranthene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
65	Bis(2-Chloroethoxy)Methane		N	No Criteria	No Criteria	Uc	No Criteria								
66	Bis(2-Chloroethyl)Ether		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
67	Bis(2-Chloroisopropyl)Ether		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
68	Bis(2-Ethylhexyl)Phthalate	3.7		B<=C, Step 7		Ud	No effluent data & B<=C								
69	4-Bromophenyl Phenyl Ether		N	No Criteria	No Criteria	Uc	No Criteria								
70	Butylbenzyl Phthalate		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
71	2-Chloronaphthalene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
72	4-Chlorophenyl Phenyl Ether		N	No Criteria	No Criteria	Uc	No Criteria								
73	Chrysene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
74	Dibenzo(a,h)Anthracene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
75	1,2-Dichlorobenzene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
76	1,3-Dichlorobenzene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
77	1,4-Dichlorobenzene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
78	3,3 Dichlorobenzidine		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
79	Diethyl Phthalate		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
80	Dimethyl Phthalate		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
81	Di-n-Butyl Phthalate		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
82	2,4-Dinitrotoluene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
83	2,6-Dinitrotoluene		N	No Criteria	No Criteria	Uc	No Criteria								
84	Di-n-Octyl Phthalate	3		No Criteria	No Criteria	Uc	No Criteria								
85	1,2-Diphenylhydrazine		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
86	Fluoranthene	0.2		B<=C, Step 7		Ud	No effluent data & B<=C								
87	Fluorene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
88	Hexachlorobenzene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
89	Hexachlorobutadiene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
90	Hexachlorocyclopentadiene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
91	Hexachloroethane		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
92	Indeno(1,2,3-cd)Pyrene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
93	Isophorone		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
94	Naphthalene		N	No Criteria	No Criteria	Uc	No Criteria								
95	Nitrobenzene		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
96	N-Nitrosodimethylamine		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
97	N-Nitrosodi-n-Propylamine		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
98	N-Nitrosodiphenylamine		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
99	Phenanthrene		N	No Criteria	No Criteria	Uc	No Criteria								
100	Pyrene	0.21		B<=C, Step 7		Ud	No effluent data & B<=C								
101	1,2,4-Trichlorobenzene		N	No Criteria	No Criteria	Uc	No Criteria								
102	Aldrin		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
103	alpha-BHC		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
104	beta-BHC		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
105	gamma-BHC		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
106	delta-BHC		N	No Criteria	No Criteria	Uc	No Criteria								
107	Chlordane		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
108	4,4'-DDT	0.0074		B>C & no eff data		ud	No effluent data & B>C								
109	4,4'-DDE (linked to DDT)		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
110	4,4'-DDD		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
111	Dieldrin		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
112	alpha-Endosulfan	0.0093	N	B<=C, Step 7		Ud	No effluent data & B<=C								
113	beta-Endosulfan		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
114	Endosulfan Sulfate		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
115	Endrin		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
116	Endrin Aldehyde		N	No detected value of B, Step 7		ud	No effluent data & B is ND								
117	Heptachlor		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
118	Heptachlor Epoxide		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
119-128	PCBs sum		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								
126	Toxaphene		Y	No detected value of B, Step 7		ud	No effluent data & B is ND								

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 005

CTR#	Parameters	ACTIONS				LIMITS		Recommendation
		Basin Plan				Lowest AMEL	Lowest MDEL	
		AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life			
63	Benzo(ghi)Perylene						No Limit	
64	Benzo(k)Fluoranthene						No Limit	
65	Bis(2-Chloroethoxy)Methane						No Limit	
66	Bis(2-Chloroethyl)Ether						No Limit	
67	Bis(2-Chloroisopropyl)Ether						No Limit	
68	Bis(2-Ethylhexyl)Phthalate						No Limit	
69	4-Bromophenyl Phenyl Ether						No Limit	
70	Butylbenzyl Phthalate						No Limit	
71	2-Chloronaphthalene						No Limit	
72	4-Chlorophenyl Phenyl Ether						No Limit	
73	Chrysene						No Limit	
74	Dibenzo(a,h)Anthracene						No Limit	
75	1,2-Dichlorobenzene						No Limit	
76	1,3-Dichlorobenzene						No Limit	
77	1,4-Dichlorobenzene						No Limit	
78	3,3 Dichlorobenzidine						No Limit	
79	Diethyl Phthalate						No Limit	
80	Dimethyl Phthalate						No Limit	
81	Di-n-Butyl Phthalate						No Limit	
82	2,4-Dinitrotoluene						No Limit	
83	2,6-Dinitrotoluene						No Limit	
84	Di-n-Octyl Phthalate						No Limit	
85	1,2-Diphenylhydrazine						No Limit	
86	Fluoranthene						No Limit	
87	Fluorene						No Limit	
88	Hexachlorobenzene						No Limit	
89	Hexachlorobutadiene						No Limit	
90	Hexachlorocyclopentadiene						No Limit	
91	Hexachloroethane						No Limit	
92	Indeno(1,2,3-cd)Pyrene						No Limit	
93	Isophorone						No Limit	
94	Naphthalene						No Limit	
95	Nitrobenzene						No Limit	
96	N-Nitrosodimethylamine						No Limit	
97	N-Nitrosodi-n-Propylamine						No Limit	
98	N-Nitrosodiphenylamine						No Limit	
99	Phenanthrene						No Limit	
100	Pyrene						No Limit	
101	1,2,4-Trichlorobenzene						No Limit	
102	Aldrin						No Limit	
103	alpha-BHC						No Limit	
104	beta-BHC						No Limit	
105	gamma-BHC						No Limit	
106	delta-BHC						No Limit	
107	Chlordane						No Limit	
108	4,4'-DDT						No Limit	
109	4,4'-DDE (linked to DDT)						No Limit	
110	4,4'-DDD						No Limit	
111	Dieldrin						No Limit	
112	alpha-Endosulfan						No Limit	
113	beta-Endosulfan						No Limit	
114	Endosulfan Sulfate						No Limit	
115	Endrin						No Limit	
116	Endrin Aldehyde						No Limit	
117	Heptachlor						No Limit	
118	Heptachlor Epoxide						No Limit	
119-124	PCBs sum						No Limit	
126	Toxaphene						No Limit	

Notes:
 Ud = Undetermined due to lack of data
 Uc = Undetermined due to lack of CTR Water Quality Criteria
 C = Water Quality Criteria
 B = Background receiving water data

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 006

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				Human Health for consumption of:		Ballona Creek Metals TMDL*		Lowest C or WLAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the MDL (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)
					Freshwater		Saltwater		Water & organisms	Organisms only	Dry Weather WLAs (Based on Chronic CTR)	Wet Weather WLAs (Based on Acute CTR)							
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot											
1	Antimony	ug/L		1					4300.00			4300.00	No	No	Y	N		6	
2	Arsenic	ug/L		42	340.00	150.00						150.00	No	No	Y	N		3.3	
3	Beryllium	ug/L		No Criteria					Narrative			No Criteria	No Criteria	No Criteria	Y	Y	0.25		
4	Cadmium	ug/L		1.4	8.03	3.67			Narrative			3.67	No	No	Y	N		0.45	
5a	Chromium (III)	ug/L		110	2636.43	314.25			Narrative			314.25	No	No	Y	N		5.75	
5b	Chromium (VI)	ug/L		0.94	16.00	11.00			Narrative			11.00	No	No	Y	N		1.25	
6	Copper, Dry Weather	ug/L	0.6		22.63	14.42				35.56		35.56			Y	N		51	
6	Copper, Wet Weather	ug/L	0.6	110	22.63	14.42					13.70	13.70	Yes	Yes	Y	N		51	
7	Lead, Dry Weather	ug/L	0.6		156.24	6.09			Narrative	19.65		19.65			Y	N		31.7	
7	Lead, Wet Weather	ug/L	0.6	94	156.24	6.09			Narrative		76.75	76.75	Yes	Yes	Y	N		31.7	
8	Mercury	ug/L	0.6	0.2	Reserved	Reserved			0.05			0.05	Yes	Yes	Y	Y	0.1		
9	Nickel	ug/L		73	722.19	80.29			4600.00			80.29	No	No	Y	N		9.1	
10	Selenium	ug/L		2.1		5.00			Narrative			5.00	No	No	Y	Y	0.5		
11	Silver	ug/L		1	9.76							9.76	No	No	Y	Y	0.5		
12	Thallium	ug/L		1					6.30			6.30	No	No	Y	Y	0.5		
13	Zinc, Dry Weather	ug/L	0.6		184.55	184.55				446.55		446.55			Y	N		230	
13	Zinc, Wet Weather	ug/L	0.6	380	184.55	184.55					104.77	104.77	Yes	Yes	Y	N		230	
14	Cyanide	ug/L		2	22.00	5.20			220000			5.20	No	No	Y	Y	3		
15	Asbestos	MFL		No Criteria								No Criteria	No Criteria	No Criteria	N				
16	2,3,7,8 TCDD	ug/L							0.00			0.00	Y	Y	Y	Y	0.0000016		
17	Acrolein	ug/L		5					780.00			780.00	No	No	Y	Y	2.5		
18	Acrylonitrile	ug/L							0.66			0.66	Y	Y	Y	Y	1		
19	Benzene	ug/L		0.5					71.00			71.00	No	No	Y	Y	0.25		
20	Bromoform	ug/L		1					360.00			360.00	No	No	Y	Y	0.25		
21	Carbon Tetrachloride	ug/L		0.5					4.40			4.40	No	No	Y	Y	0.25		
22	Chlorobenzene	ug/L		0.5					21000.00			21000.00	No	No	Y	Y	0.25		
23	Chlorodibromomethane	ug/L		0.5					34.00			34.00	No	No	Y	Y	0.25		
24	Chloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25		
25	2-Chloroethylvinyl ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1		
26	Chloroform	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25		
27	Dichlorobromomethane	ug/L		0.5					46.00			46.00	No	No	Y	Y	0.25		
28	1,1-Dichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25		
29	1,2-Dichloroethane	ug/L		0.5					99.00			99.00	No	No	Y	Y	0.25		
30	1,1-Dichloroethylene	ug/L		0.5					3.20			3.20	No	No	Y	Y	0.25		
31	1,2-Dichloropropane	ug/L		0.5					39.00			39.00	No	No	Y	Y	0.25		
32	1,3-Dichloropropylene	ug/L		0.5					1700.00			1700.00	No	No	Y	Y	0.25		
33	Ethylbenzene	ug/L		0.5					29000.00			29000.00	No	No	Y	Y	0.25		
34	Methyl Bromide	ug/L		0.5					4000.00			4000.00	No	No	Y	Y	0.25		
35	Methyl Chloride	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25		
36	Methylene Chloride	ug/L		2.5					1600.00			1600.00	No	No	Y	Y	0.88		
37	1,1,2,2-Tetrachloroethane	ug/L		0.6					11.00			11.00	No	No	Y	Y	0.25		
38	Tetrachloroethylene	ug/L		1					8.85			8.85	No	No	Y	Y	0.25		
39	Toluene	ug/L		1					200000.00			200000.00	No	No	Y	Y	0.25		
40	1,2-Trans-Dichloroethylene	ug/L		0.5					140000.00			140000.00	No	No	Y	Y	0.25		
41	1,1,1-Trichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.25		
42	1,1,2-Trichloroethane	ug/L		0.5					42.00			42.00	No	No	Y	Y	0.25		
43	Trichloroethylene	ug/L		1					81.00			81.00	No	No	Y	Y	0.25		
44	Vinyl Chloride	ug/L		0.5					525.00			525.00	No	No	Y	Y	0.25		
45	2-Chlorophenol	ug/L		1					400.00			400.00	No	No	Y	Y	0.47		
46	2,4-Dichlorophenol	ug/L		2.1					790.00			790.00	No	No	Y	Y	0.95		
47	2,4-Dimethylphenol	ug/L		2.1					2300.00			2300.00	No	No	Y	Y	0.95		
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	ug/L							765.00			765.00			Y	Y	1.9		
49	2,4-Dinitrophenol	ug/L		5					14000.00			14000.00	No	No	Y	Y	1.9		
50	2-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.95		
51	4-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9		
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19		
53	Pentachlorophenol	ug/L		1.7	11.79	9.05			8.20			8.20	No	No	Y	N		1.6	
54	Phenol	ug/L		5					4600000.00			4600000.00	No	No	Y	Y	0.025		
55	2,4,6-Trichlorophenol	ug/L		1					6.50			6.50	No	No	Y	Y	0.47		
56	Acenaphthene	ug/L		0.5					2700.00			2700.00	No	No	Y	Y	0.19		
57	Acenaphthylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	0.19		
58	Anthracene	ug/L		5					110000.00			110000.00	No	No	Y	Y	0.19		
59	Benzidine	ug/L							0.00			0.00			Y	Y	4.7		
60	Benzo(a)Anthracene	ug/L							0.05			0.05			Y	Y	1.9		
61	Benzo(a)Pyrene	ug/L							0.05			0.05			Y	Y	0.47		
62	Benzo(b)Fluoranthene	ug/L							0.05			0.05			Y	Y	0.95		
63	Benzo(ghi)Perylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y	1.9		

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 006

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)					HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALC			
		If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			Saltwater / Freshwater			
							AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic
1	Antimony		B<=C, Step 7		No	MEC<C & B<=C							
2	Arsenic		B<=C, Step 7		No	MEC<C & B<=C							
3	Beryllium	N	No Criteria	No Criteria	Uc	No Criteria							
4	Cadmium		B<=C, Step 7	No Criteria	No	MEC<C & B<=C							
5a	Chromium (III)		B<=C, Step 7		No	MEC<C & B<=C							
5b	Chromium (VI)		B<=C, Step 7		No	MEC<C & B<=C							
6	Copper, Dry Weather		B>C & no eff data		ud	No effluent data & B>C	2.01		0.32		0.53	18.76	18.76
6	Copper, Wet Weather		Limit required, B>C & pollutant detected in effluent		Yes	MEC>=C	2.01		0.32	4.40	0.53	4.40	4.40
7	Lead, Dry Weather		B>C & no eff data		ud	No effluent data & B>C	2.01		0.32		0.53	10.36	10.36
7	Lead, Wet Weather		B<=C, Step 7		Yes	MEC>=C	2.01		0.32	24.64	0.53		24.64
8	Mercury	Y	No detected value of B, Step 7		Yes	MEC>=C	0.051	2.01	0.10232				
9	Nickel		B<=C, Step 7		No	MEC<C & B<=C							
10	Selenium	N	No detected value of B, Step 7		No	MEC<C & B is ND							
11	Silver	N	No detected value of B, Step 7		No	MEC<C & B is ND							
12	Thallium	N	No detected value of B, Step 7		No	MEC<C & B is ND							
13	Zinc, Dry Weather		B<=C, Step 7		Ud	No effluent data & B<=C	2.01		0.32		0.53	235.53	235.53
13	Zinc, Wet Weather		Limit required, B>C & pollutant detected in effluent		Yes	MEC>=C	2.01		0.32	33.64	0.53	55.26	33.64
14	Cyanide	N	No detected value of B, Step 7		No	MEC<C & B is ND							
15	Asbestos		No Criteria	No Criteria	Uc	No Criteria							
16	2,3,7,8 TCDD	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
17	Acrolein	N	No detected value of B, Step 7		No	MEC<C & B is ND							
18	Acrylonitrile	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
19	Benzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
20	Bromoform	N	No detected value of B, Step 7		No	MEC<C & B is ND							
21	Carbon Tetrachloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
22	Chlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
23	Chlorodibromomethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
24	Chloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
25	2-Chloroethylvinyl ether	N	No Criteria	No Criteria	Uc	No Criteria							
26	Chloroform	N	No Criteria	No Criteria	Uc	No Criteria							
27	Dichlorobromomethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
28	1,1-Dichloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
29	1,2-Dichloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
30	1,1-Dichloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
31	1,2-Dichloropropane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
32	1,3-Dichloropropylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
33	Ethylbenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
34	Methyl Bromide	N	No detected value of B, Step 7		No	MEC<C & B is ND							
35	Methyl Chloride	N	No Criteria	No Criteria	Uc	No Criteria							
36	Methylene Chloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
37	1,1,2,2-Tetrachloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
38	Tetrachloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
39	Toluene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
40	1,2-Trans-Dichloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
41	1,1,1-Trichloroethane	N	No Criteria	No Criteria	Uc	No Criteria							
42	1,1,2-Trichloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND							
43	Trichloroethylene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
44	Vinyl Chloride	N	No detected value of B, Step 7		No	MEC<C & B is ND							
45	2-Chlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
46	2,4-Dichlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
47	2,4-Dimethylphenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
48	4,6-dinitro-o-resol (aka2-methyl-4,6-Dinitrophenol)	N	No detected value of B, Step 7		ud	No effluent data & B is ND							
49	2,4-Dinitrophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
50	2-Nitrophenol	N	No Criteria	No Criteria	Uc	No Criteria							
51	4-Nitrophenol	N	No Criteria	No Criteria	Uc	No Criteria							
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)	N	No Criteria	No Criteria	Uc	No Criteria							
53	Pentachlorophenol		B<=C, Step 7		No	MEC<C & B<=C							
54	Phenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
55	2,4,6-Trichlorophenol	N	No detected value of B, Step 7		No	MEC<C & B is ND							
56	Acenaphthene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
57	Acenaphthylene	N	No Criteria	No Criteria	Uc	No Criteria							
58	Anthracene	N	No detected value of B, Step 7		No	MEC<C & B is ND							
59	Benzidine	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
60	Benzo(a)Anthracene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
61	Benzo(a)Pyrene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
62	Benzo(b)Fluoranthene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND							
63	Benzo(ghi)Perylene	N	No Criteria	No Criteria	Uc	No Criteria							

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 006

CTR#	Parameters	MULTIPLIERS				LIMITS		Recommendation
		/ Basin Plan				Lowest AMEL	Lowest MDEL	
		AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life			
1	Antimony							No Limit
2	Arsenic							No Limit
3	Beryllium							No Limit
4	Cadmium							No Limit
5a	Chromium (III)							No Limit
5b	Chromium (VI)							No Limit
6	Copper, Dry Weather	1.55	29.12	3.11	58.41331	29.12	58.41	Limit Needed
6	Copper, Wet Weather	1.55	6.83	3.11	13.7	6.83	13.70	Limit Needed
7	Lead, Dry Weather	1.55	16.09	3.11	32.27845	16.09	32.28	Limit Needed
7	Lead, Wet Weather	1.55	38.26	3.11	76.75	38.26	76.75	Limit Needed
8	Mercury	1.55		3.11		0.05	0.10	Limit Needed
9	Nickel							No Limit
10	Selenium							No Limit
11	Silver							No Limit
12	Thallium							No Limit
13	Zinc, Dry Weather	1.55	365.64	3.11	733.5338	365.64	733.53	Limit Needed
13	Zinc, Wet Weather	1.55	52.22	3.11	104.77	52.22	104.77	Limit Needed
14	Cyanide							No Limit
15	Asbestos							No Limit
16	2,3,7,8 TCDD							No Limit
17	Acrolein							No Limit
18	Acrylonitrile							No Limit
19	Benzene							No Limit
20	Bromoform							No Limit
21	Carbon Tetrachloride							No Limit
22	Chlorobenzene							No Limit
23	Chlorodibromomethane							No Limit
24	Chloroethane							No Limit
25	2-Chloroethylvinyl ether							No Limit
26	Chloroform							No Limit
27	Dichlorobromomethane							No Limit
28	1,1-Dichloroethane							No Limit
29	1,2-Dichloroethane							No Limit
30	1,1-Dichloroethylene							No Limit
31	1,2-Dichloropropane							No Limit
32	1,3-Dichloropropylene							No Limit
33	Ethylbenzene							No Limit
34	Methyl Bromide							No Limit
35	Methyl Chloride							No Limit
36	Methylene Chloride							No Limit
37	1,1,2,2-Tetrachloroethane							No Limit
38	Tetrachloroethylene							No Limit
39	Toluene							No Limit
40	1,2-Trans-Dichloroethylene							No Limit
41	1,1,1-Trichloroethane							No Limit
42	1,1,2-Trichloroethane							No Limit
43	Trichloroethylene							No Limit
44	Vinyl Chloride							No Limit
45	2-Chlorophenol							No Limit
46	2,4-Dichlorophenol							No Limit
47	2,4-Dimethylphenol							No Limit
48	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)							No Limit
49	2,4-Dinitrophenol							No Limit
50	2-Nitrophenol							No Limit
51	4-Nitrophenol							No Limit
52	3-Methyl-4-Chlorophenol (aka P-chloro-m-resol)							No Limit
53	Pentachlorophenol							No Limit
54	Phenol							No Limit
55	2,4,6-Trichlorophenol							No Limit
56	Acenaphthene							No Limit
57	Acenaphthylene							No Limit
58	Anthracene							No Limit
59	Benzidine							No Limit
60	Benzo(a)Anthracene							No Limit
61	Benzo(a)Pyrene							No Limit
62	Benzo(b)Fluoranthene							No Limit
63	Benzo(ghi)Perylene							No Limit

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 006

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				Human Health for consumption of:		Ballona Creek Metals TMDL*		Lowest C or WLAAs	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)
					Freshwater		Saltwater		Water & organisms	Organisms only	Dry Weather WLAAs (Based on Chronic CTR)	Wet Weather WLAAs (Based on Acute CTR)							
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot											
64	Benzo(k)Fluoranthene	ug/L							0.05			0.05						0.24	
65	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.19	
66	Bis(2-Chloroethyl)Ether	ug/L							1.40			1.40			Y	Y		0.19	
67	Bis(2-Chloroisopropyl)Ether	ug/L		5					170000.00			170000.00	No	No	Y	Y		0.19	
68	Bis(2-Ethylhexyl)Phthalate	ug/L		5					5.90			5.90	No	No	Y	N		3.7	
69	4-Bromophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.47	
70	Butylbenzyl Phthalate	ug/L		0.5					5200.00			5200.00	No	No	Y	Y		1.9	
71	2-Chloronaphthalene	ug/L		1					4300.00			4300.00	No	No	Y	Y		0.19	
72	4-Chlorophenyl Phenyl Ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.19	
73	Chrysene	ug/L							0.05			0.05			Y	Y		0.19	
74	Dibenzo(a,h)Anthracene	ug/L							0.05			0.05			Y	Y		0.24	
75	1,2-Dichlorobenzene	ug/L		0.5					17000.00			17000.00	No	No	Y	Y		0.19	
76	1,3-Dichlorobenzene	ug/L		1					2600.00			2600.00	No	No	Y	Y		0.19	
77	1,4-Dichlorobenzene	ug/L		0.5					2600.00			2600.00	No	No	Y	Y		0.19	
78	3,3-Dichlorobenzidine	ug/L							0.08			0.08			Y	Y		1.9	
79	Diethyl Phthalate	ug/L		5					120000.00			120000.00	No	No	Y	Y		0.47	
80	Dimethyl Phthalate	ug/L		5					2900000.00			2900000.00	No	No	Y	Y		0.24	
81	Di-n-Butyl Phthalate	ug/L		5					12000.00			12000.00	No	No	Y	Y		0.95	
82	2,4-Dinitrotoluene	ug/L		5					9.10			9.10	No	No	Y	Y		1.9	
83	2,6-Dinitrotoluene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		1.9	
84	Di-n-Octyl Phthalate	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	N		3	
85	1,2-Diphenylhydrazine	ug/L							0.54			0.54			Y	Y		0.47	
86	Fluoranthene	ug/L		5					370.00			370.00	No	No	Y	N		0.2	
87	Fluorene	ug/L		5					14000.00			14000.00	No	No	Y	Y		0.19	
88	Hexachlorobenzene	ug/L							0.00			0.00			Y	Y		0.47	
89	Hexachlorobutadiene	ug/L		1					50.00			50.00	No	No	Y	Y		0.47	
90	Hexachlorocyclopentadiene	ug/L		5					17000.00			17000.00	No	No	Y	Y		1.9	
91	Hexachloroethane	ug/L		1					8.90			8.90	No	No	Y	Y		0.47	
92	Indeno(1,2,3-cd)Pyrene	ug/L							0.05			0.05			Y	Y		0.95	
93	Isophorone	ug/L		1					600.00			600.00	No	No	Y	Y		0.47	
94	Naphthalene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.47	
95	Nitrobenzene	ug/L		5					1900.00			1900.00	No	No	Y	Y		0.47	
96	N-Nitrosodimethylamine	ug/L		5					8.10			8.10	No	No	Y	Y		0.95	
97	N-Nitrosodi-n-Propylamine	ug/L							1.40			1.40			Y	Y		0.95	
98	N-Nitrosodiphenylamine	ug/L		5					16.00			16.00	No	No	Y	Y		0.47	
99	Phenanthrene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.19	
100	Pyrene	ug/L		5					11000.00			11000.00	No	No	Y	N		0.21	
101	1,2,4-Trichlorobenzene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.47	
102	Aldrin	ug/L			3.00				0.00			0.00			Y	Y		0.0014	
103	alpha-BHC	ug/L		0.0053					0.01			0.01	No	No	Y	Y		0.0024	
104	beta-BHC	ug/L		0.011					0.05			0.05	No	No	Y	Y		0.0038	
105	gamma-BHC	ug/L		0.011	0.95				0.06			0.06	No	No	Y	Y		0.0028	
106	delta-BHC	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.0033	
107	Chlordane	ug/L			2.40	0.00			0.00			0.00			Y	Y		0.076	
108	4,4'-DDT	ug/L			1.10	0.00			0.00			0.00			Y	N		0.0074	
109	4,4'-DDE (linked to DDT)	ug/L							0.00			0.00			Y	Y		0.0067	
110	4,4'-DDD	ug/L							0.00			0.00			Y	Y		0.0038	
111	Dieldrin	ug/L			0.24	0.06			0.00			0.00			Y	Y		0.0019	
112	alpha-Endosulfan	ug/L	0.6		0.22	0.06			240.00			0.06			Y	N		0.0028	
113	beta-Endosulfan	ug/L			0.22	0.06			240.00			0.06			Y	Y		0.0019	
114	Endosulfan Sulfate	ug/L		0.011					240.00			240.00	No	No	Y	Y		0.0028	
115	Endrin	ug/L		0.0053	0.09	0.04			0.81			0.81	No	No	Y	Y		0.0019	
116	Endrin Aldehyde	ug/L		0.011					0.81			0.81	No	No	Y	Y		0.0019	
117	Heptachlor	ug/L			0.52	0.00			0.00			0.00			Y	Y		0.0028	
118	Heptachlor Epoxide	ug/L			0.52	0.00			0.00			0.00			Y	Y		0.0024	
119-121	PCBs sum	ug/L				0.01			0.00			0.00			Y	Y		0.25	
126	Toxaphene	ug/L			0.73	0.00			0.00			0.00			Y	Y		0.25	

* Ballona Creek Metals TMDL (Resolution No. R13-010)

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 006

CTR#	Parameters	REASONABLE POTENTIAL ANALYSIS (RPA)					HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALC				
		If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason	Organisms only			Saltwater / Freshwater				
							AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA
64	Benzo(k)Fluoranthene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
65	Bis(2-Chloroethoxy)Methane	N	No Criteria	No Criteria	Uc	No Criteria								
66	Bis(2-Chloroethyl)Ether	N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
67	Bis(2-Chloroisopropyl)Ether	N	No detected value of B, Step 7		No	MEC<C & B is ND								
68	Bis(2-Ethylhexyl)Phthalate		B<=C, Step 7		No	MEC<C & B<=C								
69	4-Bromophenyl Phenyl Ether	N	No Criteria	No Criteria	Uc	No Criteria								
70	Butylbenzyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND								
71	2-Chloronaphthalene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
72	4-Chlorophenyl Phenyl Ether	N	No Criteria	No Criteria	Uc	No Criteria								
73	Chrysene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
74	Dibenzo(a,h)Anthracene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
75	1,2-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
76	1,3-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
77	1,4-Dichlorobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
78	3,3-Dichlorobenzidine	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
79	Diethyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND								
80	Dimethyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND								
81	Di-n-Butyl Phthalate	N	No detected value of B, Step 7		No	MEC<C & B is ND								
82	2,4-Dinitrotoluene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
83	2,6-Dinitrotoluene	N	No Criteria	No Criteria	Uc	No Criteria								
84	Di-n-Octyl Phthalate		No Criteria	No Criteria	Uc	No Criteria								
85	1,2-Diphenylhydrazine	N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
86	Fluoranthene		B<=C, Step 7		No	MEC<C & B<=C								
87	Fluorene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
88	Hexachlorobenzene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
89	Hexachlorobutadiene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
90	Hexachlorocyclopentadiene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
91	Hexachloroethane	N	No detected value of B, Step 7		No	MEC<C & B is ND								
92	Indeno(1,2,3-cd)Pyrene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
93	Isophorone	N	No detected value of B, Step 7		No	MEC<C & B is ND								
94	Naphthalene	N	No Criteria	No Criteria	Uc	No Criteria								
95	Nitrobenzene	N	No detected value of B, Step 7		No	MEC<C & B is ND								
96	N-Nitrosodimethylamine	N	No detected value of B, Step 7		No	MEC<C & B is ND								
97	N-Nitrosodi-n-Propylamine	N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
98	N-Nitrosodiphenylamine	N	No detected value of B, Step 7		No	MEC<C & B is ND								
99	Phenanthrene	N	No Criteria	No Criteria	Uc	No Criteria								
100	Pyrene		B<=C, Step 7		No	MEC<C & B<=C								
101	1,2,4-Trichlorobenzene	N	No Criteria	No Criteria	Uc	No Criteria								
102	Aldrin	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
103	alpha-BHC	N	No detected value of B, Step 7		No	MEC<C & B is ND								
104	beta-BHC	N	No detected value of B, Step 7		No	MEC<C & B is ND								
105	gamma-BHC	N	No detected value of B, Step 7		No	MEC<C & B is ND								
106	delta-BHC	N	No Criteria	No Criteria	Uc	No Criteria								
107	Chlordane	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
108	4,4'-DDT		B>C & eff ND, Step 7		no	ud; effluent ND, MDL>C & B>C								
109	4,4'-DDE (linked to DDT)	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
110	4,4'-DDD	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
111	Dieldrin	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
112	alpha-Endosulfan	N	B<=C, Step 7		No	UD; effluent ND, MDL>C & B<=C								
113	beta-Endosulfan	N	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
114	Endosulfan Sulfate	N	No detected value of B, Step 7		No	MEC<C & B is ND								
115	Endrin	N	No detected value of B, Step 7		No	MEC<C & B is ND								
116	Endrin Aldehyde	N	No detected value of B, Step 7		No	MEC<C & B is ND								
117	Heptachlor	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
118	Heptachlor Epoxide	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
119-122	PCBs sum	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								
126	Toxaphene	Y	No detected value of B, Step 7		No	UD; effluent ND, MDL>C, and B is ND								

Attachment J
Reasonable Potential Analysis and Effluent Limitations
Inglewood Oil Field, Discharge Point 006

CTR#	Parameters	LIMITATIONS				LIMITS		Recommendation
		/ Basin Plan				Lowest AMEL	Lowest MDEL	
		AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life			
64	Benzo(k)Fluoranthene						No Limit	
65	Bis(2-Chloroethoxy)Methane						No Limit	
66	Bis(2-Chloroethyl)Ether						No Limit	
67	Bis(2-Chloroisopropyl)Ether						No Limit	
68	Bis(2-Ethylhexyl)Phthalate						No Limit	
69	4-Bromophenyl Phenyl Ether						No Limit	
70	Butylbenzyl Phthalate						No Limit	
71	2-Chloronaphthalene						No Limit	
72	4-Chlorophenyl Phenyl Ether						No Limit	
73	Chrysene						No Limit	
74	Dibenzo(a,h)Anthracene						No Limit	
75	1,2-Dichlorobenzene						No Limit	
76	1,3-Dichlorobenzene						No Limit	
77	1,4-Dichlorobenzene						No Limit	
78	3,3-Dichlorobenzidine						No Limit	
79	Diethyl Phthalate						No Limit	
80	Dimethyl Phthalate						No Limit	
81	Di-n-Butyl Phthalate						No Limit	
82	2,4-Dinitrotoluene						No Limit	
83	2,6-Dinitrotoluene						No Limit	
84	Di-n-Octyl Phthalate						No Limit	
85	1,2-Diphenylhydrazine						No Limit	
86	Fluoranthene						No Limit	
87	Fluorene						No Limit	
88	Hexachlorobenzene						No Limit	
89	Hexachlorobutadiene						No Limit	
90	Hexachlorocyclopentadiene						No Limit	
91	Hexachloroethane						No Limit	
92	Indeno(1,2,3-cd)Pyrene						No Limit	
93	Isophorone						No Limit	
94	Naphthalene						No Limit	
95	Nitrobenzene						No Limit	
96	N-Nitrosodimethylamine						No Limit	
97	N-Nitrosodi-n-Propylamine						No Limit	
98	N-Nitrosodiphenylamine						No Limit	
99	Phenanthrene						No Limit	
100	Pyrene						No Limit	
101	1,2,4-Trichlorobenzene						No Limit	
102	Aldrin						No Limit	
103	alpha-BHC						No Limit	
104	beta-BHC						No Limit	
105	gamma-BHC						No Limit	
106	delta-BHC						No Limit	
107	Chlordane						No Limit	
108	4,4'-DDT						No Limit	
109	4,4'-DDE (linked to DDT)						No Limit	
110	4,4'-DDD						No Limit	
111	Dieldrin						No Limit	
112	alpha-Endosulfan						No Limit	
113	beta-Endosulfan						No Limit	
114	Endosulfan Sulfate						No Limit	
115	Endrin						No Limit	
116	Endrin Aldehyde						No Limit	
117	Heptachlor						No Limit	
118	Heptachlor Epoxide						No Limit	
119-125	PCBs sum						No Limit	
126	Toxaphene						No Limit	

Notes:
 Ud = Undetermined due to lack of data
 Uc = Undetermined due to lack of CTR Water Quality Criteria
 C = Water Quality Criteria
 B = Background receiving water data

ATTACHMENT J-11

101.2 - Purpose and Intent.

The purpose of this Code is to provide minimum standards to preserve the public health, safety, and general welfare by regulating the design, construction, installation, quality of materials, use, occupancy, location, and maintenance of all buildings, structures, grading, and certain equipment as specifically set forth herein. Consistent with this purpose, the provisions of this Code are intended and always have been intended to confer a benefit on the community as a whole and are not intended to establish a duty of care toward any particular person.

This Code shall not be construed to hold the County of Los Angeles or any officer, employee or agent thereof responsible for any damage to persons or property by reason of any inspection authorized herein or by reason of the issuance or nonissuance of any permit authorized herein, and/or for any action or omission in connection with the application and/or enforcement of this Code. By adopting the provisions of this Code, the County does not intend to impose on itself, its employees or agents any mandatory duties of care toward persons and property within its jurisdiction so as to provide a basis of civil liability for damages.

This Section is declaratory of existing law and is not to be construed as suggesting that such was not the purpose and intent of previous Code adoptions.

(Ord. 2010-0053 § 2, 2010; Ord. 95-0065 § 3 (part), 1995.)

DECLARATION OF SERVICE BY EMAIL

I, the undersigned, declare as follows:

I am a resident of the County of Sacramento and I am over the age of 18 years, and not a party to the within action. My place of employment is 980 Ninth Street, Suite 300, Sacramento, California 95814.

On June 1, 2018, I served the:

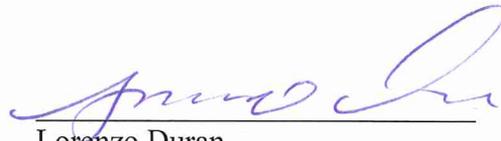
- **SWRCB's and LARWQCB'S Comments on the Test Claim**

California Regional Water Quality Control Board, Los Angeles Region, Order No. R4-2012-0175, 13-TC-01 and 13-TC-02

Cities of Agoura Hills, Bellflower, Beverly Hills, Carson, Cerritos, Commerce, Downey, Huntington Park, Lakewood, Manhattan Beach, Norwalk, Pico Rivera, Rancho Palos Verdes, Redondo Beach, San Marino, Santa Clarita, Santa Fe Springs, Signal Hill, South El Monte, Vernon, Westlake Village, and Whittier, County of Los Angeles, and Los Angeles County Flood Control District, Claimants

By making it available on the Commission's website and providing notice of how to locate it to the email addresses provided on the attached mailing list.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on June 1, 2018 at Sacramento, California.



Lorenzo Duran
Commission on State Mandates
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COMMISSION ON STATE MANDATES

Mailing List

Last Updated: 5/15/18

Claim Number: 13-TC-01 and 13-TC-02

Matter: California Regional Water Quality Control Board, Los Angeles Region, Order No. R4-2012-0175

Claimants: City of Agoura Hills
City of Bellflower
City of Beverly Hills
City of Carson
City of Cerritos
City of Commerce
City of Downey
City of Huntington Park
City of Lakewood
City of Manhattan Beach
City of Norwalk
City of Pico Rivera
City of Rancho Palos Verdes
City of Redondo Beach
City of San Marino
City of Santa Clarita
City of Santa Fe Springs
City of Signal Hill
City of South El Monte
City of Vernon
City of Westlake Village
City of Whittier
County of Los Angeles
Los Angeles County Flood Control District

TO ALL PARTIES, INTERESTED PARTIES, AND INTERESTED PERSONS:

Each commission mailing list is continuously updated as requests are received to include or remove any party or person on the mailing list. A current mailing list is provided with commission correspondence, and a copy of the current mailing list is available upon request at any time. Except as provided otherwise by commission rule, when a party or interested party files any written material with the commission concerning a claim, it shall simultaneously serve a copy of the written material on the parties and interested parties to the claim identified on the mailing list provided by the commission. (Cal. Code Regs., tit. 2, § 1181.3.)

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